should sweep us off our feet ! We do not want to think but we find safety in applauding the achievements of our ancients, we take pride in what we have inherited. We have built a system by which such heritages are worshipped within the walls of " habit and simple inertia ". Any attempt to change the existing state will be seriously viewed and will be severely condemned!

The medical services to the community are found to conflict with the environmental anomalies and hence the need for radical thinking and reorientation of our educational system. Investigation into the selection procedures of students for medical colleges (taking note of their social background and premedical education) proper evaluation of the present training programme and contents of current curriculum, the present examination system, opportunities available at present for the qualified physician to continue his education further are fields requiring our immediate attention Selection and training of staff for the medical colleges and organising the administrative machinery to increase efficiency should also receive prompt consideration. In addition, the progress of Medical Research in Medical Colleges should be carefully reviewed and the tempo of research activities should be accelerated

The Association of American Medical Colleges has been a pioneer institution in these fields. The methods they have adopted were evolved out of experience and are sound. We should have the courage to accept some of these methods for analysing our problems in medical education. The system of organising teaching institutes and workshops annually under the auspices of the American Medical College have contributed considerably to the progress of medical education in U. S. A. I would venture to suggest the introduction of similar teaching institutes and workshops to foster group thinking. Thus, we will be able to define our problems and seek remedial measures At the same time we will be laying the foundation for collective responsibility and national progress. Groups of people having common interest should collect and pool the data, discuss information coming out of this data in committees and make available such information through the journal of medical education to others. Criticism from readers should further be processed and policies and procedures should be evolved and made readily available through the medium of this journal Its role in such unexplored areas shall prove vital for our progress. Information regarding selection and location of medical centres facilities needed for establishment of such institutions, the type of education to be given at the premedical, medical, graduate and post- graduate level, integration of teaching and research and such other problems when analysed shall certainly better medical colleges and provide the community with the right type of doctor it needs to-day.





# The Teaching of Preventive & Social Medicine in Medical Colleges in Relation to Government's Health Plans

BY

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The focal point in India's health programme is the primary health centre, from which all health services are expected to radiate into the rural areas. This centre is staffed by a team of workers headed by the doctor. In pursuance of their policy of prevention of disease and promotion of health both the Central and State Governments have programmed to establish primary health centres throughout the Country by the end of the Third Plan. The authorities concerned with the organization and working of the primary health centre have come up against numerous problems, administrative, as well as technical. However, this concept of integrated medical care has come to stay for the simple reason that no better alternative has been suggested by anyone so far. The main problem in this scheme is the training of the personnel incharge, but the success or failure of a health centre will ultimately depend on the leadership of the doctor. How to equip the doctor for his role in this scheme ? Health and disease are the result of constantly interacting forces within the individual, the family and the society on the one hand and the physical, biological and social environment on the other. The W. H. O. has defined health as not merely the absence of disease or disability but as a state of physical, mental and social well-being, in which the " total " man is in harmonious, effective and useful adjustment with his " total " environment. The practice of preventive medicine envisages the bringing about of such an adjustment at various levels from birth till death. There is nothing static about this adjustment, which is a continuing process. The planning Commission realised the importance of health in its programmes and has laid emphasis on preventive medicine in the third development plan. The health

programmes in this plan can be grouped as follows :

1. Environmental Hygiene and Rural and Urban Water Supply.

2 Control of Communicable and Non-communicable Diseases.

3. Expansion of Hospitals and Health Centres.

4. Training of Health and Auxiliary Personnel.

5. Family Planning.

6. Extension of Health Services such as Maternal & Child Health School Health Industrial Health etc.

The importance of health in Government's development plans is obvious. As plans are made for " man " and not the other way about, it follows that the health of man is the prime requisite for the success of all plans. More food has to be produced, processed, transported, stored, sold, cooked, served and eaten. Only a healthy population can do this. The slogan "Grow More Food' is no doubt important, but there is not much point in producing more food, if a good portion of it is to be consumed only by the parasites that live in the intestines of man ! The importance of national health in a developing economy is obvious. The present move for physical fitness and the control and eradication of acute and chronic diseases is based on a realisation of this concept. There are various levels at which man's health can be promoted and diseases prevented. The most effective measure for preventing disease is to attack it long before it make sits appearance in the community. This can be brought about by a programme of health promotion and . education. The next effective measure is to bring about specific protection, which will include not only a science of immunology, but anything " specific " generally for protecting man against disease or disability and may range from a fly trap to an anti-malarial drainage scheme. The next level at which diseases can be prevented and dealt with is early diagnosis and prompt and effective treatment. This includes curative medicine in all its aspects. The earlier a disease is spotted the better the chances for an uneventful recovery to normalcy. and less the risk to the community and less also the cost of handling the disease situation. The next level at which disease can be tackled is the prevention of disability and complications. This is in essence an attempt to prevent things going from bad to worse. The last level of activity is rehabilitation where you deal with damaged goods and give the patient a new lease of life. The above is the most logical concept of preventive medicine, which has been evolved in recent years It is obvious that if measures are taken at earlier levels there would be no need to resort to subsequent levels when disease and disability have made their appearance and left their mark on the community. It is also obvious that the most profitable measure would be to take preventive action at the earliest level commensurate with the resources, staff, equipment and knowledge available.

The above concept of promoting health and preventing sickness can also be applied to man's physical, biological and social environments. Eroded soil, or polluted water supply or adulterated foods or accumulation of solid, liquid and gaseous waste products, unfavourable climatological factors, noise,



vibrations or radio-active waste products are examples of physically sick environments. An environment teeming with flies, mosquitoes, bugs, lice, rats, dogs or infected foods, milk or water are all examples of a biologically sick environment so far as man's health is concerned. Finally we can have a sickness in the social environment. A diseased society reeking with social evils is an example. This aspect of man's environment is indeed the root cause of many of the problems which face him today, of which health is only one. Thus on the one hand we have the "spectre" of disease in man as well as in his environment and on the other we have the "spectrum"of prevention. Such a gigantic scheme calls for the services of a team of workers consisting of various disciplines such as medicine, public health, nursing, health visiting, physical, occupational and recreational therapists, health engineering, agriculture, animal husbandry, entomology, social science, education and so on. However, it must be remembered that the ultimate goal is to preserve and to promote human health. Therefore, the doctor of the future has an important role to play in this total health scheme and must needs be suitably trained to assume leadership in its working.

The Community Development Project launched by the Government of India in 1952 is the biggest social experiment of its kind in the world. It is an answer to the challenging situation, which emerged in the wake of independence and partition. The standard of living especially in rural areas was deplorable and at sub-human levels when compared to that of progressive countries. Can this standard be raised to comparable levels by democratic methods ? If the answer to this question is 'Yes' it is a triumph for democracy. If it is not, one dare not imagine the consequences. This is the main reason why all the leading countries of the world are watching with interest the progress of India's development plans, for much is at stake. The Community Development Project is in the main an attempt to improve living standards by helping the people to advance on all fronts. All the nation building department. of Government, such as Education, Health, Cooperation, Agriculture & Food Production, Animal Husbandry, Communications, Cottage Industries are involved in this Project and work together under a common adminstrator the - Block Development Officer. This concept of development is based on the experience that no single activity like Health or Education or Food Production can by itself bring about improvement in the standard of living of the rural population and that all these activities are interdependent and linked one with the other. Health Services form one such component. However health of the people is a prime requisite for the success of any Government plan, but a successful health programme is linked closely with the economic level, educational standards availability of food, both in quantity and quality, state of communications, the social background of the people, their habits, activities, their philosophy of life and a host of other factors.

Therefore, any health programme, if it is to succeed, must go hand in hand with all other nation building activities. This concept is the foundation on which the entire Community Development Project is being built up.

The immediate objective of medical education in India is to train enough doctors of comprehensive medicine to meet the present day needs of the rural population and take up leadership in health programmes. They should get

personal experience in the newer concept of service through Community Health Centres, where preventive and curative services are integrated to provide the basic health facilities to the people. The doctor will have first to know the community before he can study its health problems and tackle them. He has to have the cultural and social background which alone will enable him to understand the people and their problems. The principle of integrated health services can be adopted by larger hospitals also and ultimately by the teaching hospitals so that the doctor of the future will be trained to "teach as he treats". He will seize every opportunity to educate his patients so that diseases can not only be cured but also prevented. He will be concerned more with the maintenance of normal health than with the cure and even prevention of diseases. He must adjust himself to the needs of the rural people, otherwise he will meet with resistance to "scientific" medicine. For him a complete diagnosis includes clinical as well as social diagnosis and therapy includes social therapy also. This is the kind of doctor the country has been waiting for. The specialists too will have to get adjusted to this new concept of integrated Health Services.

The discipline of Preventive and Social Medicine in medical colleges will, therefore, have to play an increasingly important role in both undergraduate as well as postgraduate training in order to meet the above requirements.

The Primary Health Centre provides both preventive and curative health services. It is responsible for the health of mothers, infants, pre-school and school children, control of communicable diseases, environmental sanitation and health education. It will ultimately take over various special health programmes initiated by the Government. Thus it is the focal point of all the health activities of the area.

We may have the resources to establish primary health centres all over the country But unless we orient our medical students to the concept of total health services, we shall not be able to fulfil the objectives of the primary health centre.

In order to implement such a programme it will be necessary to modify the present undergraduate curricula so as to emphasize the importance of prevention and health promotion throughout the entire medical course, and to inculcate in their minds the philosophy of comprehensive medical care.

The curricula will have to be modified so as to include the following courses:

1. Sociology and Human Ecology
2. Elementary Biostatistics
3. Field experience in family health care programme or case conferences.
4. Training for post-examination interns in comprehensive health care at approved health centres
5. Participation in field research programme wherever possible.

Comprehensive medical care calls for a knowledge of social and environmental factors of the population to be served. Recent observation have shown that the health status of a community is inextricably mixed with the total environment. A course in Sociology and Human Ecology is necessary for the proper understanding of the various factors which influence health and medical care programmes.

A knowledge of elementary biostatistics is calculated to help the students not only to a better understanding of technical papers but also assist him in planning short term field investigations and help him to intelligently study and present the data.

The family care programme and case conferences will give the student an insight to the health problems of the area and help him to appreciate the effects of environmental factors on health and disease and also the limitation under which a doctor has to work in a rural setting. It will also give him a first-hand knowledge of the various agencies at work and how best to utilise their services in the furtherance of the health programme.

The post-examination internship is the most important part of the training of the undergraduate, where the intern gets personal experience in the various programmes connected with comprehensive medical care. They work in a small hospital with limited facilities and are encouraged to use their initiative and to be in full charge of the care of patients, both out-patient and inpatient, under overall supervision They are encouraged to follow-up the patients both at the clinic and in their own homes. In addition, they gain experience in maternal and child health, school health and in field investigations. They also gain experience in maintaining medical records, coding and presenting reports of their work.

The Christian Medical College, Vellore, has the following programme for the teaching of preventive and social medicine The students are admitted to the 1st Year Integrated M B. B. S. class (Pre-medical) and they are in the college for 6½ years, 1 year pre-medical, 1½ years pre-clinical 3 years clinical and 1 year post-examination internship. The teaching of preventive and social medicine is spread over the 6½ years of medical course.



In the pre-medical year a course of lectures on the objectives of medical education, history of medicine, elementary sociology, concepts and philosophy of preventive and social medicine and elementary biostatistics is given. During the pre-clinical period four to five inter-disciplinary conferences are arranged. This is usually given when the students have completed a section in their physiology class. A patient with a lesion in that section is presented and the aetiology, epidemiology, prevention and rehabilitation with reference to the case is discussed. During the clinical period a course in enviromenual hygiene, nutrition, epidemiology and control of communicable diseases and common chronic diseases, vital statistics, preventive health services and public health administration is given. They also participate in a family care programme for a period of 15 months. The post examination interns spend 3 months in the Department of Preventive and Social Medicine. In addition to working in an approved health centre and taking part in all its activities, the intern takes part in field investigations and is also trained in the maintenance of medical records, coding and the presentation of reports. A seminar attended by the staff of the Preventive and Social Medicine Department is held every week at the Rural Health Centre, at which an intern presents a paper on a chosen public health problem Each intern gets this chance during his three

months' stay at the health centre. An attempt has thus been made to involve the interns personally in various aspects of rural health service. This programme is working well and we feel that the interns are gaining greater confidence in their work.

There is scope for further improvement in the internship programme and at the time of writing we are taking steps towards this end. We feel that we are moving in the right direction in this aspect of the work of the Preventive & Social Medicine Department.

With regard to the personnel *already in medical services* it is necessary to orient them to the philosophy of comprehensive medical care. In their student days the emphasis was on curative medicine and in most cases they have been working in dispensaries and hospitals and had no chance of working with public health personnel. For orienting them it will be necessary to give inservice training along with para medical workers who would be working with them in the primary health centres. Every state should have such orientation training centres so that all the health personnel in their services would accept the philosophy of comprehensive medical care, and work as a team with the participation of the people.

Thus equipped, our doctors will be in a better position to meet the health needs of the country.

# Basic Health Concepts of Medical Students on Entrance into Medical College

BY

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## INTRODUCTION

Medical education has undergone much change and rapid advances have been made in recent years. At the present stage, we are trying to build up in our physicians a level of consciousness for prevention of disease at all stages, from preventive inoculation, early diagnosis and treatmentto rehabilitation of the individual. For inculcating this attitude in the physicians, departments of Social & Preventive Medicine are being organised in all Medical Colleges throughout the country.

It is common saying in education 'Start where the people are' so for organising a more effective teaching programme we are interested in knowing where the students are in their understanding of health and disease on entrance into a medical college.

## METHOD

The study on a group of 65 first year medical students was conducted at the Lady Hardinge Medical College in July, 1960 within a week of students joining the college, while they were still adjusting to their new environment.

A questionnaire consisting of 28 questions was designed for the purpose. It was distributed amongst all the girls present in the class and filled in within an hour. The students' response to the questionnaire was good.

The questionnaire enquired into students' basic concept of health and disease as related to the individual, family and community, and also recorded various basic factors such as state, occupation, literacy status of parents, social and relate activities of the student herself.

Chunder Mitter, Nobin Ch. Mookerjee, Budden Chunder Choudree, and James Pote). They were examined in Anatomy and Physiology, Chemistry, Pharmacy and Materia Medica, practice of Physic, practice of Surgery and operations. After a seven days' examination Uma Charan Set, Dwarka Nath Gupta, Raj Krishna Dey and Nabin Ch. Mitra were considered to have successfully answered the tests. The examiners concluded as follows : –

"The Ordeal through which these young men have passed, is one of no common kind, and affords a very gratifying measure of capacity and acquirements. The result is such as to satisfy us with their average knowledge of a solid and well grounded character. We have unanimously come to the decision of granting them letters of testimonial, and we consider them competent to practise medicine and surgery. We beg to recommend them accordingly to the liberal consideration of Government, as the first Hindus who, rising superior to the trammels of prejudice and obstacles of no ordinary character, have distinguished themselves by attaining to complete Medical Education upon enlightened principles. We consider Rs. 100/- p. m. at the outset of their service as the most suitable rate of remuneration which might be increased in progress of time according to the extent of service and desert. We further recommend that, at the end of five years, they should undergo another examination and that for the purpose of frequent and habitual reference they be supplied, before quitting the College, with the following works :—

Phillips' Translation of the London Pharmacopoeia.
Thomson's Elements of Materia Medica and Therapeutics
Dr. O'Shaughnessy's Manual of Chemistry
Cloquet's Anatomy by Knox
Sir C. Bell's Institute of Surgery (just published)
Dr. Geo. Gregory's Elements of Medicine
Twining on the Diseases of Bengal
Cooper on Dislocations and Fractures, etc.
Clarke's Commentaries on the Diseases of children"†.

It would appear that a 5th student, Babu Syama Ch. Dutt, also passed out and was selected for the post of laboratory and medical Assistant at the Opium Board at Patna.

The Government approved of these results and, accordingly a meeting was held in the College Theatre presided over by Sir Edward Ryan, the then Chief Justice and President of the General Committee of Public Instruction, for the purpose of conferring letters of qualification on these youngmen. A large number of European and Indian gentlemen were present. Prizes presented by Baboo Dwarka Nath Tagore were also awarded to the successful students at the conclusion of the ceremony. Uma Charan Set stood first and was honoured for his distinguished career with a gold watch presented by H. E. Lord Auckland.

These four students were, without delay, appointed as Sub Assistant Surgeons to the hospitals at Dacca, Murshidabad, Patna and Chittagong at Rs. 100/- p. m.

†From the report of the examiners (dated Calcutta, the 21st November 1838) to Mr. H. T. Prinsep, Secretary to the Government of India.



# Integration of Teaching of Preventive and Social Medicine with Clinical Subjects with Special Emphasis on Medicine

BY

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For the past few decades a great interest is being taken in developing a rational approach to the teaching of preventive and social medicine. Conferences and seminars have been held to find ways and means to introduce this newer concept of preventive medicine in the medical curriculum.

In India, the importance of such teaching was first emphasised in the report of Bhore Committee on reorganisation of medical care and health programme in 1946. In connection with undergraduate medical curriculum, it was recommended that "undergraduate medical education in the past has been concerned perhaps too much with the curative aspect of medicine. Preventive medicine must now come to the forefront and the duty of medical profession should be largely to prevent rather than cure disease. The promotion of health, the prevention of illness and the treatment of disease should all be dealt in the curriculum but greater emphasis must be placed on first of these than has been the case in the past." In the second medical education conference held in 1955 it was once again accepted that this subject requires special emphasis in the medical curriculum.

This new subject of preventive and social medicine now includes some courses which are quite different than those of the old subject of public health and hygiene. Now it includes subjects like epidemiology, human ecology, domiciliary medicine, biostatistics, and sociology in addition to subjects like environmental hygiene and puplic health administration. Its main objective is to acquint students with the importance of positive health, effect of socio-environmental factors on the causation, progression, and treatment of diseases, and individual and community measures available for their control and prevention.

To achieve these objectives it has been pointed out that the teaching

given by the preventive and social medicine department has to be integrated with the training programmes of other departments, particularly the clinical departments. In the draft syllabus submitted by Dr. Taylor at the medical education conference held in 1955, for teaching of preventive and social medicine, some of the major fields in which such integration could be attempted have been outlined. Similarly, Grundy & Mackintosh have also suggested fields for collaborative teaching in preventive & social medicine with other clinical subjects.

In some medical schools in the United States, experiments are being conducted for total integration of teaching in all the medical subjects. Western Reserve University School of Medicine probably was the first medical school where such an integrated course was started. There, medical course has been divided into three phases; first, which deals with normal structure, function, growth, and development, second with alterations in these normals and the study of diseases, and third with clinical application of material covered during first and second phases. It is believed that this type of integrated system of teaching will give the student a better grasp of the basic medical services and the fundamental principles of scientific medicine.

Similar experiments are also being done in some of the other medical schools in the United States, and in other countries. That similar integrated courses are not to be introduced in other medical schools without taking into consideration the local conditions, requirement, and resources has been stressed by various groups and individuals. While discussing the question of integrated teaching, the study group of teaching of social and preventive medicine of Western Pacific region of the World Health Organisation, has pointed out disadvantages of such unplanned integration. It has been pointed out that there are many subjects in social and preventive medicine, which could never fit into an integrated teaching programme, like biostatistics, public health administration etc. However, there are some subjects which could be better covered by coordinated and collaborative teaching with the help of clinical faculties.

Some of the methods which could effectively be used for integrated teaching of social and preventive medicine with the clinical subjects, can be grouped as follows :

(1) Clinico-social conference

(2) Case study

(3) Comprehensive care programme

(4) Family care and advisory services

(5) Participation in urban and rural health unit activities.

### Clinico-Social Conference :

For such conferences a medical or a surgical case could be selected from the wards. The patient should have some social problems, which could help in pointing out the importance of social factors in the causation and treatment of disease. Medical social worker should visit the family and collect all the relevant data. The case should be presented in the class by a senior student. Medical social worker should discuss the social history and later clinical aspect of the case could be discussed by the clinical teachers, while the causation, prevention and control and the importance of socio-economic factors in causation, and social agencies which could help in treatment and rehabilitation could be brought out by the teachers in Preventive and Social Medicine. Such conferences could be arranged in the first year of clinical training, and could be held once a week. These will bring out the importance of environmental factors in causation and problems in the treatment of the casse.



### Case - Study :

During their posting in the OPD or in ward each student could be assigned one case, of chronic disease for collection of complete socio-environmental and similar other data by home visits. On first visit he could be accompanied by the medical social worker or a teacher of preventive and social medicine department, or both could visit the family separately. Both should collect data regarding socio-economic status, occupation, housing condition, attitude of family members towards patient's illness, etc. After student has completed such study he could present this case in the clinics held in the ward or OPD, in which one of the staff members of preventive medicine could also be present. Programme could be planned in such a way that each student during his posting in the ward would work up one such case and present before the class.

### Comprehensive Medical Care Programme :

In India there does not seem to be any medical school with such a programme. This programme was first organised at Colorado Medical School in United States. This was with the objective of providing a complete medical care to families in one selected population. A chronic disease patient was selected and assigned to a medical student during his posting in the General Medical clinic, organised by cooperation of four clinical departments, medicine, paediatrics, psychiatry and obstetrics & gynaecology. Students in small groups were posted in the clinic for 12-18 weeks. Cases were to be followed by them through home visits. In case help was required from any extamural agency, students were expected to visit that as well to complete their records. Once a week C.M.C. conference was held and students were required to present their cases. Discussion on the socio-environmental factors, family problems, clinical prognosis & rehabilitation of the cases were held. This required well planned coordination between the curriculum of all the four subjects. Here, in addition to the staff of the four departments, help was also sought of a Public Health Nurse and a social worker.

### Family Care & Family Advisory Services :

Such a family care programme was first started in Pennsylvania University School of Medicine in Philadephia. Each student was assigned a selected family. He was expected to visit the family once weekly or more often according to

the necessity. He was introduced as a student-doctor. During his weekly visits he collected information regarding occupation, family problems, attitudes, etc. He kept a complete record of all the important events in the family. Weekly or fortnightly seminars are held to bring out the medico-social problems in the families. Students also helped their patients in getting them examined by the physicians in OPD and help in follow-up of patients in their houses. Social worker was also present in the discussion to help in bringing out social aspects of the problems. Such family follow up was to be continued throughout all the four years of medical studies. These family care programmes could be valuable in a number of ways as reported by Merton. Some of them are :

1. Because it gave training in total family care, i.e. in being a family physician.
2. Because it gave an insight into the influence of emotional factors and social factors on medical problems.
3. Because it maintained or deepened their interest in patients as people.
4. Because it helped them to learn how to establish good relationship with patients.

Although as mentioned earlier, such follow-up was being done in Pennsylvania School of Medicine for a period of 4 years, we feel that a majority of students lose their interest in families as soon as they complete their preclinical courses. We are in favour of keeping the experience limited to a period of 6 months to 1 year. This could be better given in second term of 3rd year and first term of 4th year, because it is felt that by this time students would have had enough training in the basic and clinical subjects to participate effectively in such a programme. During seminars other specialists could also be invited, in case some problems of their specialities were going to be discussed.

Similar programmes, with two families, one with pregnant mother and the other with chronic disease patient are being carried out at Christian Medical College, Vellore and at some other medical schools in India. These family care programmes differ from case study and Comprehensive Medical Care programme in two aspects, one that it provides longer period of follow-up and secondly, it also provides opportunity for the students to participate in the medical and health care of families themselves.

All the clinical specialities could be included in such a programme, if selection of cases was properly done. we feel such a family care programme should be better based on selection of case from the indoor wards, with whom student has worked in the hospital. It is felt, that as the student was taking care of the patient in the hospital, he would be more interested in his follow up and his family. Lecturers in clinical subjects could even work as preceptors for small groups of students.

Case selection should be better done with the help of a medical social worker, who should visit the family prior to selection. Seminars could be held once fortnightly or



weekly as time permits. During this period students could also contact teachers in preventive and social medicine and in clinical subjects for any help and guidance required.

**Participation in Rural and Urban Health Units :**

At present, except 2-3 months of internship in the Rural Health unit students during their clinical years are not posted at these health centres. For providing students an idea about the total care programme of integrated preventive and curative medicine at the health centres it might be desirable to establish urban health centres with departments in each of preventive & social medicines. Students could be posted in such a centre for a period of 1-2 months. They could see the working of the health centre, and also learn about domiciliary and preventive health services provided at such a center specially for mothers, infants and toddlers. They could also visit the voluntary health organisation, if any, in the area.

These special projects discussed above would definitely help in bringing out the importance of socio-economic factors in causation of diseases, importance of attitudes of patients and family members towards illness, care of healthy individuals for promotion of health, various special preventive health services to be provided for infants, children and pregnant mothers, importance of environmental sanitation and proper nutrition in control and prevention of prevalent diseases, and similar other ideas regarding other prevention practices.

However, to give students an idea that curative and preventive practices are parts of same medical care programme and differ only in their being applied at different stages in the natural history of illness, it would be better if didactic courses in clinical subjects could also be co-ordinated in such a way that students would be able to get a complete picture of total medical care in a proper perspective. Special instances,, where such coordination could be attempted are :-

**Communicable Diseases :**

At present this subject is covered by two departments, Medicine and Preventive & Social Medicine. While Medicine covers the clinical signs and symptoms and treatment part of individual diseases, Preventive & Social Medicine department covers the community aspect of disease, epidemiology and measures for control and prevention. It could be better if this subject could be covered by a coordinated programme of taking diseases according to mode of spread. First, the department of preventive & social medicine could discuss the morbidity and mortality and details of routes of transmission of such diseases as a group. Then clinical aspects could be covered by medicine department. In the end, again, preventive and social medicine department could take up the epidemiology and control of such diseases.

Tuberculosis is a subject which is at present covered piece-meal by the departments of medicine, preventive medicine and Tuberculosis. Why ? Could this be not covered by a better planned and coordinated teaching programme, where all aspects of T. B. could be covered in a meaningful manner ?

Similarly courses in parasitology and entomology could also be coordinated.

Students could also be involved in field surveys where they could examine stools, urine, blood, etc. This would enable them to see for themselves the problem of common communicable diseases.

They should also be posted in Isolation Hospital for a period of 1 or 2 weeks where they could be required to do the laboratory examination and immunization themselves.

**Maternal Health:**

Here coordination in teaching should be attempted in such a way that the importance of preventive practices like prenatal, natal & postnatal care in clinics & in houses could be effectively brought out. Students could also be given chances of domiciliary visits with the paramedical staff and for domiciliary midwifery.

**Child Health:**

In the United States more than 50% of the Paediatrician's time is spent in medical supervision of healthy children and in other preventive practices like health counselling and immunization. Our students should also be given an idea regarding importance of such preventive practices in addition to the regular teaching of diseases prevalent in childhood.

**Family Planning:**

Department of preventive medicine could discuss the demographic basis of family planning while the details of methodology could be perhaps better covered by Obstetrics and Gynaecology department. But once again this has to be adequately coordinated, so as to explain the details of family planning programme effectively.

**Nutrition:**

While various nutritional diseases are covered by the medicine department, such teaching could be supplemented by the diet & nutrition surveys to be conducted under the guidance of preventive medicine department. This would help in bringing out the diet pattern, planning of diet according to local eating habits and within limited finances.

Similarly teaching in other subjects, like mental health, venereal diseases could also be coordinated.

In addition to such coordinated teaching, efforts should also be made to have inter departmental co-operation in the research schemes. There are various aspects of research programme in which the department of preventive & social medicine could be of help, particularly in field research tregarding epidemiology of chronic diseases. It could help in planning, methodology of study and later in assessment of results.

Finally it would be worth while mentioning that the termintegration means the infiltration and later adoption of aspects of one subject into teaching of another related subject and since it has been generally accepted that the preventive attitude should prevail at least from now onwards on the curative practices,



ultimate goal of such integration of preventive and social medicine teaching with clinical subjects is that every clinical teacher would become teacher in preventive and social medicine also.

Methods & special fields discussed for coordinated teaching have to be properly selected according to the facilities available, in different medical colleges. As pointed out earlier, it has to be planned according to local conditions and resources available. Till sufficient teachers are available, it may not be possible to have complete integration, but in any case attempts must be made for partial integration, as suggested, by introducing various special projects and by planned coordination in teaching of other subjects. It could be helpful to have a curriculum committee in each medical college, to implement such integrated programmes.

... ... ...

# A Review of the Teaching Programme in Preventive and Social Medicine in Various Medical Colleges in India with Recommendations

BY

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## Introduction

In the field of Medical Education, there is hardly an educationist or administrator, planner or politician in the country who has either not spoken or is not aware of social medicine and socialized medicine. Yet we cannot escape from the fact that the medical student who has to study the subject in the undegraduate course and has a university examination to pass before graduation in most of the Indian Universities. does not have a set curriculum.

Preventive and Social Medicine is not a mere collection of techniques; it is more a philosophy, an attitude of mind which must necessarily permeate throughout the medical curriculum. The age-old segregation of Preventive and Curative Medicine has had deleterious consequences. It has generally been accepted in the past, both by medical faculties as well as by students, that only minimun attention need be given to the study of preventive and social medicine in the period of undergraduate study.

Although much talk is going on regarding the maxim that "prevention is better than cure" the medical educators and administrators still persist that preventive medicine can well be left to the public health services since the general practitioner is preoccupied with the urgent and endless demands of curative medicine. Therefore undergraduate training in preventive and social medicine in most medical colleges is only of minimal importance. The root cause of such thinking is the outmoded idea about the scope of preventive medicine.

## Integration of preventive and Curative Medicine into Medical Care.

Even when it is recognised that preventive medicine includes both personal health services and non-personal environmental sanitation, it is still argued by some that the personal preventive services should be the responsibility of the public health services for which special training is given.

It will be extremely unfortunate if preventive and curative personal

health services are separated from each other either in concept or in practice. The concept on which such a tendency of separation is based is erroneous. It assumes that there is a clear dividing line between health and ill-health. Barring a few specific infections there is indeed no clear-cut boundary between health and ill-health. Thus, to separate preventive from curative care is to attempt to divide the indivisible. The only logical and beneficial conclusion is to integrate preventive and curative services into a single service of 'medical care'.

## The need for a standard curriculum

In spite of the acceptance of this new discipline in most medical colleges in this country since 1955, there is as yet no generally accepted curriculum throughout India. With 16 States, 36 Universities and over 62 medical colleges, variations exist between States, Universities and even between affiliated medical colleges of the same University.

The basic reason for these variations is the fact that it is a young discipline. In some places, the staff, equipment and other facilities are not adequately provided. The reactions of the faculty and students are not yet favourable for accepting this new discipline which needs and must integrate with a several other subjects. This has to be done throughout the undergraduate medical course and several modern methods in teaching techniques in the college, hospital and field centres have to be evolved, adopted and improved.

## Previous attempts to draw up standard curriculum.

Several attempts have been mad in the past to draw up a standar curriculum, more so during the la five years. Unfortunately, it is n yet actively and urgently implemented in all the medical colleges. Th following are some of the attempt made in the past to draw up a stand ard curriculum, course content syllabus and time table :-

(1) All India Medical Education Conference 1958 (Course-Content b Dr. Carl E. Taylor).

(2) Report by Curriculum Committee of the Indian Public Healt Association (1958),

(3) The Medical Council of Indi (1959)

(4) Discussions at various medica educational conferences by Rockefeller Foundation, W.H.O. South East Asia Region 1954-1957).

(5) Medical Education Conference Andhra Pradesh (1957-61)

## Plan of Study

**Objectives:** Stated broadly, th objective of this study was to assess the present curriculum of the teaching of Preventive and Social Medicine in various colleges in India-the course content, the number of hours devoted to this subject, nature of examination and the type of integration with other departments, etc.

It was intended to make the study, as far as possible, representative of



the whole of India. To achieve this, all the colleges in India were chosen for the study.

## Source of Study

A questionnaire was sent to all the colleges chosen for the study. It was intended to get information regarding extent of the teaching programme, through which years of the M. B. B. S. course does teaching extend, subject breakdown for each year, details of examination organization of field programme, details of participation, internship period and any suggestions for improvement of the curriculum. The answers to the questionnaire received from only 12 medical colleges are analyzed and tabulated.

## Analysis of data obtained from 12 Medical Colleges

There is no uniformity in approach in teaching the subject of Preventive and Social Medicine. From an analysis of the replies received from 12 medical colleges on the subject (table 1), it is seen that in six of them the teaching begins in the first year but is continued throughout the five-year course in only five of them, whereas the sixth terminates teaching the subject after the fourth year. In five other colleges, though the subject is begun in the third year, it is carried through the rest of the course in only 3 of them; and two others cover the subject only for a period of two years. In only one college the subject is begun in pre-medical and continued throughout the course.

**Table I**

Duration of teaching in Preventive and Social Medicine in 12 Medical Colleges in India.

| Year of Commencement of teaching the subject | Year of completing teaching the subject | Number of Medical Colleges |
|---|---|---|
| Pre-Medical | 5th Year | 1 |
| 1st Year | 4th Year | 1 |
| 1st Year | 5th Year | 5 |
| 3rd Year | 4th Year | 2 |
| 3rd Year | 5th Year | 3 |

Information on the total hours of teaching for the entire undergraduate course was lacking from all the colleges who responded. Assuming a total of approximately 5,000 hours for the entire course (calculated on the basis of 4½ years' course, with 30 working weeks a year, 6 working days a week and 7 working hours a day), the time allotted to the subject of Preventive and Social Medicine ranges from 2 to 8 per cent of the total curriculum time and in 60 per cent of these institutions, it is more than 5 per cent. (Table II).

**Table II**

Curriculum hours for Preventive and Social Medicine during undergraduate medical course in a few medical colleges of India.

| Curriculum time for Preventive and Social Medicine (Percentage of total curriculum hours) | Number of Colleges |
|---|---|
| Less than 2+ | 1 |
| 2+ | 1 |
| 3+ | Nil |
| 4+ | 3 |
| 5+ | 1 |
| 6+ | 1 |
| 7+ | 2 |
| 8+ | 2 |
| Not known | 1 |

A break down of the hours allotted to the teaching of this subject under didactic teaching and practical work (includes class-room practicals, tutorials, seminars, field visits, clinical work in infectious diseases hospital) is furnished in Table III. The didactic teaching ranges from 30 per cent of the total curriculum hours for the subject to 70 per cent.

**Table III**

Didactic teaching in relation to total curriculum hours allotted to teaching of Preventive and Social Medicine.

| Diadactic teaching (percentage of total curriculum hours) for Preventive and Social Medicine | Number of Colleges |
|---|---|
| Less than 30+ | 1 |
| 30+ | 3 |
| 40+ | 1 |
| 50+ | 2 |
| 60+ | 3 |
| 70+ | 1 |
| Not known | 1 |



About the nature of subjects taught in different medical colleges and the years in which these subjects are taught, only nine out of twelve colleges responded. Table IV below sums up the situation.

**Table IV**

Contents of teaching the subject of Preventive and Social Medicine in several Medical Colleges.

| Subject Taught | Number of Colleges | Subject Taught | Number of Colleges |
|---|---|---|---|
| History of Medicine | 4 | Preventive Medicine | 4 |
| Growth and Development | 3 | Socio-Cultural patterns of Life (India) | 1 |
| Biostatistics | 5 | Social Anthropology and Eugenics | 1 |
| Medical Statistics | 4 | Public Health Administration | 4 |
| Elementary Sociology | 4 | Family Planning | 2 |
| Elementary Psychology | 2 | Administration of Hospitals | 5 |
| Personal Hygiene | 4 | Medical Aspects of Human Ecology | 1 |
| Environmental Sanitation | 7 | Health Education | 3 |
| Nutrition | 6 | Mental Health | 1 |
| Principles of Epidemiology and Natural History of Disease | 7 | | |
| Communicable Diseases and their control/prevention | 5 | | |

From this table it can be seen that majority of the institutions still conform to the traditional teaching of Hygiene by laying emphasis mostly on subjects relating to community medicine like environmental sanitation, communicable diseases and their control/prevention, statistics, nutrition and epidemiology. Fewer institutions teach the subjects like History of Medicine. Growth and Development, Medical Aspects of Human Ecology, Elementary Sociology and Psychology, Social Anthropology and Eugenics, etc.

**System of Examination :**

Information was available from nine colleges on the system of examination. One of them had examination in Preventive and Social Medicine in the 3rd year, two in the 4th year and the remaining six in the 5th year.

**Allocation of Marks for the University Examination :**

Information on the allocation of marks was available only in the case of five colleges which is furnished in Table V.

Table V

Details of Marks allotted to the subject in University Examination

| Number of colleges | Total marks allotted | Details of Break-up of total marks given under col. 2 | | | | Remarks |
|---|---|---|---|---|---|---|
| | | Theory | Viva | Day to day class work | Terminal Examination. | |
| 1 | 2 | 3.1 | 3.2 | 3.3 | 3.4 | 4 |
| 1 | 50 | — | — | — | | The examination in P. & S. M. is a part of Medicine |
| 1 | 150 | 100 | 50 | — | — | |
| 2 | 200 | 150 | 50 | — | — | |
| 1 | 300 | 100 | 50 | 75 | 75 | |

In four of the five colleges, the examination in the subject is done separately from the examination in Medicine, but in only one college it is part of Medicine

**Internship Programme :**

Information on internship programme was supplied by nine colleges only, of which only one college provides for both urban and rural internship of 2 and 10 weeks duration respectively. Rest of the colleges provide only for rural internship ranging from 4 to 12 weeks as per details below:



Table VI

Duration of Rural Internship Programme

| Period of Internship | Number of Colleges |
|---|---|
| 4 Weeks | 1 |
| 6 ,, | 2 |
| 8 ,, | 2 |
| 10 ,, | 1 |
| 12 ,, | 2 |

**Integrated Teaching with Other Departments**

Only five colleges have furnished information under this heading and of them, only four have integrated teaching programme with other departments. The subjects in which the teaching is integrated is furnished below.

Table VII

Intergrated Teaching

| Department of Preventive and Social Medicine integrating teaching with | Number of Colleges |
|---|---|
| Anatomy ... | 3 |
| Pediatrics ... | 3 |
| Physiology ... | 2 |
| Psychiatric Medicine ... | 2 |
| Tuberculosis ... | 2 |
| Internal Medicine ... | 1 |
| Surgery ... | 1 |
| Obstetrics and Gynaecology ... | 1 |

**Multiple Integration**

Table VIII

Multiple Integration in Teaching Preventive and Social Medicine with other departments.

| Number of Colleges | Number of departments with which integration done | Names of Departments |
|---|---|---|
| 1 | 6 | Anatomy, Physiology. Paediatrics, Tuberculosis, Surgery, Gynaecology |
| 1 | 4 | Tuberculosis, Medicine Paediatrics, Psychiatry. |
| 1 | 4 | Anatomy, Physiology, Paediatrics, and Psychiatry |
| 1 | 1 | Anatomy |
| 1 | Nil | — |

From the above it is seen that multiple integration is more frequent with the Departments of Paediatrics, Psychiatry and Anatomy and rarely with Internal Medicine, Gynaecology and Surgery.

**Type of Participation**

Out of 12 colleges only seven furnished information regarding the type of participation. Three types of participations were found in these institutions.

In six colleges, other departments participate in the teaching of Preventive and Social Medicine; in three colleges the Department of Preventive and Social Medicine participates with the teaching in other departments and in five colleges there is joint teaching and clinical conferences.



Table IX

Various types of participations in teaching of Preventive and Social Medicine

| Types of Participation | Number of Colleges |
|---|---|
| By other departments with Preventive and Social Medicine. | 6 |
| By Preventive and Social Medicine with other departments. | 3 |
| Joint teaching by these departments. | 5 |

**Recommended Curriculum**

From the foregoing analysis it is realized that the medical colleges in India still support and emphasize the older concept of hygiene and public health in the teaching of preventive and social medicine. An outline curriculum provided below is an attempt to invoke comments on the contents of teaching of Preventive and Social Medicine. Emphasis is on integrated teaching to demonstrate to the student the unity of a given topic despite its radial interests and relationships The integrated teaching in the pre-clinical phase relate to the study of normal man not only with reference to the physical structure and function but also co-ordinated with the psychological and socio-economic principles depicted in the bio-social sciences like Sociology, Human Ecology and Social Anthropology, thus relating in the mind of the student the individual and group approach complementary to each other. Similarly, during the clinical phase of learning attempt to integrate the teaching with the pre-clinical phase is made by teaching subjects like preventive paediatrics as against social psychology of the pre-clinical phase, etc. The following table gives the outlines of the recommended curriculum.

Table X

Recommended Curriculum

| Years | | Subjects to be taught | Teaching Hours: Didactic | Teaching Hours: Practicals, Seminars, Tutorials, Demonstrations, Field Visits, etc. | Participating Departments. |
|---|---|---|---|---|---|
| Pre-Clinical | First | **Evolution of Medicine.** | | | |
| | | Supernatural causes and Physical causes of disease | 2 | | Medicine |
| | | Biological Causes | 1 | | Bacteriology |
| | | Social Causes | 1 | 2 | P. and S.M. |
| | | History of Health Practices in India | 1 | | do |
| | | Responsibility of a Physician to Society | 1 | | Medicine |
| | | **Concepts of Health and Normalcy and Eugenics.** | | | |
| | | Life cycle of man-Heredity and health (normal and abnormal) | 6 | | Physiology |
| | | Dimensions of Growth | 1 | | Paediatrics |
| | | Definitions † Public Health implications of heredity. Principles of Eugenics. Role of Environment. | 4 | | P. and S.M. |



| Years | | Subjects to be taught | Teaching Hours: Didactic | Teaching Hours: Practicals, Seminars, Tutorials, Demonstrations, Field Visits, etc. | Participating Departments. |
|---|---|---|---|---|---|
| Pre-Clinical | First year | **Elementary Sociology** | | | |
| | | Introduction – Society culture and Individual – Health and disease, a socio – cultural phenomenon – Hospital as a Social organization. | 4 | | P. and S.M. |
| | | The practice of Medicine | 2 | | Medicine |
| | | **Medical Statistics (IA)** | 10 | 6 | P. and S.M. |
| | Second year | Medical Statistics (IB) | 8 | 6 | do |
| | | Elementary Psychology | 8 | 3 | Psychiatric Medicine |
| | | **Personal Hygiene.** | | | |
| | | Fundamentals of Personal Hygiene; Exercise, rest and work – Skin in relation to health | 4 | 1 | Physiology |
| | | Normal Diet | 1 | | Biochemistry |
| | | **Man and his Environment** | | | |
| | Third yea | Climate and health Air ventilation and atmospheric pollution. | 3 | | Physiology |
| | | Concept of Ecology, water supply, sewage disposal, Refuse disposal, housing, Village and town planning, Rat and insect control, work and health | 24 | | P. and S.M. |

| Years | | Subjects to be taught | Teaching Hours | | Participating Departments |
|---|---|---|---|---|---|
| | | | Didactic | Practicals, Seminars, Tutorials, Demonstrations, Field Visits, etc. | |
| Pre-Clinical | Third year | **Nutrition** | | | |
| | | Diet | 2 | 12 | Biochemistry |
| | | Nutrition survey, Food planning. Diseases transmitted by food, food control programme | 4 | | P. and S.M. |
| | | Deficiency Diseases and planning of special diets | 2 | | Medicine |
| | | **Medical Statistics (II)** | | | |
| | | Vital Statistics | 10 | 5 | P. and S.M. |
| Clinical | Fourth year | Natural History of Disease | 2 | 8 | do |
| | | Communicable Diseases | 42 | 46 | Medicine, Bacteriology V.D., T.B., P. and S.M. |
| | | Preventive Medicine | 23 | 6 | Medicine, Paediatrics and P & S.M. |
| | Fifth year | Social Medicine | 39 | 53 | P. and S.M. |



Table XI

Abstract Table of Curriculum hours of teaching Preventive and Social Medicine

| Class | Didactic (hours) | Practicals, Tutorials, Demonstrations, Field Visits, Seminars and Revision. (hours) | Examination (hours) | Total hours |
|---|---|---|---|---|
| First year | 33 | 7 | 2 | 42 |
| Second year | 23 | 15 | 2 | 40 |
| Third year | 49 | 39 | 2 | 90 |
| Fourth year | 83 | 36 | 8 | 127 |
| Fifth year | 39 | 53 | 8 | 100 |
| Grand total | 227 | 150 | 22 | 399 |

In the recommended curriculum, Preventive and Social Medicine is allotted about 8 per cent of the Curriculum hours for the total course, and of which 4.5 per cent is for didactic and 3.5 per cent for practicale, etc. It is considered that this is a fairly well-balanced distribution.

voluntarily opted for medicine we have examined them more closely. Whatever we have been able to fish out of the pooled up data has already been presented in the accompanying tables.

Family traditions were for long a very dominant influence in our society, circumscribing the vocational area into which one could move. They no longer seem to do so now. Businessmen, Government officers and craftsmen are contributing three times as many students to the medical college as professional persons like doctors, engineers and lawyers. Medical education is a new enterprise in Rajasthan and it seems to be attracting people from all walks of life.

It is interesting to observe the large number of students coming from the lower socio-economic strata, quite in contrast to the situation in the past when it was more or less a privilege of the well-to-do classes alone. The income group below Rs. 250/– per month can claim almost half our student population today. This is indeed a very significant fact. Such students on graduation should find themselves quite at ease in the rural surroundings were the city-oriented doctors always hesitate to go. Perhaps an effective way of resolving the acute shortage of doctors in the remote areas would be to encourage more and more students with a rural background to take up medicine. The Government of Rajasthan has already taken one commendable step in this direction by exempting all those students from college fees whose parents do not pay any income-tax. However, such poor students often face many difficulties during their training and we have enquired into them in a subsequent study.

Out of the present student-population of the college nearly 28% are girls; 20% seats are reserved for them during admissions. However, they show a very unequal distribution amongst the different social sectors. Educated persons above the income level of Rs. 250/– per month are sending almost half as many girls as boys. This is a very substantial number and should be taken as a sign of social awakening because till now the only career open to women was marriage and a doctor's life was certainly considered too hazardous for them, particularly in Rajasthan. On the other hand, amongst the lower classes plying small trades, girls lag far behind the boys, showing the taboo which still exists here against women's education. Out of nearly sixty such students only two are girls and even their parents are employed in the medical college itself.

In conclusion, we have tried to look back on our own careers. How difficult it is to make out whether the choice was an outcome of judicious decisions or just a matter of happy accidents. But we do hope that in the future there would be more choice and less chance in the making of careers.



# Family Study by Undergraduate Students : An Experiment in Practice of Social Medicine

BY

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## Introduction

Medical education has been often criticised for overemphasis on disease during the three years of clinical study. Instead of this undue concentration in the later years of medical study, it has been suggested that the students should be introduced more overtly to the concept that health is a precarious equilibrium between the person and his physical, biological, social and psychological environments and that patients are people with their own likes and dislikes, hopes and fears and ways of life (Warren 1962).

In most of the medical colleges in India the subject of preventive and social medicine is taught throughout the medical course. Introductory in the beginning, the teaching goes into full swing in the clinical years with the actual practice given during internship. Although the teaching in clinical years consists of didactic lectures lecture-demonstrations and practical work, we propose to confine ourselves to practical work in this paper. In India, the methods adopted for practical work are traditionaly evolved, new or copied after experience in U. S. A. and U.K. Reporting on these methods, Frazer Brockington W. H. O. consultans (1952) has categorised them at follows :—

1. Social case studies or the allotment of cases and families.
2. Project, that is, survey or epidemiology studies.
3. Assignment to services.
4. Demonstration visits.
5. Demonstration of general practice

Work on social case studies may involve

**The follow up of the normal :—**

a. The family
b. The pregnant woman.
c. School children.
d. Students.

**The follow up of the sick :**

a. Ward cases.

b. Out patients.

c. Health centre patients

Follow up of the family should be done wherever practicable and this is practised in different ways (Mahajan 1963). Family care or family health service constitutes the field practice of comprehensive medical care In the curriculum of the undergraduate students, family study takes six months to an year or even longer. This lends itself to experimental study. An attempt is made to present the observations on experiments conducted at the M. P. Shah Medical College in family study.

## Objectives of the Experiments

1. To assess the organisational problems involved, like staff, transport, nature of practice field, equipment, etc.

2. To evaluate the usefulness of such programme.

3. To determine the feasibility of accommodating such studies in the college curriculum.

4. To ascertain the reaction of students assigned for such studies and the response of the families.

## Methods and Procedures

Methods adopted in all the experiments were essentially the same but differed in following aspects :—

(a) Area selected.

(b) Number of students per family.

(c) Provision of transport.

(d) Availability of treatment facilities.

**Preparation of students :**

The students before allotment were not only told but also given in writing to realise that :—

1. Healthy or sick person is member of family and family is a unit of society.

2. Domiciliary approach to health problems has a special place in our country apart from being essential for doctor-patient relationship.

3. Environments-physical, biological, social and psychological have important role in determining the balance in favour of health or disease.

4. Proper keeping of records is an essential prerequisite for successful medical practice.

In the actual conduct of the experiments, the students are expected to do the following :—

1. Study the composition of the family and find its relation to society

2. Ascertain the economic status and problems.

3. Take a critical view of the habits and customs in relation to health.



4. Study physical, biological social and psychological environments and find how the adjustments and failure of man take place in them.

5. Give physical check-up to all members of family.

6. Follow up weekly or fortnightly to suggest measures to be taken on the observation made for :-

a. Health promotion.

b. Disease prevention.

c. Early diagnosis and prompt treatment.

d. Limitation of disability or spread of disease in individual family or society.

e. Rehabilitation.

**Preparation of families :**

Four different areas were selected for study one after the other. Public Health nurse of the hospital staff visited the families before the students did, to explain the purpose to the head of the family or the housewife. She could not pay repeated visits with the students.

**Assignment :—**

One or two students were assigned to one family and they were provided with the following prepared schedules to fill up :-

1. House-hold schedule.

2. Individual woman Schedule.

3. Individual man schedule.

4. Individual infant schedule.

5. Individual toddler schedule.

6. Individual school child schedule.

Time of visit was 3 to 5 p.m. for the first few weeks as provided in the college time table till the schedules were completed. For follow up, students had to visit the families at least once a week at the time convenient to student and the family but more often if need be, to, attend to any problem.

## Results

**Experiment No. 1**

Each of the 12 students of the fourth clinical term was allotted a family of some member of the staff residing in the college campus. The class chosen consisted of clerks, compounders, dressers, etc. This was done for better co-operation and also to obviate the need for transport which the department did not have at the time. It was not possible for the lecturer and/or the professor-the only teaching staff-to accompany students each time nor was the public health nurse or medical social worker always available during visits. Heads of the families being members of college staff and quite familiar with the students took the family care service lightly. Schedules presented were poor. Students showed no enthusiasm and no seminar worth the name could be held.

**Experiment No. 2 :—**

Next batch of 25 students was allotted families in the nearby village

situated at a distance of $\frac{3}{4}$ of a mile from the medical college. Two students were assigned together to two families to which they explained the programme of study. Still the cooperation given was poor, partially due to usual averseness and remaining busy with their own activities but mainly for want of a person keeping in touch with them during the programme. Need of public health nurses or medical social worker was felt still more for motivation of families and of more teaching staff for supervising and guiding the students. Lack of transport made the matters worse and the experiment was a failure.

### Experiment No. 3

With the third batch of 32 students we selected lower class and poor families living in insanitary chawls situated close to college hospital. This was done again to do away with the transport and for easy availability of curative service from the hospital when needed. Heads of the families were taken into confidence by teaching staff and were fully explained the purpose of the service by students. Students were also advised to be friendly and familiar first and, then start filling the schedules. They should attend to curative need if any promptly and help them in getting examined or in obtaining medicine and milk, etc. for the babies or pregnant mothers. This time each batch of two students was allotted one family. They helped the families in treatment of their ailments, got them milk from well-baby clinic and gave their children B.C.G. and small-pox vaccination. They filled the schedules after they were well set with the families. Students with aptitude for such study were encouraged and named as leaders and the study went on very well. After about 3 months study seminars were held in which two student partners presented their family under the chairmanship of one other student in the presence of the professor and lecturer. Sometime the staff members from other departments were also invited. Students took lively part in discussion. A few of the interesting cases discovered by them were a leprosy patient, a case of essential hypertension, a typhoid case and anaemia cases apart from cases of diarrhoea, dysentery and influenza. Brief summary of two families presented by students is appended alongwith the impressions of such study given by students.

### Experiment No. 4

Fourth study was made in an area of Jamnagar town. This area was selected because it was served by a Maternity & Child Health M. C. H. centre aided by Government, though privately managed. The management was informed that if they extended cooperation their centre and surrounding area could be converted into a training urban health unit of this department. We left the selection of families to the lady medical officer and medical social worker of the health centre but the response was not good. Then we sent the hospital public health nurse and social worker of the family planning training centre of the medical college to motivate the families. Professor and lecturer also accompanied the students to individual homes. 20 students were allotted 10 families in batches of two in one street near the



M. C. H. centre. Transport was provided. During visits after introduction, when the students went alone, they were not welcome. In spite of the staff going with the students later on, there was no co-operation from the families. The students too felt frustrated and the experiment was almost a failure.

### Discussion

It will be seen from the above four experiments that the family study was a success only in the third experiment where the student found it a matter of pride to make the study. The staff felt contented and families felt grateful for the service. As regards the achievements of the avowed objectives of these experiments we could assess the organisational problems involved in such study, evaluate usefulness of this study, determine the feasibility of accommodating the study in time table and gather impressions of the students.

The failure in the other three experiments are attributed mainly to *organisational problems* stated below :-

1. Area selected for families, village or town was random and was not regularly served in any form by this department. It should be rural or urban field practice area, served by the staff of the department of preventive and social medicine as possessed by G. S. Medical College Bombay (urban), All India Institute of medical science (rural) or medical college of Pondicherry (rural).

2. Families selected were not needy with problems in experiment No. 1 as they were in experiment No. 3. Family allotted should have an antenatal case, a growing child or some chronic illness as T. B. (Prasad 1962).

3. Ready curative services were not provided which is key to practice of preventive or integrated medicine. In Pondicherry students go to families well equipped for such service. They are provided with kits containing standard medicines, food supplements, vaccination kits etc. (Dutta 1962).

4. Families allotted were not well prepared and not taken into confidence before the students visited them. No public health nurse or social worker was available to accompany the students. Medical officer of the unit area or of the department along with social worker or public health nurse should be available throughout the study or at least till the students are well set with the families. Lack of continuous supervision and insufficient preparation of families lead to student frustration because of too limited staff as pointed out by Carl Taylor in his report (1959).

5. There was no transport in experiment No. 2. This is essential for taking students into the field.

As regards usefulness, it could be seen from experiment No. 3 that this is one very important way to teach practice of integrated medicine (Refer Appendix 1 & 2). It was found that such studies could be accommodated in the time table. One afternoon has to be kept for such study and visit should be arranged at the time when most of the members of family are available, i.e., after the school time or office hours.

Head of the family, if he be a shop-keeper, has to be contacted at suitable hours.

Assessment of the students reaction was made (Appendix 2). We feel that only a few of the students have liking for such a study, even in the face of difficulties but majority take to it if facilities of transport, treatment and cooperation of the families and guidance by staff are available. They liked the seminars very much as it enhanced both their theoretical and practical knowledge. A full separate university examination in preventive and social medicine with definite marks for such family study sheets will procure almost cent per cent response.

## Conclusions and recommendations :-

1. As pointed out by Frazer Brockington in his report, this valuable technique (family study) should not be used unless there is adequate staff. Some members of the teaching staff and public health nurse or medical social worker have to be there most of the time with the students in the field.

2. Practice field should be carefully selected. Urban or rural, it should be near the college and be an area within the health unit served by the staff under the professor of preventive and social medicine. Families selected should have some health problem or chronic illness.

3. Students should go well equipped with curative and preventive kits. A kit should be planned for such service.

4. Two to three preliminary group discussions with students should be held to explain to them the purpose of the study and method of writing the schedules.

5. Seminar presentations of families at intervals are very instructive and liked by the students. Specific hour has to be provided in the time table for that.

6. Report of studies should be scrutinised by staff and given marks to be counted in the university.

7. Great care is necessary to ensure that the students have understood the significance of preventive examination.

8. The study should last for one year in the IV and V clinical terms.

## Summary

Experiments for family study as part of practical work in the subject of preventive and social medicine were conducted in M.P.Shah Medical College, Jamnagar with 4 successive batches of students in different practice fields. The experiments failed in 3 cases and succeeded in one. The reasons for failure are explained. Organisational problems involved and usefulness of the study have been assessed in teaching by this method—the practice of comprehensive medicine to the students.

## Acknowledgement

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Our thanks are also due to management and staff of Gulab Kunverba M. C. H. Centre and the village Headman of Nawagam for their cooperation.

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## APPENDIX : I

### Summary of 2 seminar presentations in 3rd experiment

**Family No. 1** :- Presented by Shri Mankad Y. R., and partner.

**General** :- A poor family (college sweeper) consisting of 5 members with income less than Rs. 25/- p. m. per head, living in a small tenemented house. No piped water supply, no bathroom, used common basket type latrines. Lot of mosquitoes and fly breeding in vicinity.

All members of the family had some ailment or other.

**Individual**

1. **Head of the family** :- Age 25 years, had a swelling in the scrotum on right side, suspected to be filarial in origin and confirmed on blood examination. Improved with Hetrazan. Repeated check advised. Role of mosquitoes in filariasis and danger to other members explained.

2. **Wife** :- Age 22, working in T. B. Hospital, though given B. C. G. vaccination had cervical lymphadentis. Advised treatment. Unvaccinated children accompanied her to T. B Hospital. Advised not to do so but get them B. C. G. vaccination.

3. **Son** :- Age 2, poorly built and ill nourished. Procured him milk regularly from well baby clinic

Child had small-pox 4 months ago. Parents' negligence explained.

4. **6-month old child** :- Unprotected against small-pox, was vaccinated.

5. **Brother** of No. 1, age 10 had chronic ulcers on forearm and contracture of left ring and index fingers. Suspected to be a case of leprosy; confirmed by skin biopsy. Treatment with DDS tablets started and danger of spread to other members and neighbours explained Examined all other members carefully for detection of any early case.

**Family No. 2** :- Presented by Shri Khakhar H. P., and partner.

**General** :- Poor family of 4 members living in one tenement of the same chawl as No. 1 with identical environment.

**Individuals** :-

1. **Chief wage earner** :- A clerk age 25, had small-pox marks on the face.

2. **Elder brother** :- Age 28 years had ulcers in the mouth, which improved on oral and parenteral administration of Vit. B complex. Advised change of diet.

3. **Wife of No. 2** :- Age 22, had two abortions and one full term normal delivery Found to be pregnant at first visit, advised to attend antenatal clinic which she did. Found anaemic, given treatment, aborted. Full investigations regarding Rh factor and syphilis started.

4. **Sister of No 1 and 2** : Age 17 suffering from sore throat and tonsillitis. Had 5 attacks in last 3 years. Treated with sulpha drugs and advised removal of tonsils to which she submitted after persuasion.

5. **Father of No 1 and 2** :- Age 52 wore goggles, on inquiry he did so for photophobia and watering of eyes. He was a case of chronic trachoma with trichiais and enteropion of both eyes and corneal opacity in left eye. Depilation of eyelashes done and advised operation for entropion. Given aureomycin ointment.

APPENDIX : II

## Students impression on family study as given by Shri Khakhar H. P. Patel, S. A. and Mankad, Y. R. in the 3rd experiment

The thing that struck us most during family study was ignorance and apathy on the part of most people in matters of health and sanitation. A few who were conscious, were indifferent or had poor economic means.

Simple principles of maintenance of health like personal hygiene, balanced diet, food hygiene, clean water, open air, timely immunisation and regular health check up were unknown.

We were often confronted with resistance to our approach by way of blunt refusals, but by patience and persuasion, we could win over.



In many families, found cases of communicable and deficiency diseases such as leprosy. T. B., Trachoma, Filariasis, bleeding gums, ulcers in the mouth, anaemia, etc, who never came up for treatment. We got them treated and prevented complications in them and spread to others. We got some of them protected by immunisation against small-pox and tuberculosis.

We taught them proper storage of water, disposal of wastes, food hygiene and protection from insects like flies and mosquitoes. Pregnant women and children started visiting antenatal and well-baby clinics.

It provided an excellent opportunity to learn technique of approach to the family. We experienced the need of human relationship, specially doctor-patient relationships. We got experience of medical practice outside the hospital and learnt how preventive medicine can be practiced with clinical methods.

With all the above achievements we were left with certain feelings of disappointment narrated below:-

1. Most disappointing was our inability to offer treatment for even minor illnesses when demanded in house itself. This very often estranged our relations with family.

2. In matter of sanitation and nutrition, even when we could motivate families to improve them, they were unable to do it simply because of poor economic conditions, for which we could do nothing.

3. We feel that 8-10 visits for two hours are inadequate to do anything positive. If more visits preferably in morning hours are arranged, we can do a better job and learn more.

4. Very often we needed teacher's guidance or Public Health Nurse's assistance on the spot, but because of their other engagements that was not available.

# Teaching of Preventive Medicine in Hospital Clinical Setting

DR V. C. JAIN
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The developing concept of comprehensive medical care emphasis has shifted, in theory, from curative to preventive aspect of dealing with disease. This has resulted in the institution of social and preventive medicine as a new subject in the teaching of medical undergraduates. The Indian Medical Council has laid down the curriculum for this subject. But curriculum content is fulfilled to varying extents in individual teaching centres, depending upon resources available. The Council has stressed a combined clinico-preventive bias in teaching this subject. This goal however is seldom achieved because of fragmentary approach.

The departments of Social and Preventive Medicine usually impart training to the undergraduates through didactic lectures, field demonstrations and practical training at the rural health training centre and its subcentres. These departments usually have no representation in the clinical out-patient sections of the teaching hospitals. Due to this fragmentation, the medical student is probably not able to see this new subject in its proper perspective, and therefore may regard his training in social medicine as almost synonymous with training for practice in village.

There is another aspect which calls for better co-ordination between preventive and clinical medicine. The majority of students coming to medical colleges aim at becoming general practitioners or medical officers. As such their interest is mainly focused to achieving efficiency in clinical subjects. Therefore, any subject taught which is not linked with clinical medicine may be regarded as a hurdle to be crossed to reach the goal. As such, he will study social and preventive medicine only to pass the examination and not to put what he learnt into practice. Therefore, if the future doctor has to become a successful community physician, then his training in clinical and preventive medicine has to be carried on side by side. Only then will it be possible to inculcate in him the preventive and epidemiologic approach to disease in the community. To achieve this co-ordination between clinical and preventive medicine, the following points may be considered:

## Immunisation Clinic

Many of the common childhood diseases are preventable through an immunisation clinic in the out-patient department. Through such a clinic, the student can be given practical training in routine immunisation, which he is supposed to practice in the community. The science of disease prevention through immunisation is developing at a rapid pace and several new procedures have recently been developed such as measles and mumps immunisation. Apart from the practical training of the undergraduate, such a clinic can cater to research needs for immunisation techniques at the post-graduate level.

## Nutrition Clinic

Morbidity among children in India, as in many other developing countries, is due to defective nutrition, which again is partly due to economic reasons and partly due to ignorance. Cases of Kwashiorkor, hypoproteinaemic oedema, rickets, scurvy and marasmus are quite common in a pediatric out-patient department of a hospital as well as in general practice. The pediatrician engaged in teaching medical students about the diagnosis and treatment of cases, has little time to teach the preventive aspects in individual cases. Such cases can well be referred to the nutrition clinic, where the student can learn about the social and preventive aspects of nutrition disorders. The same centre can be utilized to teach about the nutritional needs in regard to the changing patterns of growth and development during





various stages from infancy to adolescence. Some Pediatric departments do have such clinics but its service is seldom co-ordinated with that of the department of Preventive Medicine.

## Centre for Social and Epidemiologic Study of Patient and Family

According to the new concept, family has now become the unit of medical study, as this allows disease to be investigated in all its aspects, viz., clinical, epidemiologic and social.

With better understanding of multiple causation of disease, and discovery of screening tests to detect disease in pre-pathogenic phase, the social and epidemiologic approach has assumed greater importance. For example, Diabetes can be detected in the pre-diabetes phase. Gout, phenylpyruvic oligophrenia and others can be detected in the 'carrier' stage and genetic counselling can be rendered in several conditions such as mongolism.

A centre, catering to study of these aspects, can provide facilities for social and epidemiologic investigation in the family. This will inculcate in the student the collective approach for early detection and control of disease and the concept of clinical epidemiology, when he goes to practice in the community. At the post-graduate level, such a hospital-based service can form a nucleus for organisation of epidemiologic research on various diseases such as rheumatic fever and diabetes mellitus, both in the hospital population and in community. By treating preventive medicine not as a fundamental science taught in paraclinical training but by extending it to out-patient clinics, better co-ordination between this and clinical subjects can be obtained. Only then the student will see it in its proper perspective. The didactic lectures, field demonstrations and training at rural health training centre all have their role to play, but an integration of the training at the clinical setting of a teaching hospital has its own significance for the proper development of this subject.

# Clinical Conference Demonstrations in the Teaching of Social and Preventive Medicine

BY

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## Introduction

In 1958, a full-time Department of Social and Preventive Medicine was established at the King George's Medical College, Lucknow. The teaching of Social and Preventive Medicine to the medical students was extended over the preclinical, clinical and internship periods.

Clinical conference demonstrations are held once a month in the preclinical years to illustrate to the students the social origins of disease, its multiple causation, the natural history of a disease process, the levels of prevention (Leavell and Clark, 1958), and the total aspect of medicine.

## Presentation of a case

At these conferences the socio-clinical presentation of illness is attempted, and selected patients are presented with their families. The professor of Social and Preventive Medicine introduces the subject with particular reference to the significance of the disease or disability in the community. A senior demonstrator of the department introduces the case, deals with its clinical aspects and explains the natural history of the disease process and the levels of prevention. According to the nature of the subject, the anatomical and/or physiological aspects of the disease are dealt with by the demonstrators of the department concerned. If a case is connected with any speciality, for example, pathology and bacteriology as in ankylostomiasis or orthopaedic surgery as in poliomyelitis needing rehabilitation, a staff member of the concerned department also participates in the conference.

The medico-social aspects of the case is then explored by the medical social worker of the Department of Social and Preventive Medicine. She deals with the case with particular reference to the social background and other environmental implications of the disease. The spread of infection (in case of an infectious disease like tuberculosis and smallpox), the socio-economic history, the emotional conflicts, the socio-economic problems and the effects on personality created by the disease are also dealt with. Finally she explains what measures can be taken by way of social therapy and rehabilitation with particular reference to the case.

In his concluding remarks the Professor of Social and Preventive Medicine tries to focus the attention of the students on the salient features of the case history as related to the patient, his family and the community, and points out the lesson learnt from the failure of medicine in the case under consideration. He examines the chain of causation to show where it could have been broken and concludes by stressing the need for prevention and early treatment.

## Demonstrations Held

Ten important social illnesses were demonstrated during 1962-63, viz., rickets, tuberculosis, blindness from smallpox, diabetes and poliomyelitis in the first year; and leprosy, venereal diseases, ankylostomiasis, hypertension and psychoneurosis in the second year. Each of these illnesses illustrated the importance of certain levels of prevention. For instance, while in rickets, promotion of health through nurtition is the main level of prevention, in tuberculosis, health promotion, specific protection, early detection and prompt treatment are the three important levels of prevention. On the other hand specific protection is the main level of prevention

in smallpox, while specific protection and rehabilitation are the important levels of prevention in poliomyelitis. A few illustrations of the case presentations are given below:

### 1. Case Presentation on Rickets

A.G—aged 35 years, male; Muslim, tailor by profession, separated from the first wife, having three children, one by the first and two by the second wife. He complained of marked weakness for the last 30 years and a chest deformity which was present since childhood. General examination revealed a marked deformity of the spinal column presenting a pigeon chest with lordosis and kyphosis.

Past history was suggestive of debility and lowered body resistance, with recurrent attacks of pneumonia and bronchitis. History of present illness revealed the following facts:

The patient in early childhood developed pyrexia, which lasted for about 1½-2 months; together with this he also developed pain in the bones and weakness in both the upper and the lower limbs. His mother, who was working as a maid servant in Calcutta, took him to various quacks, *Vaids* and *Hakims*, but with no relief. In the meantime two bony projections one in the back in the region of the upper thoracic spine, and the other over the sternum were noticed. His mother again consulted some quacks who advised her to press the bony protrusions by applying heavy weights. She tried this with stones but finding no improvement had to give it up. These deformities went on increasing and gave him the pigeon chest.

*Social aspects:* The illness of the patient was neglected in the initial stages because of poverty, ignorance and lack of health education. The ignorance of the patient's mother was revealed when she applied heavy stones on the chest of the patient to lessen the bony protrusions.

The disability left by the illness created a lot of problems for the patient as he could not live an active, productive and happy life. He was emotionally upset in his marital life as well. Whenever there was a quarrel, his first wife called him a female, because of his chest protrusion and this was a great humiliation to him. Later she deserted him for another man in spite of pressure from her parents to make her stay with him. She had one child by him whom she took away. When he decided to remarry he would choose none but a woman with a pigeon chest. It was thus that he adjusted himself in his marital life. He had two normal children by his second marriage, aged 4 and 2½ years.

While young, his parents put him to work as an apprentice in a tailor's shop and he earned about Rs 2.50 per day from tailoring.

*Conclusion:* This patient with his wife and their two normal children brought out several points of interest to the students.

1. The importance of nutrition in promotion of health, and the disability left by rickets, were clearly brought out in the demonstration

2. It could be shown that rickets is an acquired condition and not hereditary as, the children born to the parents, both of whom had suffered from rickets, were normal.

3. The patient had married a woman who was deformed by rickets. He had to abandon the normal ways of getting the necessary emotional adjustment in married life, and had to go to the extreme of choosing a partner who had a similar deformity.

4. The case also demonstrated that he could rehabilitate himself in life in spite of the deformity by taking up a suitable profession like tailoring.

### 2. Case Presentation on Blindness from Smallpox

R. J., a boy of 18 years, Hindu, a student in the Blind School, unmarried, lost his eye sight in childhood due to smallpox. He had 3 sisters and 2 brothers. His father was a postman of very meagre income.

About 14 years ago when there was an epidemic of smallpox in his locality in Lucknow city, the patient got an attack of smallpox and was bedridden for about 2 months. He was vaccinated against smallpox only once at the age of 6 months (primary vaccination) but revaccination was not done. During his illness the patient was not given any treatment because of the belief that any treatment would aggravate the disease. His cousin, living in the same house, had died early of smallpox in the same epidemic. Without proper treatment, the patient developed pustules in the eyes resulting in corneal ulcer, sloughing of the eyes (panophthalmitis) and blindness.



*Social aspects:* The patient's elder sister who had never been vaccinated against smallpox, had died in an earlier epidemic. After that the parents used to get their other children vaccinated before the age of 6 months. But during the epidemic in which R. J. became ill, they did not know that smallpox was prevalent in the locality. When they knew of the epidemic and had a case in the house, they did not know that revaccination was necessary for protection, and especially so in an epidemic.

First, R. J's cousin, became ill with smallpox. But the parents did not have enough space in the house (two rooms and two families living) to segregate him. Proper treatment also could not be given because of ignorance and financial limitation. R. J's father was a postman getting Rs 80 p.m. and the only earning member in the family. The cousin died, while R. J. became infected and lost his eyesight. Being the eldest son in the family he was the main hope of the parents. But from then onwards he became a burden.

*Conclusion:* The case of R. J. with blindness and pock marks on the face suggested to the students the following points:

1. How a costly experience with a killing disease taught the parents, the necessity of primary vaccination.
2. The ignorance about illness and lack of health education was revealed in the fact that the patient was not given revaccination during an epidemic, especially as there was another case in the house.
3. Specific protection by primary vaccination and revaccinations can prevent smallpox in a community.
4. Poor living conditions prevented isolation of an infectious case like smallpox.
5. The case was also suggestive of the problems that were the after-effects of the disease, viz.,

(*i*) The psychological tension created in the family by the oldest male child, the future bread winner of the family, handicapped for life.

(*ii*) The financial burden on the parents in giving the patient suitable vocational training. Besides attending the Blind School, the patient attended a music academy where loss of eye sight was no bar. The parents had to spend more money on him then they would have, had the boy been without a disability and reading in a normal school.

6. A discussion on social therapy revealed to the class the functioning of the organizations for the physically handicapped and what vocational training can do for the blind.

### 3. Case Presentation on Poliomyelitis

A. K. aged 9 years, Hindu, student of the 3rd standard, complained of disability in the left leg, following an attack of poliomyelitis, for about 8 years. General examination revealed weakness in both the legs.

Past history revealed that the patient at the age of 9 months had an attack of fever for about 10 days. For about three months following the fever the child was completely disabled. At that time it was found out that the boy had lost motor power in the left leg. He was taken to an allopathic doctor who diagnosed him to be a case of poliomyelitis. Since that time he had resorted to allopathic as well as homeopathic treatments. He had been having regular massages throughout for the last 5 years. For nearly 8 months he was in plaster at intervals to correct the deformities of the lower limbs. For about 3 years he had electric treatment after which he showed some improvement. He could manage to walk with some difficulty without any walking aid from one end of the room to the other. He had been given callipers for walking but could not use them properly and due to instability he fell down and fractured the left humerus. At the time of presentation in the class he could walk well with the callipers on.

*Social aspects:* In spite of the fact that A. K's parents belonged to the lower middle

income group, A. K's illness was not neglected by his parents. When he became ill the father was getting a pay of Rs 150 p.m., which increased to Rs 250 p.m. when the case was investigated. He had four children to support. A. K. was the only male child in the family.

From the time the boy was 9 months old, the parents had been giving him some treatment or other. They had borrowed Rs 1,500 for the boy's treatment. They had to do without some of the basic needs of life for a long time in order to repay the loan in instalments.

A survey of the economic conditions revealed how poverty prevents people from getting proper treatment. The parents were not able to give him continuous treatment, or even, better type of callipers. The case showed the need for rehabilitation of the physically handicapped. The parents were trying to teach him music and put him in schools of better standard so that he would be accepted by others. They had been careful to see to his emotional rehabilitation also. Earlier the patient was shy and sensitive and used manifest feelings of inferiority on his dealings with others. One of his complaints was that he could not take revenge on those who insulted him on his physical disability. Later, he tried to over-compensate his limitations—he was leader of the locality among his friends, intelligent in his studies and smart in his social relations. But because he had been trying to over-do, he had to repress a lot of his emotions. These he found vent for by complaining to his parents. He urged them to provide him with the best of treatment which they could ill-afford. The result was that the mother started continuing her studies to take up a career so that she could also earn to give the boy a better technical education.

*Conclusion:* The case of A. K. demonstrated the following points:

1. Lack of economic security which prevents people from getting proper treatment.
2. The need for adequate rehabilitation for the physically handicapped.
3. The need for emotional rehabilitation through proper case work therapy and the need to have family case work facilities.
4. The need for prevention of polimyelitis in the community through immunisation in infancy and childhood.
5. In spite of the poor economic circumstances of A.K.'s. parents, efforts were made by them to rehabilitate A.K. physically and emotionally as far as possible.

These are just a few illustrations of the cases presented in the class. All the case illustrations mainly aim at bringing out the causes of illness other than the biological, the environmental conditions, the after-effects of illness, and what could be done to alleviate the same through social therapy and proper exploitation of the existing facilities. In these case demonstrations the students were made to realize that a complete diagnosis includes clinical diagnosis plus social diagnosis, and therapy includes social therapy.

It was thought that the presentation of certain living examples of people with illnesses and handicaps, who might have been saved untold suffering but for a little care proper education and utilization of proper facilities, would serve a useful purpose. The importance of prevention in the daily work of a medical student would be stressed as well as the application of the five levels of prevention i.e., health promotion (including health education), specific protection, early detection and prompt treatment, limitation of disability, and rehabilitation. Each of the above cases brought out certain levels of prevention, which could have been practised and the disease prevented or interrupted. The case demonstrations could make it possible for the student to look at the natural history of any disease as a process that can be averted, interrupted, or delayed at various points in its evolution. He could also appreciate that prevention includes not only prevention of 'occurrence' but also prevention of 'progress'. Early detection or diagnosis of a disease and its treatment was also prevention. The demonstrations also impressed on the student that the question to be asked was not only 'what is the treatment?' but also 'what are the causes?' and 'if preventable, then why not be prevented?'



**Summary**

1. The purpose and importance of the monthly clinical conference demonstrations in the teaching of Social and Preventive Medicine during the pre-clinical years is to enable the student to see the patient as a person and try to focus his attention on the wider objectives of medicine in the community.

2. The clinical conference demonstration is a joint presentation by several teachers, of a patient with his family, in which the subject of the conference is introduced, the case is clinically and socially presented, the levels of prevention with specific reference to the case are given, and social diagnosis and social therapy are discussed.

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# The Practical Approach to the Teaching of Preventive and Social Medicine to the Undergraduates—the Plan of Action of the B.J. Medical College, Poona.

N.S. DEODHAR* & P.V. SATHE**

Much That was being taught in the traditional 'Hygiene and Public Health' to medical students was outmoded. With the rapid advances in medical and allied sciences the practice of medicine required different skills and education. It was realised that with the emergence of modern society and technological advances, something of fundamental importance—the human approach—was being forgotten in a preoccupation with research and diagnostic excellence. Specialization in medicine weakened the doctor-patient relationship, and the neglect of human values in medicine was recognised by clinicians such as Ryle who introduced the term 'Social Medicine' to describe a new discipline.

The last 15 years have constituted a period of transition in the teaching of preventive medicine. The scope of preventive and social medicine is so wide that various ideas—some of them vague—were tried out and the teaching of this subject at different colleges would disclose a surprising variety of content and method. This teaching was not a smooth task. There was no recognition of the new discipline by many clinicians. There was much philosophical talk on positive health when illness was rampant. Transformation of 'public health' to 'preventive medicine' was hampered by a shortage of qualified and suitable teachers, and teaching was also affected by the fact that students were admitted in progressively increasing numbers. Administratively, there was more of hindrance than support, more of ridicule than help, and much unrewarding paper work. While these conditions still prevail to a varying extent at some places, there is a general improvement. The new discipline is, however, far from mature. There are unwarranted moves for empty educational reforms such as for change of the name from Preventive and Social Medicine to Community Medicine. We are presenting here our approach that has gradually evolved since 1955.

*Principles*

Some important guiding principles should be borne in mind in the teaching of preventive and social medicine. These are:

(a) The aim of teaching should be the development of concepts, and acqui-

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sition of skill and knowledge for practice, not in isolation but integrated with the practice of general medicine or its specialities.

(b) With this in view, the training of the students should be done not only in the class-rooms (which has to be continued), but also by demonstration and participation.

(c) Development of communities where preventive and social medicine is practised should be an essential activity for teaching purposes. This would remove the notion from the mind of students that this subject is to be studied only for passing examinations; and that the principles of preventive and social medicine are good but have no place in practice. Just any geographical area with a public health service will not do. The community services in the area should be specially developed for training which should be the primary responsibility, and the services (and the area) should be expanded as necessary for teaching.

(d) The aim of teaching should not be to turn out public health specialists, but good practitioners of medicine who are aware of community conditions, their duties towards the community, and responsibilities in the national health problems and programmes. These students, after passing, may become general practitioners and either start private practice or man the primary health centres, or take up specialities.

(e) Preventive medicine is not the only important subject, it has no existence without curative medicine. The preventive aspects of medicine are only a part of good medical care.

*Background Information*

The teaching of preventive and social medicine to students in the B.J. Medical College, Poona, located in a fairly developed area, presents certain handicaps and also advantages. The handicaps are that the number of students admitted every year is as large as 200, which poses difficulties in paying personal attention to the students, and increases the load of teaching as it becomes imperative to form many small batches of the students. Moreover, about 80 per cent of the students have an essentially urban upbringing with no personal experience of the way of life in the villages. The trend of such students is also to settle in large towns and cities after graduation and, therefore, they have a mental barrier in appreciating the needs of the rural population, poor environmental sanitation, their traditional customs and beliefs, and of the inadequacy of medical and health facilities, etc. In the past there was no separate examination in preventive and social medicine at the final M.B.B.S examination. This created problems in teaching, but now there is a separate examination together with medicine, surgery, and midwifery and gynaecology. Because of this the students are now better motivated, and this is being made use of to achieve the aims of teaching as explained later.

At the same time certain circumstances are favourable. The students are familiar with the problems of urbanisation and industrialisation, and the resultant social and health problems. The fairly developed public health and





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medical services of the Poona Municipal Corporation, the facilities and co-operation at the Armed Forces Medical College, the facilities and support of the State Directorate of Public Health, the presence of several well developed institutions, a cluster of rural health centres situated on good roads in the neighbourhood of Poona, constitute our assets. There is also good co-operation from the various departments in the college and the Sassoon General Hospitals. The establishment of postgraduate courses has attracted junior teachers to take up this speciality as a career, which creates an academic environment and helps in training the medical students. Involvement of the staff members in the research activities of the department provides the training which will enable them to undertake investigations independently. The gradual delegation of responsibility to junior staff has produced satisfactory results.

*Preclinical Period*

The newly admitted students are introduced to preventive and social medicine through the specially designed Students Health Service which serves the purpose of impressing on them the wider functions of a doctor and the value of periodic health check-ups, early detection of disease, immunization and other practical applications of the principles of preventive and social medicine. Apart from explanations no formal teaching is undertaken during the first term.

A course of introductory lectures is given to the First M.B.,B.S. 2nd term students. These lectures aim at orienting the students in medical practice even before they start the clinical curriculum. The students are divided into batches of 40 each and semiformal teaching is carried out. The topics include introduction to medicine, ecology, concept of health and disease, scope of preventive and social medicine, functions of a doctor, medical social work, etc.

*Clinical Period*

During all the six clinical terms extending over three years, the students are trained in various subjects such as the principles of environmental sanitation, medical statistics and biostatistics, general epidemiology, epidemiology and control of communicable and preventable non-communicable diseases, community health services, community development, nutrition, national health programmes including family planning, occupational health, international health activities, etc. In all these courses, care is taken to provide illustrative examples which have a direct bearing on real-life situations as related to the socio-economic development, sanitation, etc. For example, in the practical work in statistics, data on physiological variations collected from the students themselves is made use of. The findings of the health check-up are used similarly.

Extramural teaching is done as much as possible through field visits and demonstrations, e.g., most of the training in environmental sanitation is through the visits and demonstrations. In most of the courses the proportion of class-room lectures to the practicals and field work is 1 to 2 or 1 to 3.

Considering the importance of communicable diseases in India, at present

and in the near future, intensive teaching is done in this subject. In addition to lectures on epidemiology, bedside clinics are taken in the infectious diseases hospital of the Poona Municipal Corporation, and the students examine and maintain systematic records about the clinical aspects, epidemiology, and prevention (including health education) of the common communicable diseases. It is impressed upon them at this time that in order to practise good preventive medicine they must be good clinicians, and conversely if they want to be good family doctors they must also practise preventive medicine by taking care of the other members of the family of the affected patient, and the community at large. At this time the students clearly see that preventive and curative medicine are not watertight compartments.

The spacious museum of the department is generally well made use of by the students. With a number of actual specimens, models, photographs and charts, it serves the purpose of giving information to the students in addition to arousing interest. Entomological specimens, etc., are displayed on a revolving stage under a microscope so that the students can revise them any time.

As a part of health education in the hospital or on the occasions such as world health day, college functions, etc., special health exhibitions are organised. The students actively participate on all such occasions and explain to the public for long hours not only what the exhibits are meant to convey, but also many other points that arise.

*Sassoon General Hospitals*

The students learn what they commonly see. Naturally they learn more of the hospital practice of medicine which is mostly the specialists dealing with an episode in the course of an illness. The practice of preventive and social medicine can be taught only if the hospital practice is made comprehensive. Some progress has been made in this direction because of the establishment of the following services at this teaching hospital which recently celebrated its centenary, viz., antenatal and postnatal clinics, well baby and child welfare clinic, diabetic clinic, family planning clinic, medical social service department, immunization centre, cancer detection centre, genetic clinic and counselling, hospital health education, etc. In order to improve the quality of management of the patients at the out-patient department and of training of medical students a scheme of general practice of medicine will be shortly introduced in the hospital. However, it would be a long time before our hospitals are able to provide truely comprehensive medical care.

*Urban Health Centre*

For demonstration of community health services, comprehensive and integrated medical care, continued care, etc., an Urban Health Centre has been established recently very near the college with the co-operation of the Poona Municipal Corporation. The activities at this centre are being developed and





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additional staff is being provided. Senior students are posted at the centre for participation in the health services such as school health check-ups, immunizations, health education, morbidity surveys, nutritional projects and research, child health, etc.

*Examinations*

There is no doubt that the interest of the students markedly improves when a subject forms a part of the final examination. Although we believe that the teaching of preventive and social medicine—or any other subject for that matter—should not be examination-oriented, it would involve basic and radical reforms in the general system of education in our country to do away with examinations. Till that time this examination-oriented motivation of the students can be made use of in directing their studies. Examinations are held at the end of each term in theory, practicals and oral. The questions and the problems set in these examinations are, however, not the usual type which the students can deal with by memorizing a passage from a book or class notes. The students are made to think for themselves and apply their knowledge to a particular situation. These examinations also train the students to think clearly about a problem, to make a decision, and to develop the habit of coherent expression.

In short, the examinations are essentially used as an educational tool to direct the studies and to provide self assessment.

*Rural Training Centre*

Teaching of preventive and social medicine will be meaningless to the students, unless it is integrated with the practice of medicine and so demonstrated. The students should be able to witness and experience some of the social factors that may initiate or influence the disease process, and may determine the patient's reaction to the disease. It is also essential to expose them to the social consequences of the disease, and to demonstrate what is the best compromise between the theoretically ideal and what is possible in the social circumstances and in a particular individual.

The Rural Training Centre is situated at Sirur, Poona District, about 66 kilometres from Poona on Poona Aurangabad road. The administrative and technical control of the centre is entirely with the B.J. Medical College, Poona. The Medical Officer in charge of the Centre, of the rank of a District Health Officer, used to belong to the Public Health Department in the past. However, to ensure a proper orientation of the training programmes and the establishment of Basic Health Services in the area, a lecturer or a reader of the department of preventive and social medicine is now given the charge of the rural training centre.

All the students are posted at Sirur for a period of 3 months during the post-examination compulsory internship. Four such batches are trained in a year. It is decided to extend this rural training to 6 months from the next batch when after orientation course the students would be posted continuously at

several primary health centres, including Sirur, for practice of comprehensive medical care. Good hostel and mess facilities are provided at Sirur.

The internship programme is so arranged that there is an integrated approach for preventive and curative services. The interns are responsible for giving medical relief at the five (to be extended to six) subcentres. They continue to develop the skill and practice of history-taking, diagnosis and treatment of the sick, on their own, which helps them to become good general practitioners later. They have to take the decisions themselves. The interns are, however, not completely deprived of guidance and consultation with the specialists. They are made aware that many simple and effective measures can be easily taken to prevent disease. Each week a specialist in medicine, pediatrics, general practice, and at a set frequency a specialist in tuberculosis, dermatology, surgery, midwifery and gynaecology. etc., visit the main centre at Sirur and at the subcentres when the interns can refer or bring difficult cases for consultation in diagnostic and/or management problems. All departments in the college, and some general practitioners in Poona, participate and the standard of the services is maintained fairly high.

The interns also get a first-hand knowledge of the pattern of basic health services in the rural area. Through participation and demonstration they learn about the various National Health Programmes, M.C.H. services, school health, immunizations, nutrition programmes, sanitation, etc. They also participate in research activities to get acquainted with the methods of epidemiology and research techniques. Health education is routinely done by them as they go in the villages and meet the people.

*Summary*

Some of the principles of teaching preventive and social medicine to the undergraduate medical students and the scheme of training them at the B.J. Medical College, Poona, have been outlined. Efforts are being made to develop strong urban and rural field practice areas to demonstrate the principles and practice of preventive and social medicine. Such field programmes in comprehensive medical care are most important for the training of future doctors. Unless such an integrated practice becomes a rule there will be no worthwhile progress in the teaching of preventive and social medicine.



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*The First Period*

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* *Prof. & Head of the*
*Deptt. of Community*

Furthermore, a patient who qualifies to pay a board-and-lodging charge to hospital and who has dependants drawing National Assistance may find that the Ministry of Health and National Assistance Board are each claiming from his earnings—for board-and-lodging and for dependants' allowance respectively.

The report of the National Insurance Advisory Committee on the Question of Long-term Hospital Patients (1960) declared that there must be a point where a patient's earnings become inconsistent with his receiving National Insurance benefit, and the committee concluded that there was no evidence at the present time that the earnings limit of 40s. a week was acting as a disincentive. In I.T.O. we have no doubt that the £2 limit acts as an obstacle in the initial stages of work outside hospital when earnings are low and depend on the patient's efforts. The committee considered that the limit "should remain at 40 shillings per week for the present". It obviously follows that changes would be necessary, and I consider that in the present circumstances further consideration is essential.

Unlike short-term illness, long-stay patients are not ready for work today and fit for full-time employment tomorrow. It will require time to re-establish the habit of formal work, and in most cases failure will result. We wish to teach patients to assume normal responsibilities—to pay their National Insurance contributions, to pay income-tax if due, to pay for all or part of their keep, their transport costs, and their meals at work—but this must await the third stage of rehabilitation when the patient draws a full economic wage. If the Ministry of Health (1958) and the National Insurance Advisory Committee believe in the therapeutic value of work, as they say they do, then together with the N.A.B. some scheme must be devised which will encourage patients to work.

### Social Resettlement

The Medical Research Council (1959), discussing the conditions of resettlement of schizophrenics, says:

"It appeared likely that a proportion of these patients could be restored to life in the community provided that their social behaviour was such as to permit of their being discharged from hospital and of free association with healthy people."

Brown et al. (1958) pointed out that, apart from the clinical state of the patient on discharge and his success in securing employment, the finding of suitable accommodation was of paramount importance. It is unreasonable to expect a patient who has spent many years in the artificial atmosphere of hospital to settle immediately in the community when he obtains employment. As the industrial training of a patient may take a considerable time, so too may his social training. Together with industrial training and resettlement must go social rehabilitation. Clark and Cooper (1960) describe an experiment in Cambridge which they call a psychiatric halfway house.

Their hostel was financed by S.O.S., a charitable organisation (with aid from the Cambridge Mental Welfare Association and the county council). They conclude that such a house is of value to a limited group of people and suggest that, for a catchment area of 360,000, 16 places would be adequate. They chose only patients who were in work or capable of finding employment within a month and who were deemed capable of achieving independent social life (in lodgings at least) within six months. Possibly these requirements are rather rigid, and if they were more flexible, there might be more patients suitable for admission; but it speaks well for the selection that 10 out of 19 schizophrenics were discharged in the first year.

Especially in view of the Mental Health Act (1959), I consider that the social reorientation and re-education of patients should be undertaken jointly by the hospital and local authority. In Bristol we have discussed possibilities with representatives of the housing and the health committee. I would like to see developed on the hospital estate (but removed completely from the hospital—on the opposite side of a main road) a row of 6–8 standard council houses such as patients may expect to live in on discharge; these houses would be built by the local authority and be jointly administered by hospital and local authority. With a minimum of supervision—e.g., a male nurse and his wife in one of the houses—discharged patients still undergoing industrial rehabilitation would occupy these houses as tenants, paying rent and learning again how to live socially acceptable lives. These proposals are still in the embryo stage; but the hospital management committee favour the scheme, as does the chairman of the local authority's housing committee.

If such a scheme of industrial and social rehabilitation were supported by the goodwill of the great national voluntary organisations, then at last there would be some real hope for the successful reintegration of the long-stay patient into the community.

My thanks are due to those people whose goodwill and enthusiasm have made this experiment possible—particularly to Mr. John P. Turley, director of Messrs. Tallon Ltd., and managing director of I.T.O. (Bristol) Ltd., without whom the project would not have come into being.

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## Medical Education

### FAMILY STUDIES BY STUDENTS
#### Innovations at Lucknow

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THE undergraduate student should see health and disease in their natural setting. This helps him to learn to look beyond the individual patient, to the family in which that patient lives, to his work and play, and to his social and cultural background. The student has to realise that the unit of his work is the family—not merely the sick person who first appears at the clinic.

In India the undergraduate curriculum is overloaded with diagnostic and therapeutic medicine of the hospital type. Few colleges give the student opportunities to work and observe in health centres, or with general practitioners or in families. He remains so preoccupied with clinical and laboratory findings that he gives little thought to the human, psychological, biological, physical, and social factors operating in the family or in the community. In medical education, therefore, provision has to be made for the study of man in disease in addition to the usual study of disease in man.

One of the suggestions made at the 1959 W.H.O. conference on mental health was that students should follow one family through health and disease over a number of years.[1] Departments of social and preventive medicine can suitably take the initiative in such a family-study programme.

### HOW AND WHEN

At Lucknow the teaching of social and preventive medicine is spread over the preclinical and clinical years. A rural health centre at Sarojini Nagar is being developed to give field training to undergraduates and preregistration graduates, and a family-study programme is being introduced for the undergraduates. At present we have a five-year course (after intermediate science examination in physics, chemistry, and biology has been passed) and during his third and fourth years the student acts as family adviser to two families—one family with a mother and a growing child and another family with a case of a chronic disease. The study will help the student (1) to get a better understanding of the relation of health and disease to the total life of the family, (2) to observe normal growth and development and any departure from it, and also the means for maintaining normal health, and (3) to appreciate the economic, social, and emotional situations created by disease and disability. The department has on its staff a medical social worker to help and guide the students in this programme.

Some recommend [2 3] that students in their preclinical years should be given families for study; but this is not generally favoured in India [4] and I think it inadvisable. The student's average age on entry in 1959–60 was 19·7 for men students and 18·3 years for women, and at this age they are not mature enough to create and maintain good rapport with the families. They would not be able to give the medical advice, or arrange the medical relief for which the families would ask; yet they might start playing the role of a doctor, which would be undesirable both for them and for the family.

In the preclinical years it is better to give some introductory lectures and then hold clinical conference demonstrations (as is now done in Lucknow once a month [5]) at which selected patients are presented with their families, in cooperation with other departments. Such a conference is essentially "preclinical"—i.e., it is concerned with the circumstances and condition of the patient more than with his disease. In the analysis with which the conference concludes the chain of causation is examined to show where this could have been broken The aim is to lead students to think in terms of maintaining normal health, of the social causes operating in disease, and of the need for prevention, early detection, and early treatment.

### A SUCCESSFUL PROJECT

In 1958 and 1959 the fourth-year students at Lucknow, who number about 160 per year, were each allotted a family having a registered case of pulmonary tuberculosis and were asked to write a medical and social history of the case. Before they did this they were given a schedule of study showing what information they must seek, and they attended a demonstration at which a case was presented in accordance with this schedule. Health visitors from the tuberculosis department introduced the students to the families, and the students consulted the department's records of the cases. Each case-history was evaluated by me and the student was called to clarify points in the history and discuss the study. Occasionally he was asked to revisit the family or consult the records again.

The students on the whole did an excellent job, and some made instructive sketches to show the environment in which the families were living. Their interest was not confined to writing the medicosocial case-histories: when necessary they examined the sputum of patients and contacts, and took the contacts to the tuberculosis clinic for screening, Mantoux testing, and B.C.G. vaccination. A few patients who had defaulted from the clinic were persuaded by the students to revisit it for the usual check-up. Some of the students, going beyond their task, visited the neighbouring families to find out whether there were other cases of tuberculosis and what was being done for them.

I am grateful to Mrs. S. B. Nayar, medical social worker of the department, for helping in the preparation of the schedule of family study, and to Prof. A. Leslie Banks, W.H.O. visiting professor in social and preventive medicine at this college, for his suggestions and encouragement.

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## Public Health

### MILK COMPOSITION

AN interdepartmental committee was appointed in May, 1958, under the chairmanship of Dr. J. W. Cook, vice-chancellor of Exeter University, "to consider the composition of milk sold off farms in the United Kingdom from the standpoint both of human nutrition and of animal husbandry and to recommend any legislative or other changes that may be desirable". Its report was published last week.[1]

#### LEGAL DEFINITION

The committee finds that the definition of milk in the Food and Drugs Act (1955) is inadequate in relation to milk composition. The suggested statutory definition is:

'Cows' milk' means the secretion, excluding colostrum, which can be gained by normal milking methods from the lactating mammary gland of the healthy, normally fed cow.

#### RECOMMENDATIONS

The committee's main conclusions and recommendations are as follows:

Because milk is important in the human diet particularly by virtue of its content of solids other than fat (referred to collectively as S.N.F.), the consumption of milk S.N.F. should be maintained and, if possible, increased. Small changes in the fat fraction of milk are less important nutritionally than changes in S.N.F. The evidence of a link between either atherosclerosis or ischæmic heart-disease and the consumption of milk fat, though suggestive, is not conclusive, and much research into the problem is urgently needed.

Both the fat and S.N.F. contents of milk have been falling gradually over the past thirty years in England and Wales, though there has been little change in Scotland. The decline in S.N.F. may continue unless steps are taken to arrest it, but milk producers could improve the composition of their supplies by changes in herd management if they were given the incentive.

The dairying industry therefore should aim not only to maintain but also to improve the S.N.F. content of liquid milk, and both statutory and marketing means should be used to this end.

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# Teaching of Community Medicine to the Undergraduate Medical Students at Christian Medical College, Vellore

V. BENJAMIN* AND K.G. KOSHI**

THIS PAPER deals with only those aspects of the teaching and training programme that give the student some insight into the parameters involved in "Community Medicine".

At the Christian Medical College, the Department of Hygiene was reorganised into a Department of Preventive and Social Medicine in 1955. In 1965, the name of the department was changed to "Department of Community Health" mainly because our attempt to explain our service programme to other members of the faculty, as well as to general population seemed easier if we used the phrase "Community Health". The word medicine was avoided in order to keep away the association that this word has with therapeutic procedures to the exclusion of health promotional activities.

We also consider the undergraduate period as the period from the entry into medical college to the end of the compulsory rotating internship period.

The teaching of the "community medicine" may be further divided into two periods—(i) *the first period*, first year to final year, and (ii) *the second*, the period of 3 months (12 weeks) of compulsory internship with the Department of Community Health.

*The First Period*

This may be further divided into (a) an introductory phase, (first year; mainly didactic); and (b) a definitive phase where there is learning through involvement in a Family Health Advisory (Family Doctor) Service.

The introductory phase is a didactic course in the history of medicine, elements of sociology, cultural anthropology and social psychology; especially those aspects applicable to the ecological factors affecting the health of mankind. In addition to this there is a course in elements of Biostatistics. We hold an examination for internal assessment in this course at the end of first year. There is no University examination in these subjects.

The definitive phase of the first period is involvement in the Family Health Advisory Health Service. To quote from the introductory notes to this pro-

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gramme, as given in the book in which the record of work in this programme is to be recorded by the student:

"The fundamental objective of this programme is to enable each student to obtain practical experience in the practice of those prime essential elements for medical practice, the maintenance of good health, and the promotion of better health. In addition to this broad objective, there are other specific objectives. These are:

(1) To study the effects of pregnancy upon the patient and the family.

(2) To observe the growth and development of children.

(3) To learn the importance of observing a patient in his own natural environment, and thus gain an appreciation of the neccessity of including in the medical history, significant facts relating to the environment and having a bearing on health and disease.

(4) To develop an appreciation of the manner in which a patient's illness, not only affects, but is also influenced by the family.

(5) To gain a knowledge of the factors in home or community which may lead to physical or emotional illness or prevent the carrying out of prescribed treatment."

With these objectives each student is assigned two village families; as far as possible one of the families will be where there is an expectant mother, with children, and the other in which there is a chronic disease problem, or some other health problem.

Selection of families will be from among the families with whom the department has already established contact through the Department's Rural Health Service Unit. Visits are made to the families once a week, and an effective 1½ hours beginning from 4.00 P.M. is usually available. Senior staff of the Department, demonstrators, social workers, and public health nurses also accompany the students; and 6-8 students are assigned to a staff-member who acts as staff-advisor.

The village from which these families are chosen, will be one where there is a Maternal and Child Health Centre. Thus the facilities of such a centre for weighing or simple investigations are available to the student.

Since the students are at the beginning of their clinical course when they start on this, a series of classes are held for 45 minutes at each session to cover some of the knowledge and skills that will be required in this.

The following topics are covered:

(1) Community organisation and development.

(2) Principles and techniques of interviewing.

(3) Principles and objectives of pre-natal care.

(4) Principles and objectives of child health supervision.

(5) Growth and development.

(6) Principles of infant feeding.



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(8) Nutrition.

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(12) Family Plannin

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(7) Environmental sanitation.
(8) Nutrition.
(9) Personal hygiene.
(10) Specific disease protection.
(11) Mental hygiene.
(12) Family Planning.

The student is expected to record his findings in the proformas incorporated in the record book. The record covers the following:

(1) Broad based community survey of the village.
(2) Demographic aspects (family size, age, sex, occupation, etc.).
(3) Environmental conditions.
(4) Socio-economic data.
(5) Dietary habits and rough estimates of intake.
(6) Immunity status of the individuals.
(7) Summary of the health needs of the family (as envisaged at the beginning of the programme).
(8) Recommendations or suggested plan to meet these needs.
(9) Summary of the health status at the end of the assignment (i.e. after 15 months: a critical essay of achievements and failure giving reasons.)

Five terms (each of three months) are given to this. During the first two terms, there are weekly visits. Thereafter there are only fortnightly visits, the intervening period being utilised for presentation of families by turn to the faculty and the class for discussion. Case presentation at the bedside is a well established pattern. Here, the student is expected to do a similar thing, but he presents in addition to the clinical problem in the family, all other aspects of the family. These discussion sessions are quite popular with the class. Supportive action in-between weekly or fortnightly visits by the student is provided by the Rural Health Unit staff—mainly public health nurses—who act on specific referrals made by the student, and countersigned by the staff adviser. Major problems requiring referrals to the general hospital are to be arranged by the student who is by the time familiar with the clinical units, and is concurrently posted to one of them.

Another related programme is the *Interdepartmental clinico-social case conference*. During the second clinical year, while the students are posted to the pediatrics department, a student is expected to pay a visit to the home of the hospitalised patients along with the pediatrician and one of the members of the staff of the Department of Community Health, and the case and home-visit findings are discussed in the presence of the faculty of the two departments. This is carried out with Departments of Obstetrics and Gynaecology and Medicine, and Surgery also, but the most consistent attempts have been in collaboration with the Department of Pediatrics.

The student is encouraged to engage himself in health education, immunization, and motivation for family planning, nutrition education. He is given as much back-up support as is possible by the Department's service unit which is the Rural Health Centre. But the student also comes to face the realities of limitation in respect of resources, and the indifference to "change" in most people.

During this phase it is hoped that the student learns to deal with the clinical problem, as a problem, in a human being as a *person* in a family, which is placed in a *community* of families.

*The Second Period—The Internship Programme*

Time available 12 weeks (Three months)

Practice Units:

(1) Rural Health Centre with 3 extension centres (Bagayam—adjacent to College Campus)
(2) Kavanur Rural Health Centre (20 miles away from College)
(3) Leprosy Research Sanatorium, Karigiri (16 miles away from College)
(4) Mobile Dispensary—Twice a week
(5) Participation in Urban Health Unit programmme
(6) C.S.I. Hospital, Nagari, Chittoor Distt., A.P. (62 miles away from College)

*Residential Facilities:*

Provided at Bagayam, Kavanur, Karigiri and Nagari.
Number of Interns at any one time: 10—12

Objectives of the Training Programme:

To equip the physician:

i. To think in epidemiological and social categories;
ii. To understand the part played by health services and how such services are based on epidemiological principles;
iii. To look at every clinical problem with a preventive bias and as a challenge to preventive and community health action;
iv. To comprehend his social role in relation to the individual, the family and the community; and
v. To achieve these within the framework of the limitations in resources that actually face him in practice in present day conditions in the country.

*The Programme in Outline:*

The assignments are divided into two parts—one part of which is taken by *all* (6 weeks) and the *other* part (6 weeks) is taken by some.





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Part II: (By some only)—c

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ii. In survey and researc
iii. At C.S.I. Hospital, N

*Programme in Detail :*

**Part I.** *Rural Health Centr*

(1) O.P.D. Services—7:
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(2) Inpatient care—(24
(3) Casualty type of ser
(4) Elective surgery und
One afternoon—general
One afternoon—reconst
(5) Maternal and Child
(6) School health progra
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(7) Leprosy clinics—3 l
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(8) Tuberculosis clinic—
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(9) Participation by pr
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Part I : (All) At the Rural Health Centre and Hospital, Bagayam 6 weeks—during which they are posted to the Kavanur Rural Health Centre for one week at a time. From the Rural Health Centre they will also be posted for specific programmes in the Urban Community Health Programme.

Part II: (By some only)—*one of the following* programmes—6 weeks.

The programmes are:

i. At Leprosy Research Sanatorium, Karigiri; and
ii. In survey and research project (Epidemiological and/or field projects); or
iii. At C.S.I. Hospital, Nagari, Chittoor District, Andhra Pradesh.

*Programme in Detail :*

Part I. *Rural Health Centre Programme :*

(1) O.P.D. Services—7:30 A.M. to 12:30 P.M. (6 days) (Monday through Saturday)
(2) Inpatient care—(24 beds) daily.
(3) Casualty type of service (on call duty)—one interne/day.
(4) Elective surgery under Rural Health Centre conditions—
One afternoon—general surgery
One afternoon—reconstructive surgery for leprosy.
(5) Maternal and Child Health Clinics—4 afternoons.
(6) School health programme—Chequered carrier—mainly health education to teachers—one afternoon a week.
(7) Leprosy clinics—3 half days.
(These are clinics run simultaneously with other clinics, but in a different location in the village or community).
(8) Tuberculosis clinic—one afternoon a week. (Includes participation in problems of ambulatory care of tuberculosis and significance of National Tuberculosis Control Programme).
(9) Participation by preparing and leading discussion for all staff and trainees (medical and para-medical) on Health Promotional aspects—*1½ hours exclusive of preparation.*
(10) Participation in Rural Hospital Practice Seminars, led by clinical specialists—mainly General Practitioner approach to medical, pediatric, surgical and obstetric problems. (Usually after dinner sessions—1 hour/week).
(11) Participation in Family Planning activities—largely integrated into the O.P.D. and Maternal and Child Health Clinic services, and organised group educational (motivation oriented) programmes. IUCD programme has special emphasis.
(12) Participation in Obstetric practice—(Labour room and lying-in section attached to Rural Health Centre, Bagayam and Kavanur Rural Health Centre).

By turns, one to two weeks is spent at the Kavanur Rural Health Centre, where they participate in O.P.D. services, M.C.H. services, leprosy clinics and family planning.

Health education is emphasised throughout the period and internes have to organise and carry out health education on various topics to groups of patients and their relatives in the ward and the O.P.D. (thrice a week).

**Part II:**

(1) Posting at the Leprosy Research Sanatorium—(6 weeks) involves helping with diagnosis of the various types of leprosy, detailed study of complication of leprosy, and some involvement in epidemiological studies in leprosy.

(2) The Urban Health Unit has ante-natal, post-natal and child health clinics, and a school health programme. Internes are posted to these.

(3) The survey and research posting: In this posting, two internes are encouraged to choose some subject for investigation. They are given some guidance in the choice of the subject for enquiry by allowing them to choosef from a panel of subjects already carefully thought out by the Departments of Community Health and Biostatistics. Care is taken to choose such of those enquiries that lend themselves to some conclusions or a sense of accomplishment within a period of 6 weeks. At the end of the assignments they present a consolidated report of the work and its possible conclusions or implications to all the other internes and other staff of the department. In this way it is hoped that even those who do not have this specific assignment will gain some insight into research methodology applied to field problems.

(4) The posting at Nagari is mainly to give experience in running a small hospital and dealing with the clinical problems with limited facilities. The Hospital is ideally placed for such an experience. In addition, the Hospital also provides experience in community health work, running ante-natal and child health, leprosy and tuberculosis clinics. It is essentially a hospital-based on community health programme.

*Commentary on the programme*

The training programme shown in outline is designed to try and fulfil the objectives mentioned earlier. This attempt may also be considered at two levels, viz. (A) at the individual level, and (B) at the community level.

(A) *At the individual level*: Diagnosis involves careful history taking and a high degree of clinical skills to make as accurate a diagnosis as possible. All good clinical teaching emphasise this; but the increasing tendency to depend heavily on laboratory tests for diagnosis is discouraged. Laboratory tests are not considered un-necessary; but rather efforts are made to use only such of those that help to confirm a clinical or give the clue to the difference between two or three provisional diagnoses. It is postulated here that most of the tests done in a big hospital set-up are for purely academic reasons and not essential



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The history-taking includes a complete socio-economic history. This is something largely neglected in traditional history taking and a definite attempt is made to correct this deficiency. Only when this is done adequately it is possible to achieve the objective of making a community diagnosis and planning therapeutic action at a community level.

Through a programme of weekly grand-rounds and discussions, pediatricians and surgeons from the main teaching hospital emphasise and demonstrate that such a thing is possible.

(i) Regular "Rural Hospital Practice" seminars, led by the various specialists, help in showing how a practical approach to clinical problems can be made and how a simple laboratory for essential tests with simpler techniques and so on can be organised.

(ii) Therapy: It is emphasised that therapy includes health education which is done both at an individual level, at the doctor-patient encounter during consultation, and at a group level through organised group talks and or demonstrations. Only in this way can we make the patient, his relatives, and other community members become aware of what factors 'conspired' together to produce the illness and what preventive action could have been taken, and what can be taken in future to prevent a recurrence, or minimize the disability. The medication given is thus looked upon only as a "sugar coat" on a pill; the real thing that matters is awareness and knowledge about prevention and disability limitation. It is stressed that the doctor has a leading role to play in this generally neglected aspect of therapy.

It is possible to consider such an activity difficult for a doctor who has many patients to see: while this is a legitimate difficulty, the fact remains that doctors have to be made more aware of its essential importance, and be the leader who initiates the educational activity as a prelude to other agencies taking over and initiating any therapeutic activity at the community level.

(iii) Early diagnoses and anticipatory action is a *sine quo non* in good medical practice. This is practised through the various antenatal and child health clinics and through the health-maintenance clinics. The house-surgeons (internes) take a leading role in running these clinics and they are helped by the public health nurses and midwives.

(iv) Surgical Practice—In this area of great glamour for young graduates, senior surgeons help the house surgeons carry out relatively major surgical procedures (eg. gastrojejunostomy) under limited resources of personnel and equipment at the Rural Hospital.

(*B*) *At the Community Level :* (i) Epidemiological approach—Since a comprehensive approach to health problems is well-nigh impossible without analysing and identifying the various factors that interact, an attempt at giving an insight

as to how to go about making such an analysis for purposes of community action is made through short term investigations and surveys using accredited research methodology including statistical methods. The statisticians and social workers play a major role by assisting in this activity. This is, in a way, practical epidemiological approach, which is also a largely neglected discipline in present-day medical curricula and traditional house-surgeoncy training programmes. A list of some of the various problems on which studies have been done is given below.

(ii) Communicable Disease Control and Illnesses : Though every health problem has a community component, the communicable diseases offer examples of definite clear-cut community action which the doctor as the leader of the health team can initiate and maintain. Experience is provided in a leprosy control programme, and in the ambulatory tuberculosis treatment programme, and activities of contract-tracing, immunization on a mass scale where applicable are all emphasised and practised.

Opportunity is also provided in the optimal use of other agencies through the above two programmes. A good community health practitioner should know the agencies in his community and learn how to use their help.

(iii) Follow-up and continuing care : In traditional hospital practice, this again is a neglected sphere. In a health centre set-up, or in a general practitioner basis this is given importance, and here again the use of public health nurses, health visitors and midwives for follow-up care is encouraged, demonstrated, and we hope, appreciated.

(iv) Round Table Discussions and Seminars : Since the period of house-surgeoncy is short, to ensure that various aspects of health promotion are at least thought of and discussed, a series of health promotion seminars on various subjects are conducted weekly, and here the house-surgeons read a short paper on the assigned subject and lead a discussion. Senior doctors, public health nurses, social workers and other para-medical workers participate in these discussions, and again emphasise the team approach.

The science of medicine is fast becoming thought of as a Social Science. If this is so, there has to be far reaching changes in the kind of medical education given at the undergraduate level and in the training period thereafter. However, the science and art of being a good doctor still continues to start with the doctor-patient encounter in the privacy of the consultation room, and will continue to be so. What is needed is to enlarge the concept of medical practice and to realise that dealing with sickness in the individual without a concern for prevention and community factors that have a bearing on the state of health of individuals and communities, is practising sub-standard medicine. It is also necessary to galvanise the imagination and energies of young medical graduates to the satisfactions of enlarging their vision and scope of health care on a comprehensive basis, even in situations where resources are limited. The need for this is so obvious but our capacity and our willingness to meet this need is what is lacking. Whatever the blocks, and whoever is to be blamed—the





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challenge remains. The training programme at the Rural Health Centre is a humble attempt to meet this challenge.

*Samples of the special projects carried out by house-surgeons and health promotion seminars for interns* :

Illustrative of the special projects carried out by house surgeons and subjects discussed at health promotion seminars are :

(i) Epidemiology of fungus infections of the scalp in an Orphanage and a double blind theraprutic trial with Criseofulvin.
(ii) Evaluation of the programme of the Rural Health Centre for Leprosy.
(iii) An enquiry into the attitude, knowledge and practice of methods of family planning and family size limitation.
(iv) Epidemiology of Kwashiorkor with special reference to family size.
(v) Study of the community response to the services rendered by the Rural Health Centre.
(vi) Survey on sickness and health levels of rural populations aged 50 and over.
(vii) Study of a small epidemic of Typhoid in a nearby village.
(viii) Health education – General principles and tools.
(ix) Opportunities for heatlh promotion in hospital, home and community.
(x) The role of public health and vital statistics in health promotion.
(xi) Preventive and health promotional aspects of the problem of Cancer.
(xii) Mental health promotion.

*Comments* :

The Department's teaching programme has been based on certain assumptions which have not always been explicitly stated. Historically speaking Departments of Preventive and Social Medicine were being set-up from 1955 onwards, and one of the objectives of medical education was the evolution, through the educational process, of five to six years, of the "basic doctor". The qualities and skills of the "basic doctor" were never sharply defined, but broadly, here in Vellore we envisaged a person who would be able to deal with most clinical problems with confidence and bring to bear on the health problem as seen in a patient some plan of action to prevent such problems at least in the family of the patient, and initiate some action at the community level by appropriate reporting or referral to the health authority/municipal corporation/ panchayat, etc. He should at least *think* of the preventive possibilities and public health components of the problem.

The objectives of the family health advisory service has not changed very much ever since the beginning of the programme in 1956. However, there has been some change in the objectives of the internship programme. During the period 1955-1965, the stated objectives of the internship programme were as follows :

1. To encourage the physician to give equal importance to preventive medicine and public health practice as to diagnostic and curative services.
2. To realise that reasonably scientific medical, surgical, obstetric and pediatric practice is possible even without the resources of specialist personnel (for consultation) and laboratory facilities that are usually available at a teaching hospital.

About the year 1965, we redefined the objectives as already stated earlier. There were other assumptions also, when we launched on this programme in 1955-56. Some of these were :

(i) That the entire faculty of the medical college and hospital were reasonably familiar with the concept of the 'basic doctor';

(ii) That the entire faculty believed in the wisdom and desirability of being deeply involved in producing such a basic doctor to meet the health needs of society; and

(iii) That the entire faculty would, as far as possible, and as *often* as possible high-light the preventive and community aspects of the disease problems as they discuss them in the class room or at the bedside, and not consider them as the *sole* responsibility of the department of community health.

The experience of the last fifteen years has not really borne out the validity of these assumptions. This is regrettable. We do not presume to analyse the causes of this here. It is, however, pertinent to observe that there has been no violent opposition from the faculty to these concepts or programmes, but only an indifference to the Department's programme, conditioned by the influence of the need that other faculty members feel for their responsibility to impart the idea of excellence in their own speciality to the student. The net result is that we have not really succeeded in producing the ideal "basic doctor".

We have also come to realise that there is room for more drastic modification of the curriculum as well as the teaching programme if we are to produce the kind of physician who will emotionally accept his role as a social engineer with the skills necessary to function with professional satisfaction as a general practitioner, even in the set-up of the primary health centre. To do this most effectively, there will be need to give him some of the managerial skills. The product of the present medical course is still heavily individual patient oriented whereas, if the health needs of the community are to be realistically met, we need a doctor who is more community health oriented. Just as the student at present gets satisfaction from seeing the individual patient diagnosed and cured, we should provide the milieu for developing skills to diagnose community health problems and to solve them, and derive professional satisfaction from doing so. Schemes and plans are afoot to try and reorganise the training programme towards this end, by greater involvment of the medical college in the delivery of comprehensive health services of community.





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## Family Planning and Economic Development—Abstracts of Three Recent Publications

1. GUPTA, P.B., **Population Policy in India.** *Bulletin of the Socio-Economic Research Institute*, Calcutta, Volume 3, pp. 1-9, 1969.

2. ENKE, STEPHEN, **"Birth Control for Economic Development—Reducing Human Fertility can Raise Per Capita Income in Less-Developed Countries"**, *Science*, Vol. 164, No. 3881 pp. 798. May 16, 1969.

3. SIMON J.L. **"The Value of Avoided Births to Under-Developed Countries"** *Population Studies*, Volume XXII, No. 1. March, 1969.

These abstracts deal with three publications in which the authors have examined this question from three different angles.

Gupta contends that a rise in the levels of living, which includes improvement in the educational status of the population, is the key to the generation of motivation for adoption of family planning methods. He contests the view that unless the growth of population is arrested by the curtailment of fertility, the need for providing for an ever increasing population would make nonsense of all efforts at economic planning and asserts that there is no unique and inevitable relationship between population growth and economic development. Also, so far as fertility is concerned, as has been demonstrated in the decline in fertility in USA in the first part of the 19th century, he feels that improvement in standard living through industrialisation is not necessary for reducing fertility. This could be a relevant field for reserch in India; it has to be found out whether motivation can be generated through improvement of standard of living even in non-industrial environments. From recent studies or knowledge from such environments one can identify atleast two contributory factors – improvement of living standards and advancement of general education. He questions those who claim that even in the absence of economic and social progress, motivation can be produced by mass communication methods as a part of family planning programme. This, in the view of the author, would be simply begging the question, for the above information will fall on deaf ears, unless the couples concerned are already motivated. Motivation is an urge felt by the individual which cannot be generated by propaganda alone. It is an attitude attained by him only when education brings in comparative freedom from traditional

(M.M.S.), degree in 5 years' time after passing his higher secondary examination, the period being the same as for the 1st postgraduate degree (M.Sc.) in Science faculty. The M.M.S. degree shall be considered equivalent to the M.Sc. degree of the Science faculty.

2. It is likely to provide more personnel for pre-clinical, para-clinical and public health services.
3. It will significantly reduce the load of subjects to be taught, whereby quality of learning would improve.

One apparent drawback of the present scheme is that the proposed compartmentalisation may cause a drop in the net turnover of clinicians. To meet this difficulty a temporary system of reservation of quotas for the three divisions may be introduced, reserving 65 per cent of seats for the clinical division and allotting 15 per cent to the basic medical and 20 per cent to the public health divisions. We have, however, to face the challenge of the rapidly developing medical sciences. A fundamental change in our outlook of medical education is called for. No stop-gap arrangement to meet any immediate demand will be adequate.

*The author has invited criticisms and comments on his proposals. Readers are requested to send their comments to the Editor. Efforts will be made to publish them in the 'Medical Education Forum' section of the ensuing issues of the Journal*—EDITOR.





# Bed-side Teaching of Social and Preventive Medicine: 'Operation Kalianpur'

BY

DR P. D. P. MATHUR and DR C. M. S. SIDDHU

*Department of Social and Preventive Medicine, G.S.V.M. Medical College, Kanpur*

The feeling of a majority of medical men here that 'Social and Preventive Medicine' is merely a fashionable terminological variation of 'Hygiene and Public Health' does not seem to have undergone a significant change with the passage of years. The mention of this department still tends to bring unpleasant memories of milk and water purification, sera, vaccines and latrines. True, these sections are integral parts of the subject, but the emphasis has remarkably changed.

A prodigious amount of literature has accumulated on the teaching of this subject. An irrefutable fact that has evolved from these controversial arguments is the importance of grinding into the undergraduates the concept of Medical Care, often designated as Comprehensive Medical Care to emphasise its magnitude. Consequent upon comprehensive Medical Care being regarded by the Bhore Committee, Mudaliar Committee and WHO as the only panacea for health, especially in an under-developed country like ours, the scheme of Health Centres was brought into being. But to date, success is still eluding us. Why?

A sound programme is as good as the personnel who operate it. The medical personnel running these health centres were entirely produced by our medical colleges. How can our present doctors properly assume overall responsibility of patients when they themselves are ill-equipped with the concepts, principles, and practice of medical care? Medical colleges have trained them primarily in the art of curative services. They are not fully conversant with the social implications of medical practice and the social responsibility of the medical profession. It is difficult for them to close the social gap between medical technology and the medical care.

The relationship of a doctor to the patient and his family has been the basis of medical practice for centuries. The doctor had direct and personal contact with the problems, anxieties, culture and the socio-economic aspects of his patients. The complex life of today has adversely affected these earlier relationships. The demands of an individual in matters of health, disease and disability will, however, always remain personal. Hospital training alone seems to be lacking in emphasising the value of early diagnosis and preventive measures.

True education is largely self-education. Learning is more important and lasting than teaching, and direct experience is of greatest importance in undergraduate training. An environment conducive for the undergraduates to learn the methods and acquire the habits of self-education is necessary. More demonstrations in dairies, slaughter-houses, or primary health centres are not enough for permeating into students the modern trends in medicine and the elements that determine all the aspects of medical and health services of the future.

This brings into focus the problem of producing doctors familiar with the modern concept of medical care. The responsibility of training undergraduates in this new discipline was rightly accepted by the departments of Social and Preventive Medicine. But just as Internal Medicine cannot be learnt without examining cases in the wards, the principles of Medical Care cannot be imbibed unless the students become an integral part of the programme providing such care. 'Practical experience in comprehensive care is essential if the student ordinarily confined within the closed system of the hospital, is to grasp concretely its principles. The unit of clerkship should be a training health centre, rural or urban, possibly both.'

At G.S.V.M. Medical College, in order to provide a unit capable of giving such training to undergraduates, an attempt to start a Training Health Centre was made at Kalianpur. In January 1963, the limited staff of this department made a modest attempt to materialise the dream of comprehensive medical care for the small population in Kalianpur Block. With this centre as the nucleus of practical training in this subject, it is hoped that graduates adequately trained to impart medical care will be produced.

Kalianpur Training Health Centre is situated four miles away from G.S.V.M. Medical College, Kanpur. At the moment, we have for accommodation part of the P.H.C. building, two examination rooms, one lecture room and one laboratory. Outdoor clinic is conducted in the varandah, where open country air partly compensates for lack of electric fittings. The laboratory is equipped for conducting preliminary investigations, viz., blood, urine, stool and sputum. The hours of working are from 9 a.m. to 1 p.m. Since training all the students of a class (about 150) is a formidable task, 48 students of the 1st Professional examination have been selected. Four of these ranging from middle of 3rd year to middle of 4th year, are posted at the Centre each month. Usually, one lecturer, one M.O.H.-cum-lecturer and two demonstrators comprise the teaching team. Thus four staff members and four students daily reach the Centre at 9 a.m. in a motor van. For auxiliary staff we have a sanitary inspector, a health educator and a fitter mistry.

A limited population of Kalianpur Block has been selected for our experiment—Shed No. 1 of Criminal Tribe Settlement, (Population 400) and village Bairi (Population 800), making a total of 1,200 persons. For all the families in the defined population we have a family file. During dispensary hours, on presentation of cards bearing the family number and individual number of the patient, individual cards are taken out by one of the para-medical staff and passed to us. Students take histories, examine patients and make laboratory investigations. Reaching a provisional diagnosis, they suggest a line of management. For every patient, one of the students is responsible for one month. The teaching staff reviews the case, modifies the treatment if necessary, and helps the student in properly advising the patient. During all this, special emphasis is laid on preventive and social aspects of the disease, and on the socio-economic and cultural background of the family. The population are instructed to carefully keep their cards bearing family and individual numbers, so that taking out their individual cards does not become a time-consuming job. Our patients have extended their full co-operation in this matter. At a later date, when sufficient data has accumulated, morbidity measurements will be introduced to the students.

In addition to this routine work, once a week all the students attend Maternity and Child Welfare Clinic, while the working of these is explained to them by the staff. Every week, each student makes a visit to a 'Chronic Sick'. A register of such cases in the defined population is maintained at the Centre. Cases desired by us to be kept under observation are visited by the students. After each round the students report to us the condition of the patient, family problems and needs and prognosis. If warranted, one of the staff visits the case along with the student in charge.

During his one month's posting each student carries out an epidemiological exercise under guidance of the staff. So far, records of the following diseases from 1959 to 1962 have been studied by the students in the Medical College group of hospitals: Septic Meningitis, Typhoid, Small-pox and Diphtheria. From each study the students write a dissertation and submit it for correction. Each student also studies a family by doing a multi-purpose survey and submits his report for checking and discussion. This enables them to have an intimate idea about the 'way of life' in a village.

An understanding of functions of local organs of community development is also imparted to the students. Each month the students transcribe the code numbers of all the diagnoses made in the previous month from the International Classification of Diseases. They are also made to complete the study of 'World Health' by Brockington and their progress is reviewed and difficulties solved. The Professor and Head of the Department visits twice a week to the Centre to inspect, guide and solve our many problems.



Thus, the students, to their great advantage share responsibility for the care of the patients and their families. They are allotted a round of duties which contributes to the working of the Centre. All the time, work of the students is kept under supervision by the teaching staff.

The construction of a students' hostel, M.O.H.'s house and office block is nearing completion. When these are ready, the students will reside at Kalianpur for one full month. It is hoped that with these buildings completed, additional staff sanctioned and other aids received, future plans, already suggested by Dr Susser and Dr Siddhu in their preliminary report to W.H.O. will materialise.

We feel that even in this short period of six months this new project has shown results. Certain shortcomings in the medical training hitherto observed with hospital clerkship alone for practical training of the undergraduates, now seem to be compensated for by this new discipline. e.g.,

1. 'Conception of Disease in a Community' is a difficult thing to achieve. During hospital training students are able to see only a small fraction of the medical problems of our country. Here at the Centre they get an inkling of the more important and bigger part of the problem. Thus the students are enabled to get a true conception of disease as it affects a person, his family and the community. They observe the true range of morbidity of a community, and are thus able to correct the erroneous impression created by the highly selected cases of a teaching hospital.

2. They are able to see disease at an early stage. So they get an opportunity of making an early diagnosis, and of practising the preventive measures they learn in theory.

3. By seeing diseases in their natural milieu, students can get the first hand knowledge of how the socio-cultural background affects the health of a community. They realised the magnitude of this factor when they themselves, among other things, observe that, villagers go for relieving themselves in the fields even when latrines are provided, that villagers believe that roundworms help the process of digestion and lice help in keeping the hair black, and to cure marasmus, villagers mercilessly brand their infants lightly, with red-hot irons, on the scalp and back.

4. No amount of lectures can produce the impact that is produced on the student by himself practising preventive measures on a case. An example is the successful Scabies Eradication Programme in which the students played a major role. Again, the students participated in a vaccination programme.

5. Students are able to appreciate the high cost of medical care in a poor country like ours, and this helps in modifying their approach to disease.

6. With meagre diagnostic aids available in health centres, students are trained to make presumptive diagnosis, which enhances their confidence and gets them used to working in more modestly equipped clinics.

7. The students get an opportunity of following up each case. Thus they can critically evaluate their prognosis of the case and the value of the services rendered. They are also able to appreciate that medical responsibility does not end until the patient is restored to his normal role, or is resettled.

8. The students are able to better understand the problems of care and readjustment of patients in their own homes when they are discharged from hospital during the convalescent period or as a 'Chronic Sick'.

9. Intimate contact between the students and the suffering population helps in building of social ties between them, and acclimatises the students to rural health services. The missionary zeal, the discipline of team work and the social affiliations thus ingrained go a long way in conditioning students to work in rural areas.

We conclude with the happy note that 'Operation Kalianpur' though still in its infancy, has been a success. It is gratifying to note that our objects are being fulfilled. Those aspects of medical training that cannot be provided by hospital-clerkship are being provided at this centre, which is nothing but a new approach to teaching of social and preventive medicine: 'Bed-side Teaching of Social and Preventive Medicine.'

ethod also provides excellent situations
: introducing preventive concept.

### nclusion

It is well-recognized that no amount of
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ower to use knowledge (Ellis 1961). In a
eveloping country like India this is the
rime necessity rather than the mere
acquisition of more knowledge at the under-
graduate stage.

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# The Continuous Community Survey as a Teaching Technique in Social and Preventive Medicine


BY

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A teaching community is as important to a Department of Social and Preventive Medicine as a teaching hospital to a Department of Medicine or a Department of Surgery. Although it is possible to teach the principles of social and preventive medicine without such a laboratory, it is accepted that teaching would be far more meaningful if appropriate use is made of such a community.

At Trivandrum Medical College, an essential feature of the third year course is a continuous community survey of a segment of the Medical College Health Unit. The purpose of this survey is not specifically to accumulate data for administrative purposes, although this is a valuable by-product. The survey is an important element in the teaching of public health and public health statistics. This paper, therefore, is not intended to emphasize the results of the survey which are primarily of local interest but to demonstarte the continuous survey method as a teaching technique.

## Materials Required

The first requirement is an appropriate community. Here it was decided to limit the survey area to one segment of the Medical College Health Unit—Attipra Panchayat. This is a single village of over 20,000 population, located about four miles from the college. It is probably not a typical village in India from the point of view of population size or density. The density is 2,791 per square mile.

The size and density of population which obtain in this village are not critical features of the experiment. A certain population size is required to demonstrate certain statistical principles and an optimal population density may reduce transportation problems. The study of population need not be limited to a single village. If the Department or the Medical College has a service area, one advantage of surveying this area is that the data collected could be most appropriately put to use.

Communities which are located close to medical colleges may over the years develop resistance to surveys, especially when conducted for purely academic purposes. Surveys and service should, if possible, go hand in hand.

When an epidemic of cholera threatened Attipra Panchayat, the same students performed mass immunizations of the school children. The continuous survey was begun in Attipra Panchayat at about the same time a more intensive programme of medical care associated with the training of our house surgeons in the management of primary health centers was initiated.

Transportation may have to be provided in many cases. A college bus and a departmental van have been used in Trivandrum, and the survey is carried out on Saturday mornings when the vehicles are easily available.

A mimeograph machine or similar equipment for reproducing questionnaires is usually available in medical institutions. At Trivandrum, the Department has its own machine which was provided by US-AID. However, getting quality paper in sufficient quantity may be a real problem and it has sometimes proved necessary in our case to salvage the unused pages of previous surveys.


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After some testing in the field, the questionnaire may be printed.

### Preparation for the Survey

The same kind of preparation as for administrative surveys is necessary. In our case it was necessary to map the area so that, when student assignments were given, they could have a reasonably clear idea of the location of the houses assigned. The panchayat house numbers were used for house identification and for drawing samples. A complete list was obtained from the panchayat office. The mapping was done by the health inspector of the Medical College Health Unit with the assistance of health assistants. Some members of the faculty accompanied these workers, not so much to assist in the mapping as to determine the feasibility of assigning students to certain areas and to 'get a feel for' the practical problems which might arise.

To obtain the best results from the survey, the lecture schedule has to be planned well in advance. Only in this way is it possible to plan the appropriate survey (or, laboratory exercise, as it might be called) so that the survey can be related to lecture and vice-versa.

Two types of questionnaires are used—a basic questionnaire and a specific questionnaire. The basic questionnaire is used at each visit throughout the year. The specific questionnaire coincides with the special area being covered by the lectures. For example, a special sanitation survey will coincide with the lectures on environmental sanitation or a special nutrition survey with lectures on nutrition. In the preparation of these surveys, it seems most practical, wherever possible, to adapt material from previous surveys to the specific purpose. In our own case, the basic questionnaire draws heavily from the Baltimore City Health Survey but it is modified to suit local conditions. An environmental survey specially designed for developing countries has recently been published (Gremliza, 1965). Most departments of social and preventive medicine have at various times done surveys which could easily be adapted to this purpose. The essential difference lies in co-ordinating a series of surveys into a continuous programme designed to coincide with lecture and to provide an educational experience to an entire community.

### Method and Results

Early in the course of lectures, there is a discussion of methods for determining how many diseases are prevalent in a community. Such basic concepts as rate, prevalence and incidence are considered. One compares various ways of estimating prevalence from institutional data, diagnostic surveys and household surveys. The advantages and disadvantages of these methods are weighed. Many of the points with reference to household surveys are subsequently demonstrated in the course of the year.

For example, one weakness of household surveys is the lack of diagnostic precision. Even though the survey is done by medical students, the morbidity data leaves a great deal to be desired from the point of view of diagnostic accuracy. This is so because the information is based on case history and, at this stage of his career, the student is not very sophisticated either in case study or diagnosis. Changes take place during the course of the year as the student's diagnostic ability increases.

Early in the course, the students are given a basic introduction to the various statistical methods used in investigations of this kind. Sampling is discussed as the most efficient and economical method for community surveys. The first lecture in statistics is on random sampling. Through careful experiments, the principles of random sampling are illustrated and the common bias in purposive sampling is demonstrated. The students learn about other methods of sampling such as stratified random, systematic and sequential sampling.

Actually, systematic sampling is used for the survey largely because of convenience and simplicity in allocating the houses. Under certain general assumptions about the community, systematic sampling would be at least as accurate as simple random sampling. The sampling fraction used is 1 in 30. The concepts of sampling variation and standard error are also discussed quite early. The reduction in the sampling error and hence the increase in accuracy with increasing sample size is also discussed.



During the course the survey students discover this fact for themselves as the volume of data increases. Complicated mathematical symbols are not used at any stage since the medical student has a constitutional allergy to mathematical notations. Mathematical rigor is sacrificed for simplicity and an intuitive approach is followed in explaining certain principles at this stage. This may be an unorthodox approach to statistics but the teaching of statistics in medical colleges offers a wide field for experimentation, especially if medical students are going to be challenged by a subject which so often bores them.

The eleven questions of the basic questionnaire are all discussed with the students and they are told why each question is asked, how each question is to be asked and why the answers are precoded. This, in a sense, corresponds to the training of interviewers, but is actually used as a teaching device to demonstrate certain principles in public health. For example, the first question in the basic questionnaire deals with the names of persons in the household. The total number of persons so identified provides the denominator for various rates to be derived from the survey data such as the birth rate. In most cases, the denominator cannot be derived from much of the institutional data since one cannot clearly define the population at risk. In fact, the survey data provides many clear-cut examples of the three necessary components of a rate and, since the questions must be so framed as to elicit this information, the review of the questions is a good teaching device. In order to be sure that there is no ambiguity in the questions, the students are asked to give suggestions on the exact translation of the question from English to Malayalam.

After a brief experience in the field, the students become quite adept at obtaining the data on the questionnaire and each student covers 2 or 3 houses in the allotted time. Since the students return to the same area each time, they become increasingly familiar with the area and this helps to make the work easier.

During the first half of the year, the students go to the field on alternate weeks. With the addition of the junior group and with an enrolment of 185 students, it was found more convenient to take one half of the class each week, while the other half was at the college. If the students are arranged into groups with some students acting as group leaders, the supervision can be accomplished with only two faculty members.

If the survey is to be a meaningful experience in community medicine, it is important that the findings be discussed as soon as possible. For example, some of the data from the basic questionnaire is almost immediately useful in the teaching of descriptive statistics. The data on age and house-hold composition can be used in discussions of mean, median, mode, frequency distribution, histogram and normal curve.

Population estimates can be derived from the sample and these estimates can be compared with other methods of deriving intercensal population estimates. The estimates derived from the sample should be derived within given confidence limits and the technique once learned can readily be translated to other problems in clinical medicine.

The same applies to standard error. When we had sampled 8 per cent of the houses, the population estimate was 22,300 to 24,000 (95 per cent CL). Extrapolation on the basis of the previous decade gave an estimate of 20,954. To arrive at population estimates from the survey data, due consideration has to be given to the ancillary data available from the panchayat (e.g., the total number of houses), to the interviews not completed and to the reasons for non-completion. These are exactly the type of problems which may arise in some epidemiological studies.

Our survey estimate of births during the previous calendar year were more than three times the number of births registered in the area. This is as impressive as any other way of demonstrating the importance of proper registration of vital statistics. The birth rate computed on the survey data was 35 per thousand and the death rate 10 per thousand, giving a natural increase of 2.5 per cent.

Some interesting results were obtained on the morbidity data. One question in the basic questionnaire dealt with all illnesses in the home during the preceding two

weeks. The reported rate of illness was very much lower than that reported in the U.S. or the U.K. White, *et al*, compares the sickness rate obtained by surveys in the U.K. and the U.S. and estimates that, in these countries, in the course of a month as many as 750 persons out of a population of 1,000 adults experience what they recognise as injuries or illnesses (White, 1961).

In our survey, where the recall period is two weeks, only six per cent of the adults report any illness during the two-week period. While it is recognized that, with more efficient probing, a higher rate of illness may be reported, there is apparently a wide gap in the recognition of illness in this area as compared with the U.S. and the U.K. It is likely that many illnesses are just taken for granted and only the more serious illnesses are recognized. This is borne out by the fact that in Western countries one-third of the people with reported illnesses consult physicians, whereas in our area 92 per cent of the adults with reported illnesses sought relief. The large reservoir of unrecognized illnesses is of great consequence to medical care. As medical services become more readily available, these unrecognized illnesses become more important and the demand for medical care increases with the supply.

It is of interest to note that as many as 26 per cent of the patients sought medical relief from Ayurvedic physicians, while 47 per cent used the services of the Medical College Hospital or the Health Unit. In our area, 74 per cent of the sick take advantage of modern medical care. This finding may, however, reflect the proximity of the area to the medical college. On the other hand, the 'vaidyans' enjoyed a high prestige in the community and a number of them were elected to the health committees.

The public health importance of various diseases is roughly reflected in the relative frequencies of the diseases reported. Both the community survey and the primary health center records show respiratory, gastro-intestinal and skin diseases to be of major importance. Respiratory diseases are of the highest frequency according to the health center records, while gastro-intestinal conditions are of the highest frequency judged by the community survey. (The difference, however, is not significant). Chronic conditions rank higher on survey than on the health center records and it is clear that many chronic conditions in the community do not come to the attention of the doctor at the primary health center level.

These and other findings of the survey are discussed with students at various times in the year as data are accumulated. A survey that is not analyzed and discussed loses a great deal of its educational value.

Special questionnaires may have a more restricted but important value. A special questionnaire was used to identify the natural community leaders who were to form the health committees for the various wards of the panchayat. We are indebted to the Rural Health and Family Planning Institute, Gandhigram, for its ideas on the selection process, (Gandhigram 1964). These ideas were slightly modified but retained in principle.

The population sampled was asked on one occasion to name the persons in their ward whom they would like most to advise them on health matters. The names most frequently mentioned in each ward were selected for the health committee. When the names were later presented to the panchayat committee, they were so impressed with the selection that they wanted to be informed of the process. What is most important here is that the medical students were themselves involved in the process of identification of the community leaders and have learned the fundamental idea that in community medicine it is important to involve the community as much as possible in the decision making about a health programme.

These committees are now at work co-operating with the house-surgeons posted in the village and assisting in programmes of tuberculosis control, mass immunizations and other preventive programmes which they have themselves requested.

Analysis of the survey data can be done by students, by machine or both. In any case, it is important that some of the interviews be carefully reviewed and edited by faculty. This is especially so early in the course. It will thus become clear what problems can be remedied by further clarification of



certain points with the students. At Trivandrum, the analysis has so far been done by house-surgeons posted in the area and by faculty. Later more use will be made of students and machines for tabulation and analysis of data.

## Discussion

This experiment has met with unexpected enthusiasm on the part of the students who seem to enjoy periodic visits into the community. We feel that the community and its problems are a more appropriate focus for emphasis is India than the family or the household. The present system of medical care based on the network of primary health units requires that the physicians be trained in the proper assessment and solution of community health problems. Some means must be found to divert the attention of the physicians from his preoccupation with medical relief at the primary health centre, to integrated health management of the unit. It is hoped that continuous visits to the community during the third year, coupled with a study of community health problems would help to broaden the scope of the future physicians beyond the walls of the established centre. Certainly the student who walks through the village on a Saturday morning cannot miss seeing the evidence of improper sanitation or malnutrition. If he discusses health with the heads of the households, he soon learns of their interest in eliminating scabies and worms from their children. What he does not see should impress him as much as what he does see and this can all be used in the teaching process. Social and preventive medicine is an applied science which one learns by doing.

The emphasis in this programme has been on the community rather than the family. It is a moot question in social and preventive medicine circles if teaching should begin with the family or with the community. Those who favour the family approach justify it on grounds that the family is the fundamental unit of society and that by study of the family one acquires the fundamental concepts of community medicine. Opposed to this view, however, is the idea that the community is more than an accumulation of families, the same as the whole is more than the sum of the parts.

It is possible in the family approach for the student not to see the forest because of the trees. A proper community approach includes a family approach but not vice versa The medical college at Trivandrum has had considerable experience with the family approach. The students as well as the families were often bored with the frequent visits although in many cases the students were able to develop a close acquaintance with the family and take keen interests in their problems. The Department is now emphasizing the community approach. In a sense, this represents a return to the community approach which was also used when the Department was started. (Department of Social and Preventive Medicine—1955-56). Both methods may have their appropriate place.

Finally, it should be mentioned that the survey method is not enough in itself. It must be combined with seminars and lectures to make the experience meaningful. Furthermore, the third year programme is only one unit in an integrated programme which also includes the fourth year teaching and the house-surgeons' programme. Each part adds to the total education and experience in community medicine.

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# Longitudinal Family Studies by Clinical Students

BY

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Man is a social animal. Medicine is a social science and medical practice is a social action. The 'ward' for medical practice is constituted by a society or a community in a defined area and the 'bed' is constituted by a family. As such familyside teaching is as essential in social medicine as bedside teaching is essential in clinical medicine. Since the establishment of the PSM department in BHU in 1963, the teaching and the periodic or final MBBS examinations in the subject are familyside. The groups of the families constituting the 'improvised wards' for scientific but realistic teaching in human life situations were the slum area of the BHU township (Sunderbagia) and the adjoining Varanasi corporation slum area (Sunderpur). The 4-5 years experiences of the projects were reported (Marwah, *et al.*, 1964, Marwah 1966 & Marwah, *et al.*, 1966) and are being further reported separately. However, the objective of this paper is to outline guidelines as evolved over the years for the longitudinal family studies with built in total family care by the clinical students. The baseline for experimenting with the guidelines through trial and error was provided by W.H.O. (1960).

## 1. *Dynamics of longitudinal family studies in BHU*

Each student was allotted one family at the start of his clinical years. He was made the pivot to systematically develop the holoistic approach under guidance for the study of the total family problems and for gradual seeking of the solutions to the priority problems within the available resources during his three clinical years. To boost a student's learning as well as serving while learning, periodic as well as university examinations were held using the same family. During these examinations, family-side discussions were held on a student's records, observations, achievements as well as future potentialities of a student's study-cum-action plans. The slum areas being situated within walking distance of the college, its associated hospitals and the hostels, the students visited their respective families on their own. However, a supervised visit was provided once a week for two hours. During these visits, the staff and the students were transported by the college bus. During these visits, basic mixtures and drugs for minor ailments, immunising agents, family planning appliances (cafeteria approach), cheap sanitary fittings like latrine seats, smokeless chullah designs, etc., health educational equipment and a field laboratory service were made available to the students. Further, a student could pick up a bag of any of the aforementioned items from the department when he visited on his own. During the supervised visits, a team of teacher, social worker, midwife, sanitarian, statistician and laboratory technician was available to assist students as well as for supervision. No doubt the emphasis was on the holoistic approach which included management of clinical conditions in the homes, which occurred very frequently. However, the deliberate emphasis in the familyside studies was on social anatomy, social physiology, soicial pathology, social therapeutics and their relationships among themselves as well as among the social, environmental and clinical components of the total medical practice.

## 2. *Social Anatomy and Social Physiology of a Family*

On the analogy of systemic examinations of a case, a student was guided in his diagnostic

approach to undertake the examinations of the basic components or 'systems' of a family's social anatomy. These examinations and observations were recorded on the printed family folders and they were illustrated by diagrams to emphasise the problems as they were at the start of the study, as they could be, if medical knowledge was applied and as they were, at various periodic assessments in three years period of contact.

(*a*) Social anatomy of a family was outlined under the following 'systems' or components. Component (*vi*) though strictly not a component of social anatomy was included to complete the guideline for a family study.

(*i*) Family structure i.e. name, age, sex, and relationship-wise break-up of all members.

(*ii*) Literacy of members.

(*iii*) Socio-economic level i.e. earning (memberwise income), occupation, calculated per capita income, family's financial assets and liabilities.

(*iv*) Environmental factors and their hazards or assets i.e. water-supply, faecal disposal, refuse disposal, housing conditions with state of ventilation, lighting, household hygiene, *per capita* floor area, availability of kitchen, kitchen garden, soakage pit and maintenance of animals.

(*v*) Dietetic factors i.e. assessment of family nutrition through diet survey by questionnaire or weighment method, diet habits and family budgeting with a view to outline the best advantage of the dietetics to the family.

(*vi*) Preventive health examination of all members incorporating the family, past and present histories, immunisation history, systemic examination, anthropometry, personal hygiene including menstrual hygiene in females, and orodental hygiene, and indicated laboratory investigations.

(*b*) The social anatomy of the family was further supplemented by the social anatomy of the family neighbourhood, the locality (i.e. Sunderbagia or Sunderpur), and of the area incorporating a detailed listing of medical, health, health-related and welfare agencies from where the family in particular and the area in general could derive certain benefits.

(*c*) Social Physiology: The students were given lecture-cum-discussion hours in the field on the functions of a family. The implications of the biological, childrearing, economic and social functions of a family were driven home to the students so that they could grasp the philosophy of holoistic approach in social medicine to ultimately seek to promote the functions of a family and not merely to over-emphasise the health or medical entities. In his diagnostic approach, the student was guided to analyse the complex relationships and interactions of the components under (*a*) and (*b*) for the normal functions of a family. The factor-wise deviations from the 'normals' as defined in classroom or field discussions were picked up for studies in social pathology and social therapeutics of the families. In short, the student's mind was gradually orientated to view the family allotted to him as a 'social organism' in ecological setting with biological implications.

3. *Social Pathology and Social Therapeutics*

Social anatomy, social physiology, social pathology and social therapeutics in man's environment outside the body were emphasised to complement (and not replace) the concepts of the inter-relationships of the traditional teaching of the anatomical, the physiological, the pathological or the therapeutical phenomena within the human body. This may be illustrated by the following examples:

(*a*) The students analysed the nutritional factors of diets consumed by the respective families to outline the implications on the health of the family members. They also outlined the diet habits and the possibilities of educational approach to family budgeting for maximal utilisation. Thus, they were guided both to integrate knowledge of nutritional aetiologies or pathology with social aetiologies or pathology and to seek solutions in integrated therapeutics i.e. by coordinating both traditional and social therapeutics.

(*b*) At the start of the training, the students recorded and drew the complete plans of the respective houses of their families. They also made plans of what the houses should be and these were based on classroom learning supplemented by field discussions. At periodic assessments and especially at the end of three years assignments, they recorded and drew out the respective changes achieved through social therapeutics and discussed their possible implications in the health of the families.

(*c*) The students were guided to view (*i*) peptic ulcer not only as a clinico-pathological but as a socio-clinico-pathological resultant entity of a patient's lifetime social and clinical aetiologies, (*ii*) typhoid cases not as simple actions and reactions between B. typhi and the human body but as a complex of B. typhi, human body, environmental factors like food, water hygiene and social factors like availability or utilisation of immunisational service. These two examples illustrate the socio-clinico-pathological approach cultivated in the students for defined clinical entities.

(*d*) While the management of the common clinical conditions was supervised by PSM teachers, the students were encouraged to take the conditions requiring specialist diagnosis and treatment to the respective faculty members but with complete records of environmental and social etiologies for discussion to arrive at diagnosis and subsequent total therapeutics in the homes.

4. *Inter-relationships*

Throughout classroom or familyside discussions both in diagnosis and therapeutic tics, efforts were made to educate students' minds towards seeking interpretations of health and disease phenomena in a total manner and not merely in isolated or restricted terms. In fact, the whole range of human biology and human sociology and their complex interactions were well demonstrated during longitudinal family studies with built-in actions for improvements within available resources. The labour pains to cultivate broad-based concepts with built-in idealistic philosophy may be most agonising but the rewards in opening at least some young minds to experiment during their lifetime are also overwhelmingly gratifying.

## Conclusion

So far in social medicine, the emphasis is on teaching broad-based concepts and idealistic philosophies without organised participation experiences for the students. It is felt that if total medical practice is to be taught, then it should be taught in an atmosphere of organised running of a total care programme with associated research programmes. To do it realistically, it is suggested that just as every faculty provides seven beds per admission for clinical training, every faculty should have at least five families per admission for total care. The department of PSM may be responsible to organise it but like any other 'ward' all the faculty members should participate in running it. In BHU, the improvised 'wards' suffered from the disinclination of the faculty to

view them as 'wards' for social medicine, resulting in several shortcomings, not presented here. These 'wards' can be made to become areas of intensive integrated research, training and service, within the rural or urban practice fields. In demonstration and teaching value, they should be made comparable standards to clinical ward teaching standards. This can be one of the effective ways of stimulating the students to view Social Medicine as an evolving form of scientific but social action for total medical practice.

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# Place of Psychiatry in Undergraduate Medical Education During The Years of Basic Medical Sciences

BY

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## Aim of Undergraduate Medical Education

In order to approach the subject let me quote from the Constitution of the World Health Organization:

> 'Enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being, without distinction of race, religion, political belief, economic or social conditions'.

This provides our main objective. With this object in view—which in fact is the main object of Medical Education, I have developed this thesis, freely drawing references from recent literature on the subject.

It the Second World Health Organization Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel, all agreed that though the curriculum might vary from country to country, medical educators have certain basic responsibilities i.e. to train men and women for the care of the sick, to make them conscious of the need to employ every known means for prevention and elimination of disease and to encourage them to use their technical knowledge to raise the standard of living and health in their people, generally.

To train such young men and women to tend to the sick, to practice and to prevent disease and in all other aspects of the art of healing, they need to be trained in the basic ground work on which their more advanced technical knowledge has to be built.

In recent years in other countries there has been a major re-orientation towards the teaching of 'Basic Medical Sciences', and the teaching of Psychiatry or of Psychological Medicine has been actively incorporated in the undergraduate curriculum. The term 'Psychiatry' is used almost synonymously with 'Psychological Medicine'. The latter may mean 'Psychological aspects of Medicine'. The term 'Psychiatry' is used here to represent the wider interpretation.

Psychiatry is an off-shoot of Internal Medicine and has developed into a separate discipline by process of gradual differentiation from Internal Medicine. And 'Psychiatry' then was confined to the teaching of 'Psychoses' unrealistically. Medicine itself has been compartmentalized into separate specialities. There has been a great concern over this fragmentation of Medicine in specialities and sub-specialities, and as Ewing Cameron says 'the whole man disappears and disintegrates in scattered confusion of his dismembered parts'.

Due to tradition the main trend of approach in Medical Education has been disease-centered i.e. the treatment is aimed in treating the disease but not the diseased person. The corner-stone of the present teaching of Medicine has been the Anatomy of the dead, the Pathology of the diseased and the Somatic Physiology which has taken little account of the Psychology of the patient —the patient as a person taken as a whole which is developed in the theory known as 'holoistic' approach in Psychology.

It is mere euphemism to think that treatment of a sick man is being carried out without the consideration of the man himself in his environment, i.e. without consideration of the human factors and with no thought to the fact that the main disease has occurred in a particular setting and possibly the disease

# Community Medicine and Medical Education

BY

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Adapting medical education to the needs of India clearly requires a new and expanded emphasis on Community Medicine. The achievement and failures of the past 10 years permit a clear statement of practical innovations which can work if given adequate faculty support.

No subject has received so much attention in speeches and so little practical attention by medical educators as the health needs of village communities. This discrepancy is due mainly to the large volume of speech-making and only partly to the slow build-up of efforts. The speech-making is valuable in so far as it creates a climate for implementation. We can no longer postpone action, however, because of the excuse that we don't know what to do.

A solid foundation of achievement in the past 10 years now provides a basis for planning. Our present knowledge is derived from the numerous 'experiments' in community medicine which have quietly been taking place around the country.

The verbal enthusiasm for rural teaching which followed the 1955 All-India Congress on Medical Education carried the flavour of much of the general development planning in India during that period. The goals and ideals were impeccable but so exalted that their translation into performance would have been possible only if all medical educators and students had been paragons of dedication. We all shared a kind of enthusiastic naivete that made us believe that difficult goals would be readily attained. Without this willingness to try anything, many of the important achievements of that period would have been impossible.

The post-independence burst of energy led to great accomplishments in medical education which now appear to have been more quantitative than qualitative. A rapid numerical growth of the medical profession was considered the first priority to meet the mass needs of a rapidly expanding population. This effort has in itself been a clearly defined challenge demanding phenomenal investment. It is increasingly evident that the race with population growth requires the medical profession to realistically reappraise its own rule as part of national health system. The goals of the past are not necessarily the best response to the challenges of the future. The greatest hope continues to be that the leaders of Indian medical education have always strongly supported the maxim that medicine must be responsive to the needs of society. More bluntly the fact is that health services must be organized for the good of the people and not to meet the personal needs of doctors for material gain or scientific satisfaction or altruistic motivation.

In this brief analysis two points are stressed: some basic principles of community medicine are restated as they apply especially to the needs of India's village communities; secondly, new challenges for change and innovation are presented in the exciting pattern which is emerging from past efforts.

## I. Background

First, a few words of history are indicated to help provide understanding of a kaliedoscopic transition in terms.

Community medicine is not merely a new label applied to old efforts. As the old unpopular subject of hygiene began its frenzied struggle to keep from being drowned by the flooding growth of scientific clinical medicine it tended to turn toward the relative security of Public Health separatism. One of the most unfortunate legacies of western medicine as transplanted to developing countries was the separation of curative and preventive

medicine. The maintenance of this dichotomy has been as much the fault of public health practitioners as of clinicians. Because they were so low in the pecking order of medical prestige as to be almost ignored, public health physicians have tended to get their professional satisfaction outside of the usual range of medical activities. An awareness that they were contributing more to overall improvement of health than their clinical colleagues increased their feeling of satisfied isolation when both clinicians and the public tended to ignore them. The only times they could count on being noticed was when there was a major epidemic for which they were blamed. The public health profession drew a special personality type of dedicated and underpaid sanyasis who appeared as anything other than glamorous role models to medical students. The image of this part of medical practice needed to be changed in order to incorporate it into the mainstream of medical education and practice.

The first step in the change process was the reorganization of teaching in new departments of preventive and social medicine. Thousands of words both in publications and speeches went into definitions of what the new image was to be. Curriculum time allocations recommended by a long series of conferences was for teaching in each year of the medical course. Actual implementation varied with convincing arguments for both preclinical and clinical emphases. Obviously the ultimate decisions about what was actually taught were mainly determined by the personal predilections of particular professors. Clinically oriented teachers of preventive and social medicine wanted strong linkage with clinical subjects. Those departments most concerned with research activities in epidemiology or social medicine stressed the basic sciences of preventive medicine. The old arguments on both sides are still valid. Students need first the foundation of a basic introduction to ecology, epidemiology, the sociology of medicine and demography. Then they certainly need a well organized educational experience during a practice period in the clinical years.

A major emphasis has appropriately been on the development of rural and urban health centers as teaching laboratories. These may be used profitably in both the pre-clinical and clinical periods of preparation. Great variation exists among the colleges in the size, facilities, staff activities and degree of control over the health center by the medical college. Now it is increasingly recognized that a single health center is not enough and the next evolutionary step will be to have a medical college serve as a regional base for comprehensive health care.

Within medical faculties there was some decrease in the low caste stigma of public health as a result of the use of the term preventive and social medicine. Some clinicians were attracted to professorships with a resulting transfer of glamour from their old familiarity with clinical wards. Political and financial support also improved the image of this field. There was, however, a simultaneous loss in glamour through the punitive approach taken in developing rural health work. With the decision to turn rural health centers over to preventive and social medicine many medical educators relaxed back into their traditional roles. Students and interns were then forced to take their dose of village work as though it were bad-tasting medicine. Since no one really knows how rural teaching should be done clinical teachers were safe in severely criticising the courageous attempts of preventive and social medicine teachers to pioneer this new area.

## II. Definition of Community Medicine

It is time now to really create a new image and a new atmosphere. The label of community medicine should help. The first requirement in this new effort will be to get the active participation of the whole medical faculty.

The struggle to adequately define the various labels which have been applied to this elusive field of medical activity have tended to degenerate into bickering over trivialities. Distinctions in terms have been clouded by over-definition. The greatest value of the new term community medicine is that it can be used as a fresh start to identify a general area. In general, this field must be recognized to share a gray area of association with all the clinical disciplines in what has been called clinical preventive medicine. It goes beyond that, however, to a group of special competences and skills. It is demonstrably wrong to say that community medicine will eventually work itself out of a job when other clinical departments take over because no other discipline can cover the special areas of knowledge and practice. It must also be agreed at the beginning that arbitrary limiting of the term is wrong because it must be applied differently in varying situations and places.



Medical specialties are generally defined either according to the group of people they serve or by the type of activity and skills which occupy their time. Community medicine can be separately identified on both scales.

The patient of community medicine is obviously the community. The community is composed of individuals just as a forest is composed of trees but it has its own special characteristics. A woman is either pregnant or not pregnant but most communities are always about 3 per cent pregnant. Similarly the illnesses of a community must be studied within their ecological setting. The gestalt of the whole community brings an understanding that is quite different from seeing separate individuals as patients. The concern for the individual is not lost in the process but he is seen in relation to the group. Health care becomes more than mere manipulation of inner functions of individuals and focuses much more on the conditions which surround him. The fundamental and preventable causes of illness are usually community determinants.

To apply community health care a doctor needs special knowledge, skills and attitudes. Traditional medical education does not provide this understanding and practice. It is no longer reasonable to expect even the mature physician to pick these up spontaneously. The basic sciences of community medicine are largely ignored today. Even more important there are special skills of diagnosis and health care which need to be developed with as much precision and care as present practitioner training in wards and operating theaters. Most critical are a group of ethical standards that can now be defined, which call for basic modifications in the values and attitudes of the doctor who undertakes community responsibilities.

## III. Application of Principles of Community Medicine to Indian Conditions

The following section gives more detail on the knowledge, skills and attitudes which are needed.

The discussion is not intended to be inclusive. It is selective in the sense that an attempt is made to give priority to particular emphasis which seem important in India today.

### *A. Basic Sciences of Community Medicine*

One of the early decisions in curriculum planning for preventive and social medicine was that teaching should extend from the beginning of the medical course through the internship. Now with the progressive maturation of the concept of community medicine it is even more important to restate this principle and to clearly define what it means. The basic sciences of community medicine must be built into the preclinical curriculum along with the basic sciences of clinical medicine. The relative emphasis on the following specific disciplines and their timing and issues to be adjusted to local conditions:

1. The most general term covering the basic orientation that needs to be developed is ecology. Although this discipline had its roots in plant and animal studies the present need is to make it truly relevant to understanding the human conditions in India. As the study of the relationship between man and his environment it provides a good base for understanding the environment.

2. Equally fundamental are the group of disciplines usually included in the social sciences. Selective and relevant contributions to understanding the organization of man in groups and interactions between individuals are fundamental because other people are the dominant component of the environment of most individuals.

3. Statistics provides a quantitative base for community understanding and should make community medicine a more scientific and less intuitive discipline than most kinds of medical practice.

4. Epidemiology is the diagnostic discipline of community medicine. It is ecology applied to health problems. It can be practised at the level of the family just as effectively as with larger communities.

Epidemiological information provides the basis for much of the intuitive approach of the highly skilled clinical diagnostician. Expectations of when to look for particular combinations of health variables and their outcomes derive largely from awareness of probabilities in particular community groundings. Certain types of people come down with particular conditions and clinical ambiguities are often resolved best on the basis of the epidemiological trial of knowing what to expect according to variables of time, place and person.

5. Demography is an increasingly important basic science in medical education. Rapid population growth appears to be the spontaneous factor most directly controlling change and development in India today. All health variables are directly influenced by number of people. The medical profession must perceive its own responsibility for birth rates in addition to its traditional concern with death rates.

6. Genetics, Nutrition and Child Growth and Development provide understanding of the person. Each is controlled by varying environmental determinants. They are worth studying independently because they mediate the more general environmental forces.

*B. Applied Sciences of Community Medicine*

On the foundation of understanding the disciplines of community medicine it is necessary in the clinical years to develop appropriate skills through practice. Many of these should be applied routinely in clinical practice with individual patients. To properly care for people the doctor should incorporate social and preventive measures. He must, however, also learn to deal with the community as a whole because a group approach is often most efficient, economical and humane.

1. Administration of health care has grown rapidly in importance. Partly as a result of demographic change and the increasing complexity of society there is a general insistence on better organization. In fact in some countries health care now ranks as the fourth largest industry both in its requirements for manpower and money. As people insist on better organization doctors must either take leadership or find themselves controlled by administrators and politicians. Of particular interest is the great growth of administrative research exploring areas that were previously left to ad hoc and intuitive decisions. Not only must medical colleges begin to provide opportunities for doctors to learn health administration but they must also take leadership in research in health systems. The field practice area therefore has the potential of becoming equal in importance to the ward and the laboratory as a base for teaching and research.

2. The doctor is the leader of the health team. No other aspect of medical education has been so much left to chance as preparing the doctor to work with health colleagues. In a primary health center he will be responsible for at least 40 co-workers and the number grows every year. This change is even more dramatic than the parallel movement in hospitals for more and more responsibilities to be carried by auxiliaries —a change that is forced by the increasing technocracy of medicine. To be a team leader requires a drastic change from outdated concepts of solo-practice. The new role requires a chance to practice in a field setting where the young doctor begins to understand that there are many tasks including clinical functions of medical care, which auxiliaries can do better than him on a routine basis. He must learn to delegate down so that the complicated judgmental problems can be referred up. Learning to work together with others requires practice.

3. Community control measures can now be applied on a widespread scale for many diseases. This is most true of many basic preventive procedures that remove the causes of disease. In general these include public health functions such as sanitation, vector control, mass education and social and legal measures. Every doctor should be involved in community activities especially those which are applied at the personal level such as immunization and nutrition.

4. Family Planning programs are here mentioned separately because of their vital role in building a better India. Both community and individual approaches must be blended. The fact that in many primary health centers approximately half the total



staff effort is going into family planning is an indication of its significance in India's health program already. The pressure is bound to increase because the population problem will not be easily solved. Some family planning experts are saying that one of the greatest obstacles to effective family planning program in India is the medical profession. It is the responsibility of the leadership in the medical colleges to disprove this indictment.

*C. Basic Changes in Attitudes and Values*

No combination of knowledge and skills will by themselves be sufficient preparation for the practice of community medicine. Both must be supplemented by a changed attitude, a modified set of values that goes beyond that usually associated with medical ethics.

When a doctor takes on the responsibility of caring for a community as his patient he has to change his understanding of his primary responsibility. He can no longer think in terms of doing everything possible for a few selected individuals. He must learn to apply an appropriate scale of priorities to the choice of health problems which most require attention. He must also learn to think in terms of cost/benefit ratios in judging what control measures to apply. This requires a judicious amount of apparently ruthless saying 'No' by the doctor to individuals who present themselves for symptomatic care of minor complaints which should normally be treated by auxiliaries. Rather than only treating complaints that spontaneously come to him, he reaches out to the community in continuing appraisal of relevant problems. The community doctor must reserve his facilities and attention for those health problems which he and the community select as having highest priority. There will never be enough resources to care for all health demands and rational allocation requires courage and much skill in public relations.

The community doctor gets his satisfaction less directly and overtly than the clinician. The results of his efforts are often deferred in time. Patient response is not usually direct and openly warm because prevention does not evoke gratitude as readily as relieving pain or fear from existing illness.

Another basic attitude growing out of the ecological view is the recognition that medical care is not always the greatest need of a community. Health benefits may be better achieved by non-health developments. The doctor may therefore promote the greatest health gains by non-medical means.

## IV. Emerging Pattern of Community Medicine in India

Among the dramatic health achievements of the post-independence years one with particular long term benefit is the progressive evolution of a system of regionalized health care. The whole program is built on the comprehensiveness of care in the sense that the old dichotomy between preventive and curative services is being eroded away. The whole system of primary health centers as the peripheral service units linked back through increasing specialization to taluk—district and medical college hospitals provides an anatomical framework which is fairly well developed. The physiology of this system is not yet functioning, however, because the two-way linkage flow is not working. Education and consultation should flow to the periphery and patients and problems should be referred centripetally.

The greatest lack in the system in rural India is an adequate base of subcenters. To really reach the villages there must be a sub-center for about 3000 people. It has been demonstrated in our field research as well as in other places that a new type of 'ambulatory nurse midwife' is needed to provide the needed services at the village level. In the first place they should independently provide the bulk of routine symptomatic medical care. If the doctor is relieved of this burden he can do the tasks which are really important for the health care of the many village communities in a PHC block. This ANM can also carry out the village level preventive and family planning services which will provide the real basis for health improvement in the country. But they can work effectively only with appropriate supportive supervision.

For medical colleges the most exciting future potential of development is in moving actively into community responsibility. In the past, medical educators have spoken of

their responsibilities as being a tripod of teaching, research and clinical service. To this we need now to add the fourth leg of community service.

The climate is now right for some colleges to really pioneer in taking regional responsibility for medical care. Heads of clinical departments should be responsible for service in a whole district. For instance, a department of surgery should assume responsibility for seeing that simple surgery in health centers and small hospitals is properly done. Staff should rotate back and forth from center to periphery. If appropriate linkage is established the patient should be able to get the diagnostic preventive and therapeutic services he needs as close to his home as the sophistication of facilities will permit. The health centers, public health services and small hospitals would be considered part of the medical college just as much as the teaching hospital now is.

The eventual goal is to have a medical college not limited by hospital walls. It must be decentralized, reaching out to incorporate community health care facilities in a whole region.

## V. Co-ordination

No complex organism can survive without a co-ordinating system. Community care admittedly adds to the complexity of medical education. It has been clearly evident from experience thus far that it is not sufficient to merely turn community medicine over to a single department. All departments, especially those with clinical responsibility, must be involved to make a significant impact on medical students.

The needed synchronization of effort will, however, not happen spontaneously. Without stimulation and co-ordination this intricate anatomy of organization will remain inert. The simplest administrative measure would be to expand the role and resources of the department of community medicine to fill the co-ordinating responsibility. A fixed percentage of the medical college budget could be allocated to ensure that the field activities are not eventually crowded out. To really provide the status needed, however, a dean of community extension should be appointed on a par with the academic dean and the superintendent of the teaching hospital.

We have had too many halfway measures and too much frittering away of resources in partial solutions. The need for bold and decisive action is evident. Some colleges should take up the evident challenge of the new community medicine.

The above scheme will, to a great extent, fulfil the objectives of teaching community medicine in a rural setting to the undergraduate students. At present in many of the medical colleges this is not possible due to various reasons. Firstly the subject of Preventive and Social Medicine even to-day does not enjoy the status of a fullfleged subject in many universities including the Gujarat University. It is tagged on to the subject of medicine in theory carrying only 25 per cent of the total marks in Medicine without there being any oral or practical examination. Naturally the students who are generally examination minded also give less importance to the subject. The most discouraging development is the Medical Council of India's recommendation to hold a separate examination in Preventive and Social Medicine with the II professional examination (vide its number MCI/9(5)/MED/583). Teaching of community medicine in the field is only possible during the clinical period when the students start learning history taking and clinical examination. Then only 12 months remain for teaching Preventive and Social Medicine and with 4 subjects for examination at the II M.B.B.S. level, the hours available to the subject will be most insufficient. When they barely learn history taking and clinical examination they finish with the subject.

The other difficulty is about the field practice areas both urban and rural. Some medical colleges do not have rural field practice areas under the Department of Preventive and Social Medicine and the department has to rely on the goodwill and co-operation of the medical officer of the Primary Health Centre. As all Primary Health Centres are not suitable for teaching purpose, one with an ideal set up should be placed under the department. This will help in two ways—firstly it will help in the field training of the junior lecturers and secondly an ideal set up can be provided to the students learning community medicine.

The staffing pattern of the Department is still far from satisfactory in most of the medical colleges and consequently field experiences for students cannot be organized in a satisfactory manner.

The above are some of the obstacles in the way of organizing a community oriented programme of teaching which forms the most important facet of the undergraduate medical education.

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# "The Teaching of Nutrition to the Undergraduate Medical Students with Reference to Community Needs"

by

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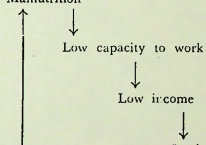
*Nutrition adequacy is important in the life of an individual from the time of gestation to the time of acceptance of full responsibility as a socially functioning adult. The knowledge of nutrition is most important to the medical students. Nutrition and its various aspects are discussed. Nutrition is taught at present at various stages without recognition and adequate consideration. Now it is time for consideration of planning for teaching of nutrition, e.g., wh teach, who should teach, how and what should be taught.*

There are now many advances and researches concerning medical science and allied branches. The expanded horizon of research has resulted in various disciplines like bioengineering, biochemistry, histochemistry, immunochemistry, genetics, nuclear medicine and various other branches which were not named or heard of before a few decades. All these researches are mainly carried out in developed countries. It is very difficult for us even to imitate them at the present contest. Unfortunately at the present moment our medical students are only interested and excited with laboratory techniques, various machines and sophisticated appliances and they are apathetic to the actual needs of the community. Probably the fault does not lie with the students but with their educators who have failed to infuse them with real needs of the community. The rural population is 80% and most of the population is undernourished and inadequately looked after. Nutritional adequacy is important in the life of an individual from the time of gestation to the time of acceptance of full responsibility as a socially functioning adult.




The needs of the community are enormous. Our population is suffering at all risk periods; e.g.,

(1) Low average birth weight (2. 8 Kg).

(2) High infant morbidity & mortality (80-120). Ten times higher than western countries.

(3) 1-4 year mortality: 30-50 times higher than western countries.

(4) 10 per cent of total world population suffer from malnutrition.

(5) 20 per cent of world population (700 million) suffer from iron deficiency sufficient to alter productive capacity.

(6) Most of the patients suffering from diseases are malnourished as undernutrition and infection act synergistically.

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# Integrated Pre-Clinical Teaching

by

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*Change in the present set up of medical education is recommended by many, but actual implementation is yet awaited. Expansion of certain subjects and reduction of time of teaching in preclinical subjects are contradictory suggestions, but a reasonable solution can be found.*

*Assessment methods, criteria for promotion of teachers and students' participation in teaching and research are discussed. Some administrative reforms are also suggested.*

**Aims of medical education**

In the face of development of science and technology in our country since independence, and with the greater need for advanced health services to the dangerously increasing population, the system of medical education has undergone very little transformation than it was due. At this stage we do require not only basic doctors to man the health units, but also specialists in Medicine, Surgery, Anaesthesia, Obstetrics & Gynaecology, Psychiatry, Dermatology, etc., and devoted research workers who will be in a position to modify the treatment methods to suit best to our social and economic conditions, and lay emphasis on the health projects of national importance. We are pained to note that inspite of realisation of the above facts by our leading medical men and administrators as is evident from their speeches and publications in the journals, like the I.J.M.E. and J.I.M.A. very little has been actually done to that effect. We are waiting for the day when those high ideals will be translated into practice.

We would like to concentrate on the preclinical teaching with which we are entrusted for more than two decades, and try to express a few words not only on the problems again but more about their solutions.

**Content of curriculum and the time available**

It has been rightly stressed that the teaching to the undergraduates in medicine should be broad-based so that the doctors of tomorrow are capable of satisfying the three needs enumerated earlier and at the same time adjusting to the changing requirements of the society. For this purpose, entrants to the medical college should have undergone minimum three years' degree course with biology and mathematics. During the preclinical period, the students should be learning not only Anatomy including Histology and Embryology and Physiology including Biochemistry, but also the subjects like Biophysics, Elementary Sociology and Psychology, elements of Medical Genetics, and Biostatistics.

With the ushering in of the electron microscopy, tissue culture, histochemical techniques, cryostat, micro dissection techniques and experimental embryology, the curriculum in Anatomy is increasing in arithmetical progression. Similarly, Physiology may be said to



increase in geometrical progression pari passu with the better understanding of the subcellular phenomena by dint of our growing knowledge in biochemistry and biophysics, with the emergence of techniques like chromatography, Electron-microscopy, differential centrifugation, subcellular-chemical and enzyme technology, micro-electode techniques, micro-iontophoretic application, stimulation of single nerve fibres etc. The portions of the two subjects which our preclinical students are expected to learn are really voluminous. These are better visualised when we compare what we learnt when we were students and what we are teaching to the students today, or when we compare Hallibertan's Physiology with Best and Tayler's or Guyton's. Same is true of Anatomy also. And the teachers, rather specialists in particular branch of Anatomy or Physiology appear to be fond of imparting all their knowledge to the undergraduates. This is another reason why the curriculum has inflated to a great extent, because we follow not the duration of course and hours of teaching but the increased girth of the textbooks recommended.

We are all aware that medical educationists have cut down the preclinical teaching period from 2 years to 1½ yrs. Sometimes admission is delayed and the final examination is early, so that in actual practice, only a little over one year is available. Did they think of really cutting down the syllabus? At the most they have talked about the teaching of the basic principles in the subjects, but no concrete steps have been taken.

Younger and younger students are entering the medical colleges and they are made to devour more and more of the courses in shorter period. Luckily the younger generations are better equipped in their mental power; they are trying to adapt, but it is too much to cope with. Students are kept busy for 6-7 hours a day in the college alone; there is hardly any time left for them to discuss among themselves or to meet the teachers for their difficulties. How far the teachers will be available for the purpose is also a question. Many teachers have a tendency to come late and go away early and make use of maximum leave possible. It may be the prevaling hard days and socio-economic conditions may be responsible for this attitude. Even when a student approaches a teacher, the student has sometimes to move from one teacher to another, because of the teachers' specialisation in a particular branch, or their maintaining water-tight compartments of what system they teach. It may be that the student has approached another teacher who has not taught that topic, with the hope of understanding the subject better, which is a possibility. It is well known that we understand a topic much better when we read the work on the same topic by different authors. We recommend some such flexibility should be there for the undergraduate students. We also feel that one may find in these, the cause of student indiscipline and justification in students' demand for their participation in planning the teaching programme or the mode of examination.

**Solution to these problems:**

Solutions of all these problems lie in giving due consideration to what topic and how much of a topic should be taught during the preclinical period, keeping an eye to the problems enumerated already. One does not find any other alternative than to trim the existing syllabus in Anatomy and Physiology, in order to accommodate other subjects which are equally important and essential for making the background of medical education sound.

To quote WHO'S (1962) recommendation "It is largely in the choice of appropriate factual matter from the almost unlimited range of scientific knowledge that future teachers can display their judgement. Much that is included at present tends to be traditional and of little intellectual or practical value."

We may be fairly correct in saying that only less than 1/6th medical students take up surgery as their career; only they require detailed knowledge of Anatomy. If it is so, can we not think of limiting the hours of dissection, and of confining our teaching from much smaller sized text books than Gray's Anatomy?

Very few students are going to be research workers. Then is it not wise to teach only the principles of the techniques involved, and to do away with the detailed procedures, obsolete theories, and superfluous exercises at the undergraduate level, in the teaching of Physiology. Similarly one can think of eliminating the techniques of histology, certain tests and exercises in Biochemistry which are

not much of clinical use and which most of the medical men are not going to perform in their future carrier. Other field where this axe can fall is the experiments on amphibians. Otherwise it would be impossible to include teaching of clinical examination of various systems of the body, which is very essential and useful. Integrated teaching programme between Anatomy and Physiology both in theory and practical, if planned properly and carried out intelligently, can spare several hours of teaching during which seminars, discussions, tutorials and other new and effective methods can be successfully employed, replacing the conventional didactic ones.

The aim of teaching should be to make the students understand the subject, so that they can go smoothly over other topics, not taken up in the class. The teachers should guide the students as to how much they are expected to read and know about the subject, rather than to spoon-feed them.

Taking one and a half years for the prer clinical course, the effective teaching period comes to about 42 weeks in all, which works out to approximately 1400 hours (42 × 33).

These hours have been alloted to the subjects of preclinical course as follows:—

Block I—500 hours devoted for Gross Anatomy:

| | | |
|---|---|---|
| Lecture | ... | 120 hours |
| Dissection | ... | 250 ,, |
| Museum | ... | 10 ,, |
| Demonstrations | ... | 110 ,, |
| Seminars, discussions | ... | 10 ,, |
| Total | ... | 500 hours |

Block II—400 hours

| | | |
|---|---|---|
| 1. History of Medicine | ... | 4 hours |
| 2. Histology | ... | 100 ,, |
| 3. Embryology | ... | 50 ,, |
| 4. Genetics | ... | 18 ,, |
| 5. Psychology | ... | 18 ,, |
| 6. Sociology | ... | 5 ,, |
| 7. Preventive Medicine | ... | 6 ,, |
| 8. Biostatistics | ... | 6 ,, |
| 9. Biochemistry-theory | ... | 80 ,, |
| ,, -practical | ... | 85 ,, |
| 10. Family planning | ... | 24 ,, |
| 11. Medical Film | ... | 4 ,, |
| Total | ... | 400 hours |

Block III—500 hours.

| | | |
|---|---|---|
| 1. Lecture (see Appendix) | ... | 200 hours |
| 2. Practicals-Experimental | ... | 80 ,, |
| 3. Practical-Clinical | ... | 80 ,, |
| 4. Tutorials | ... | 80 ,, |
| 5. Seminars, group discussions, debates | ... | 60 ,, |
| Total | ... | 500 hours |

### Assessment of the Students Performance

Without going into the details of this often discussed and debated topic, we would like to stress the following:—

1. Semester wise written, oral and practical examination, with both essay type and objective type of questions in the theory paper.

2. Introduction of mederation system at the University theory examination, in order to make the assessment uniform, and to impose some check and control over the practice of going over answer papers hurriedly and in a very short time.

3. A provision for inspection by the Indian Medical Council is there, but merely taking note of the number of examiners and their qualifications, number of students in each batch at the practical examinations, etc., some times from the office, how far it serves the purpose of maintaining uniform standard is doubtful.

4. One glaring example of non-implementation of the useful recommendations is the practice of not including in the theory examination the marks of viva voce test, which is so important to assess the ability and capacity of the students to imbibe and understand the subject. The practical examinations being so mechanical, including with it marks of viva voce nullifies the value of the latter.

Maintaining of journals—often as many as five—we think needs revision so as not to tax too much on the students' time, and the assessment of the same should be left to the internal assessment only.

5. Awards of distinctions, medals and prizes should be based on the marks of external examination only.

6. In the practical examinations our aim should be to assess how far the principles underlying the practical lessons have been



grasped by the student and to verify these principles by the given experiment. The students are not expected to master the techniques in the face of a myriad of practical lessons, in a short span of time. Keeping this in view, it does not seem to be the correct practice to examine the practical biochemistry after the students left the lab., as is the practice in many universities. The student may be allowed to use laboratory note-book in the examination.

**Teacher's duties, responsibilities, and his role in planning the medical education.**

In this area also we would suggest the introduction of the following:

1. To have an Office Assistant or Secretary to the Professor and Head of the department to utilise his experience in his subject of specialisation to the maximum advantage for the organisation of teaching and research work of the department rather than spending much of his time on casual leave reports and work as purchase clerk etc. Obviously, it is economical and does justice to the tax payers' money.

2. The work and efficiency of the teachers should be judged by his teaching ability, his participation in research work, and in his interest and skill in the development of the various activities of the department. His promotion should be guided by these intrinsic values and not by the chronological age in the department.

3. Experienced teachers in the subject, as many of them as are available, should be consulted in the designing and planning of the medical education, while changes in the existing system of teaching and assessment in the subjects are contemplated. Besides the pre-clinical teachers, the specialists in other disciplines of medicine, medical administrators and students representatives should also be taking part in the deliberations. Students are, in this arrangement, in a position to place their specific needs and difficulties for consideration. This may greatly cut down the student unrest.

# Evolution of Social Medicine and the Problem of Training

by

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Medicine is as old as humanity. From the earliest times, man has been looking for and using whatever was available at the time for cure of the diseases. Prevention has similarly been sought after from the earliest of times. Evidence of pre-historic efforts for prevention is available in plenty in magics, customs, traditions etc. The concept and practice of Social Medicine is of more recent origin. That social factors which affect and action at the society level are needed for preservation of the health of the community has been appreciated at a such later date rather recently that for treatment and prevention.

Individual action by heads of States in different parts of the World for health of the citizens are mentioned in history. Even state action for such sanitary construction for the population as the Cloaca Magna are known. But almost all these are products of individual action.

The relation between the state and the individuals of the state has been much debated since the time of Plato. However, it has since been accepted that the State has responsibility towards the individuals and they individual towards the society which is represented by the state. A sort of uneasy balance between the power of the State over the individual citizen in limiting his liberty and the liberty of the individual citizen is continuing. The recent pleadings before the Supreme Court of India are continuation of the evidence of the same dilemma which was evident since civilization evolved the state.

Nevertheless, it has been deeply appreciated that without state action welfare of the individual is not possible. In the 19th century there was an upsurge of human thoughts about the state privilege versus individual liberty. The philosophy propounded by Marx, writings of Mill, action by earl of Shaftsbury and Simon were directed towards these problems.

So far as health is concerned, one of the most important contributors was Virchow. As a member of the German Parliament Virchow crossed verbal swords with Bismarck on the duties of the newly formed Germanic states towards the welfare of its citizens. For the first time he coined the word Social Medicine (of course in German) and spoke that medicine was another name for Politics. So ingrained were the facts of social medicine in his mind, Virchow, the intrepid researcher, the real genius, the father of Cellular Pathology, the discoverer of Foray, the Anthropologist and the Politician fought for practice of social medicine.

From the 19th century every State had been showing signs of accepting the Philosophy of State responsibility and State action for the health of the individual citizen. During the Ist World War and the II, World War the intervening period and particularly that following the IInd World War, medical profession has been taking more and more interest as regards identifying areas of social responsibility and social action for health of the nation. The 1945 San-Francisco Conference declared that every state should ensure the four freedoms for its citizens. One of them being freedom from disease. So it is that today it is accepted all over the World that health service and medical practice are based not only on aiding the individual for prevention of and cure from disease, but also on inducing social action for the community as a whole in treatment of the ill, prevention of disease, promotion of health and searching for more areas for such action.



If such are the responsibilities of Modern Medical practice, the training of such practitioners becomes a matter of concern. This Association is vitally involved in the matter.

It would be useful to go into some points as regards the training of medical practitioners in India. There are now more than 100 medical colleges where training is going on towards developing the students into practitioners of comprehensive medicine. Such efforts are evident in all these institutions which at the same time show good deal of deficiency in training programme and in the facilities for the same. Whereas all departments in the medical colleges are working in a complementary manner for developing young and uninitiated minds, the preventive and social medicine Department has the special responsibility in teaching theory and practice of social medicine. Hence some of the difficulties affect the P.S.M. departments are mentioned below :—

(1) The training of an undergraduate has to be in the class room, the hospital and the Community. All training must be complementary, to one another. It is clear that guidance for such training and the training institutions have to be concentrated at one place under one authority. Such unification has not yet taken place in all medical colleges of the country much to the detriment of teaching the community aspect of health and the needed services.

(2) Staff position in the P.S.M. departments of the medical colleges are very poor. If one understands that teaching in the community needs a mountain of time, one can perceive the present shortness of staff even more. It has to be appreciated also that in the teaching of the different subjects which are included under the umbrella of P.S.M. non-medical teachers should contribute heavily. Such teachers should be only those who know their subjects sufficiently in order to be able to teach students of undergraduate and P.G. Study. To list them these teachers should be for sociology, medical entomology and statistical methods in Epidemiology and health services. A medical social worker or a statistician on a clerical pay is not the person who can undertake such teaching.

(3) Whether one likes or does not, a medical student is examination oriented and examination stimulates attention of the student to the teaching. The examination has to be at the proper level when a student is expected to be able to learn the subject. By the very nature of the subject of P.S.M. a candidate can be properly examined in it only when he has studied the clinical subjects well. Earlier placement of the examination in P.S.M. will not allow the examiner to test the students sufficiently and the student in his turn will allow gaps and deficiencies in his study and interest. Such deficiencies are sufficient obstacles to the learning by the students of social responsibilities, practice of social medicine and even Preventive Medicine and Epidemiology. Teaching of these subjects also become seriously hampered.

(4) Every medical college is under one of the three ownerships, viz. Government, local body or Private Organisation. Primarily, the owner is responsible for fulfilling minimum standards recommended by the Medical Council of India for under or post-graduate training. It is a notorius fact that many of such authorities are not carrying out those minimum instructions in full. The Medical Council of India is entrusted by the Government to guide and inspect the teaching facilities and examination standards in the Medical Colleges. Unfortunately such responsibilities are not sufficiently fulfilled. So one finds a very large number of institutions continue to be recognized though they have not fulfilled its, minimum recommendations.

Above certain deficiencies have been pointed out. There is another neglected field where efforts in proper training can offer good dividend. That is the compulsory post MBBS examination traineeship. Much uninformed criticism can be heard when this training so wisely introduced by the Medical Council of India comes up for discussion even decrying it as wastage of time, and a year's holiday or a picnic which should be abolished. On the other hand instead of being carried away by this unfortunately popular current of despair it is easy to do so rather than to strive against odds more serious thoughts and efforts have been directed to it, this period of training can be one of intense interest and practice of comprehensive medicine by the trainee students. A model has been developed in the Medical

College, Baroda, by starting a curative and preventive General Practice unit in the main teaching Outdoor Hospital. Its success has been quick and very satisfactory as regards the understanding of Social Medicine and practice of comprehensive medicine by the rotating interness.

The sum total of effect of these deficiencies shown above is that the Country is getting medical graduates we are not modern in their thought and action and who are unable to fulfill their responsibility.

These are the problems that are being placed before the attention of this Association today.

# Mobile Rural Hospitals for Rural Health Service

## EDUCATION AND TRAINING OF HEALTH PERSONNEL

by

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*The medical Education needs constant re-orientation according to health needs of the community. The outstanding requirements to-day are;*

(a) *Rural bias; 75% of our population lives in villages and they produce 70% of our gross national product (GNP)*

(b) *Preventive & Promotive aspects over and above curative*

(c) *Family welfare & planning*

*All these could be implemented if Teachers from Medical Colleges went to villages for service & training. For this purpose if we build permanent establishments:*

(a) *They would be very costly*

(b) *Mobility will be hampered*

*Therefore, Mobile Training-cum-service Hospitals is the proper answer.*

*The Government of India has announced that it is intended to establish such one hospital attached to each of the 105 medical colleges.*

Medical education has reached a stage in its long history, when a departure from the traditional structure of the past has become almost imperative not only in developing countries, but also in developed countries. In September 1965 it was considered necessary in Great Britain to appoint a Royal Commission to review under-graduate and post-graduate medical education in the light of national needs and resources and the Commission has made valuable recommendations. Medical education in the United States of America has undergone several changes since the submission of the Flexner report on medical education in 1910. There is a rising tide of feeling in the United States that medical education in all its phases is not keeping pace with the wants and needs of the population it strives to serve.

### Conferences on Medical Education

Since our independence a number of conferences on Medical Education have been held in our country. During the discussions the policy on medical education has been criticised that the under-graduate curriculum is unrealistic, as it does not meet the great demands of a developing country with a large rural population and with the problems of communicable diseases, malnutrition and population explosion. As a matter of fact, it has been felt that the pattern and content of the educational programme should be so adjusted as to provide training for the practice of medicine in rural areas where 75 % of our population lives and produces about 70 percent of our Gross National Product. At present the Clinical training of the under-graduates and post-

graduates is being built round a frame-work of laboratory and other sophisticated investigations in a city hospital. When these persons are placed in working conditions so far different from those they were used to in the institutions where they were trained, they feel utterly helpless when they join a Primary Health Centre. They soon become complete misfits in rural areas where quacks flourish on the credulity and ignorance of the population. The pattern of training in most medical colleges is still largely oriented to curative medicine, in spite of all efforts made by the Government of India and the Medical Council of India to lay much greater emphasis on the preventive and promotive aspects of health than curative medicine and thus bring down the cost of medical care in a poor country like ours.

It has been admitted all round that there has been a definite deterioration in the standard of medical education. Apart from the lowering of the standard of general education due to various factors, there has been a phenominal increase in the number of medical colleges from 25 with an admission capacity of less than 2,000 in 1947 to the present figure of 97 with an admission capacity of over 12,000, without a proportionate increase in the number of teachers in practically all the medical colleges. It is proposed to set up some more medical colleges before the end of the Fourth Five Year Plan when the number of admissions will increase to about 13,000. Assuming that 11,000 to 12,000 medical graduates and 3,000 to 4,000 post-graduates will qualify every year after the end of the Fourth Five Year Plan, job opportunities should be made available for them in rural areas both in the public and private sectors to forestall unemployment and "brain drain", as over 70 percent of the existing doctors who practise modern medicine are practising in cities, large and small towns. It is, therefore, necessary to orient the undergraduates, interns and post-graduates to the curative preventive and promotive aspects of rural community medicine to enable them to work in rural areas.

In this connection I would like to draw your attention to the widespred dissatifaction of the present method of training of the undergraduates, interns and post-graduates in all aspects of Rural Comunity Medicine. Many teachers in Preventive and Social Medicine have pointed out that unless clinicians actively participate in the trainining programmes conducted in rural settings, the training programmes will not yield the best possible results. During the Third Conference of the Deans and Principals of Medical Colleges held in Delhi in 1967 under the auspices of the Union Ministry of Health and Family Planning, several deans and principals stated that it would be possible for clinicians to participate in training programmes carried out in a rural environment, if suitable residential accommodation and other basic amenities could be provided to teachers in clinical subjects and preventive and social medicine, students and interns in rural areas.

It must be remembered that construction of buildings in rural areas takes a long time Since the launching of the Primary Health Centre Scheme in 1952, only 67 percent of the existing 5,200 Primary Health Centres have buildings of their own. During the same period it had been possible to provide only about 60 percent of the quarters required by the Primary Health Centre Doctors, 30 percent of those required by the Public Health Nurses/Lady Health Visitors and 25 persent of those required by the Auxiliary Nurse Midwives. It is for those and other equally important reasons that we had evolved the multi-purpose Mobile Training-cum-Service Hospital Scheme.

**Mobile Training-cum-Service Hospital scheme**

I will now briefly describe the Scheme as it was originally evolved and later indicate the modifications that have been found necessary in the wake of the experience gained during the working of the sixteen Mobile Training-cum-Service Hospitals set up so far. Each Mobile Training-cum-service Hospital which is attached to a Medical College is a 50-bed, adequately equipped tented hospital. It is provided with an electric generator so that the hospital can function in remote rural areas where there is no electricity. The hospital has also a mobile X-ray unit. Adequate accommodation is provided in tents to all the staff members, students and interns. A teacher from each of the departments of medicine, surgery obsterics and preventive and social medicine will stay in the hospital with 10 to 15 final year medical students, 10 to 12 to nursing students (with their own sister tutor) for a month, by turn. Ten to fifteen interns will, however, stay for three months, as required by the Medical Council of India which has fact, suggested that this period could be extended to six months with advantage.

Thus each clinical teacher will have at the most 5 final year students to teach at a session unlike in the medical college hospital where the number will be much larger. Each teacher will, therefore, be able to devote individual attention to every student. Similarly each intern will be able to gain adequate practical experience under the supervision of his teachers during his three months' stay in the mobile hospital, as there will be no house surgeons, registrars and assistant surgeons in the mobile hospital. It is, therefore, highly advantageous to the interns if their period of stay in Mobile Training-cum-Service Hospitals is increased to six months, as recommended by the Medical Council of India.

All the students and interns will receive clinical training in the Mobile Training-cum-Service Hospitals during the forenoon and in the afternoon they will visit the homes of the villagers along with their teachers. The training and service programme which will be closely supervised by the teachers will include the following: (1) work in the out-patient and in-patient sections and in the laboratory of the mobile hospital, (2) antenatal clinic, (3) well-baby clinic including immunisation, (4) imparting health education including motivation for family planning, (5) specific morbidity surveys to ascertain disease and malnutrition prevalence, (6) collection of vital statistics, (7) involvement in the national programmes for eradication or control of communicable diseases and the family planning programme under the supervision of State Public Health and Family Planning officials and (8) assisting in the implementation of school health and mid-day meal programmes.

The active participation of the medical, nursing and paramedical personnel of the Primary Health Centres in the vicinity is very essential, as it will not only ensure their proper orientation to the curative, preventive and promotive aspects of rural community medicine but also enable them to follow up the cases treated in the mobile hospital after it moves to the next Camp after a period of 3 to 4 months. In the event of an outbreak of an epidemic the mobile hospital can promptly move into that area and control it effectively and the students, interns and the primary health centre staff will thus gain valuable practical experience in controlling epidemics. It will be advantageous not only to the students and interns but also to the primary health centre doctors and private medical practitioners in the neighbourhood if the teachers hold regular clinical conferences and short refresher courses to enable them to keep their knowledge up-to-date.

It is indeed gratifying that some mobile hospitals such as the one attached to the Nagpur Medical College held them regularly at every camp. The interns and students working in this mobile hospital also conducted surveys under the supervision of their teachers for detecting cases of filariasis, and also black pigmentation due to adulterated cocoanut oil. The interns and students of the Aurangabad Medical College examined 5,276 persons when the mobile hospital attached to the college functioned in Sillod taluk and found that 56.6 percent of these persons had goitre. This was later confirmed by the Maharashtra State Health Authorities who found out that there was deficiency of iodine in drinking water. The incidence of diabetes, tuberculosis, leprosy and venereal diseases among tribal populations, has been recorded by supervised surveys conducted by interns and students working in the mobile hospitals attached to Osmania Medical College, Hyderabad, Baroda Medical College etc.

Some valuable lessons have been learnt during the working of the Mobile Training-cum-Service Hospital Scheme which was launched by the Govt. of India in October 1970. For want of time I will deal with one or two important ones here. Out of 50 beds, 20 beds had been originally ear-marked for tubectomy cases. It was observed in almost all the mobile hospitals that soon after a hospital had started to function at a new Camp, the out-patient attendance and the number of admissions were high but they tapered off after 8 to 10 weeks. It was found advantageous in several ways to utilise almost all the beds for tubectomy cases at this time. In this way it was possible to reduce the number of beds in a mobile hospital from 50 to 25 and thus bring down the expenditure for each mobile hospital. At a meeting of the Consultative Committee of the Members of Parliament

for the Union Ministry of Health and Family Planning held on 20th October, 1972, the Minister is reported to have told the members that it was proposed to set up 25 Mobile Training-cum-Service Hospitals during 1973-74 and eventually all the 105 Medical Colleges would be provided with such hospitals.

**Job Opportunities for Doctors in Rural Areas**

As mentioned already, it is not enough if doctors are oriented to rural community medicine. Simultaneously efforts should be made to create job opportunities for them in rural areas to prevent unemployment and "brain drain". It is proposed to increase the number of primary health centres and upgrade a certain percentage of the primary health centres into 25-bed hospitals and provide them with specialists during the Fifth Five Year Plan. As I mentioned a few minutes before, the Government of India are contemplating to extend the Mobile Training-cum-Service Hospital Scheme to involve eventually all the 105 Medical Colleges. If this is supplemented by harnessing the facilities provided for health and medical care in rural areas by the existing hospitals and dispensaries run by all Christian and non-Christian Voluntary Organisations and also by providing the required number of mobile dispensaries per district, it will be possible to ensure health and medical care to rural people living even in remote areas. At present there are about 900 Mobile Service Units for vasectomy and insertion of I.U.C.D. Each unit has a doctor, a nurse and an attendant and a vehicle. With an additional expenditure of about Rs. 3,000 per "Mobile Service Unit" per annum for drugs and dressings health medical care can be provided to the rural people. They will accept family planning more readily if each family can be sure that its first two children will survive by better health care including immunisation.

The Co-ordinating Agency for Health Planning is making strenuous efforts to bring together all Christian and non-Christian Voluntary Organizations in each State with a view to co-ordinating their activities for supplementing the efforts of Government in providing health and medical care to our large population. The Agency has already succeeded in its efforts in 11 States. If for the Fifth Five Year Plan Government can work out a pattern of assistance in collaboration with the UNICEF to Voluntary Organizations running hospitals and dispensaries in rural areas, job opportunities for general medical practitioners, specialists, nurses and paramedical personnel will be increased.

**Health-Co-operatives**

The Co-ordinating Agency is also keenly interested in providing technical guidance to all concerned in setting up "Health Co-operatives" in rural areas with the help of those villagers who can afford to pay for their health and medical care. It is proposed to start a Health Co-operative for the benefit of about 4,000 families of the Bangalore Dairy-Co-operative for the benefit of about 4,000 families of the Bangalore Dairy Co-operative Union in Kalur and surrounding villages, about 60 Kilometres from Bangalore. St. John's Medical College will be involved in this programme and it will provide the services of its specialists as well as facilities for hospitalisation of deserving cases in the Medical College hospital in Bangalore. In return, St. John's Medical College will utilise the Rural Health Co-operative for orienting their students and interns to rural community medicine to enable them to practise in rural areas. Exploratory talks have also been held with Dr. V. Kurien, Managing Director of the Kaira District Co-operative Milk Producers' Union. He is keen to start a Health Co-operative to serve a population of about 25 lakhs living in about 700 villages. If this scheme succeeds, it can be extended to five other Milk Producers' Unions in Gujarat alone and later to other States. I need hardly, add that when the scheme is fully implemented it will provide job opportunities to a large number of doctors, nurses and paramedical personnel.

In so far as private practice in rural areas is concerned professional bodies such as the Indian Medical Association, the Association of Surgeons of India etc., are making efforts to enable doctors, either singly or in groups to start private practice in rural areas and loans on easy terms are available for them from Nationalised Banks. Some State Governments are also offering stipends for fixed periods and other incentives to doctors who are willing to set up private practice in rural areas. Doctors may stay in those rural or semi-urban areas where basic amenities such as, residential accommodation, potable water, facilities for education of their children are available and purchase scooters, motor-cycles or jeeps with loans from Nationalised Banks to cover as many villages as possible. They should make it a point of providing to the rural population preventive and promotive health care in addition to curative medical care. If Government can provide them with the necessary vaccines, and drugs for treating cases of malaria, tuberculosis and leprosy free of charge, it will ensure successful implementation of our National Programmes for eradication or Control of Communicable Diseases.

In conclusion, I would like to state that the Mobile Training-cum-Service Hospitals attached to Medical Colleges have an important role to play in orienting teachers, students and interns to rural community medicine. It is bound to take quite some time to construct the required buildings for 25-bed upgraded primary health centres and for residential accommodation required not only for the upgraded primary health centre staff but also for the teachers, students and interns who will stay in these centres for specified periods. Early steps should be taken to create enough job opportunities in rural areas for a large number of general medical practitioners and specialists who qualify every year from all the Medical Colleges, to forestall unemployment and "brain drain".

# A Model for Introduction of Social Science Through Teaching of Family Health Care—Innovations at Lucknow*

by

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*A model of social science teaching to undergraduates through family health care is described Commencing at the preclinical stage where introduction to basic elementary knowledge is given, it is carried over to paraclinical years with assignment of two families to students for studying real life situation. This is followed by clinical integrated teaching in social paediatrics and social obstetrics and finally during internship training by work in rural and urban families in order to arrive at community diagnosis and undertake community action.*

**Introduction**

The emergence of a complex social order leading to the multiplicity of ailments that could no longer be considered exclusively organic, has necessitated a combined (epidemiological and sociological) approach and conceptual changes in medicine and planning. Payne[1] has very rightly remarked "We have tended to regard man simply as a biological animal with biological needs.....We have largely ignored the fact that he is a social animal and that it may be at least as important to his health to satisfy his social needs and behavioural urges as his purely biological ones". To achieve this some formal training in sociology for the physician is desirable (Reader[2], Freeman et al.[3], Saunders[4], Royal Commission on Medical Education[5]). An increasing number of medical educationists (Reader[2], Morton and Cottrell[6], Reader and Goss[7], Goss and Reader[8]) regard the sociologist as an integral part of training programme. But choosing the methodology for such a training programme poses a big challenge to the teaching of social and preventive medicine. The concept of family health care has become the embodiment of these newer trends in medicine-care replacing cure, health replacing illness and family/community practice shunting off individual practice. Introducing this concept before the students in a realistic and practical form as a felt need of community, requiring different skills at different planes of practice is the job which departments of Social and Preventive Medicine teaching community medicine have to achieve. In such an approach a harmonious blending of the techniques of medicine and social sciences would give the student a comprehensive understanding of man in health and sickness and an intimate acquaintance with his physical and social environment (General Medical Council[9]). Although opinions may vary as to the feasibility of such an integration of two disciplines in medical curriculum, its imperative need cannot be sincerely questioned. It no doubt means some basic changes in teaching schedule and methodology but that should not be grudged. Institution of medicine is a social organization after all and it is a truism about such organizations that 'one can make big changes only by making big changes' (Becker and Geer[10]).

**Model at Lucknow**

It was felt that the social science inclusion in the basic medical curriculum should cover all the main areas of sociological application in medicine, viz., social etiology, ecology of disease, social components in therapy and rehabilitation, medicine as a social institution, sociology of medical education (Kendall and Merton[11]). Most of the direct contributions of sociology can be placed under these topics. Not only prevention, diagnosis, prognosis or treatment were looked into for sociological contributions in a general educative approach on care, but the very institution of medical practice, the practitioner, the setting of practice and the patient, as components affecting care, are included. This includes an understanding of disease, its etiology, ecology, community processes in the evolution of disease pathology, impacts of disease on social spectrum, total responsibility of the physician in the said spectrum, medical care as part of human welfare measures, the evolution and organization of the complex institution of hospital, the peculiar characteristic of organized care, other components in care, like, therapeutic relationship, utilization of care services by the society, changing needs of community, community practices conducive for therapeutic efficacy etc. The curriculum as has been planned, thus is a comprehensive one to include all the details from the introduction of basic and elementary social sciences to the applied aspects in care and to changing community needs in terms of care practices.

The teaching programme in family health care is slowly and gradually introduced to the medical students right from the impressionable phase of pre-clinical period to extend through para-clinical and clinical years to internship level.

*In pre-clinical years*—In the pre-clinical years during second and third semesters 30 lectures and one psycho-social clinical demonstration conference are given in basic social sciences i.e. elementary sociology and psychology (Prasad and Jain[12]). Lectures in the second semester include society and culture, man and his environment and concept of human ecology, social institutions, social disorganizations and social pathology, socio-economic factors affecting health, family as the unit of medical care, social anatomy, social physiology, etc. These lectures stress on the need to study man as a member of the society, his motivational behaviour, and the role of society in patterning his aims and attitudes with a view to bring to the fore the influences affecting the receipt of care, and medical care as part of the social aspiration. The need to see man in his natural environment is highlighted and family affecting medical care and illness, and individual receptibility to care are stressed, with an emphasis on environmental factors affecting disease process, causation and the impacts of the same upon the social settings.

In the third semester the students' attention is focussed to human endeavours in care, and hospital as a social institution is presented before them. At this stage they are also given ideas on life cycle of man, family life, and principles underlying it. At this level lectures are also imparted on population problem, occupation and health, economic value of health and economic loss due to ill-health, social anatomy and physiology of a village as typical replica of the Indian community, beliefs and customs, folk medicine and social structure. It is brought to bear on the medical students that the folk medicine of a people is not a random collection of beliefs and customs but that it constitutes a fairly well-organized and consistent theory of medicine. It throws light upon the nature of man's relationships to his environment and it enables the members of a cultural group to meet their specific health needs in ways at least minimally acceptable (Saunders[4]). This, it is expected will give the student an idea of normality and abnormality in divergent cultures so that as a future physician he can adjust to and understand the folk needs instead of practising a correct but theoretical approach; it is in a way a training in the attempt to get the physician down to earth in his practice.

The picture with the above lectures becomes comprehensive—human being, the patient, society, the spectrum of illness, institutions catering to care and attitudes affecting human being, environment, the organization in charge of care and social and individual implications and aspects of illness. Other than these, special lectures are arranged on psychology with an emphasis on behaviour, personality and social psychology.

*Para-clinical years*—Once the contrast between the folk medicine and scientific medicine is brought to bear on the student and once he understands the community and its aspirations; the student when he enters the fourth,

* Presented at the University Grants Commission Institute for Teaching of Social Sciences in Medical Colleges, New Delhi, October 6—11, 1969.

fifth and sixth semesters in the para-clinical years is sent to the field of his practice for observational studies. The student should get as much opportunity as possible to study health and disease in its natural setting, so that the real picture is completed before him at this particular time when he has started to be involved with practice of medicine in hospital. The students are also taught the principles of health education early in fourth semester (Bagga and Prasad[13]). The students are allotted two families (Prasad[14]) at this time, one in health (Prasad and Nayar[15])—a family having a mother with a new born infant, and the other in desease—a family having a case of pulmonary tuberculosis (Prasad[14]). The former family study spreads throughout the fourth and fifth semesters while the latter is restricted to the sixth. One family per student (the first) is given for advisory health care and one (the second) for analytical study of the problem of illness, the role of the student being restricted to ad.. sory level.

Side by side, the socio-clinical demonstration conferences (Prasad and Nayar[15]) which start in third semester are continued in the para-clinical years on diseases such as tuberculosis, leprosy, venereal diseases, diabetes, physical handicaps (caused by smallpox, deafness and poliomyelitis) and other situations like accidents, which call for a community approach besides the utilisation of the available medical or surgical techniques. Through these the total need of an illness situation is impressed upon the students and they are made to realise that in absence of supplementary social therapy, drug therapy alone may not be effective. These demonstration consereness have an active participation of social fcience teacher.

*Clinical Years*—The fundamentals of social science education is imparted not only through the family health care studies but also through joint integrated teaching sessions in social obstetrics and social paediatrics twice a week where attempt is made to present disease as a social pathology. These sessions are held with students of seventh to ninth semesters involving the participation of teachers from departments of Obstetrics and Gynaecology, Paediatrics, and Social and Preventive Medicine and the medical social worker. The case is discussed in all its aspects - clinical, social and psychological.

The whole approach is to let the student investigate, discuss and realise that health and disease are social phenomena. The student gets familiar with the need for family based practice of medicine, gets an opportunity to see multiple etiology of disease, sees the patient as a person, his role in the family, influences of the family upon health and illness, the spread of disease in the family trellis, the need to control illness/maintain health at the family level and the ineffectiveness of the solitary medical team in the fight against illness and preservation of health. The student comes to think about the comprehensive health care as should be practised in the completion of care ; the relief measures which form part of care and hitherto considered purely welfare measures are integrated in a total approach with the necessary sociological skills and techniques involved in an ideal medical care—they make a social science approach to the problem of illness, rather see medicine as a form of applied biological science. Much more he learns through the teaching of family health care about ' man as a whole', ' man in disease ', the ' public in public health,' the ' multifactorial causation ', the ' totality in medicine,' ' human relations ' particularly the doctor patient relations, and the importance of ' health education ' and ' continuity in care ' in every day practice.

The students learn a lot about a proper therapeutic relationship which facilitates care and acceptance, because the approach to the families is upon self initiative and they get an opportunity to develop skills of their own in handling people under the social scientist's supervision. The value of doctor-patient relationship as a necessary and valuable ingredient in therapeutic endeavour is brought to bear upon the students as a result of social science education. Besides the training aims at making the student a community physician as against the clinical practitioner of individual medicine. The lectures on social sciences and the training imparted by the social scientist and health educationist is hoped to inculcate in them a sense of community and team work feeling in the practice of medicine.

*Social obstetrics and social-paediatrics in family health care*—Maternity and child health care and the problem of the vulnerable groups of mother and children is presented through joint and integrated teaching of social obstetrics and social paediatrics. Clinical situations are chosen from neonatal, obstetrics, gynaecology and paediatric clinics and social etiology, socio-diagnosis and social therapy and rehabilitation are assimilated with regular clinical and therapeutic programmes. At a two-hour session, the student presents the history, the medical social worker supplements it by the social history collected by her during the week, the clinician introduces the problem and discusses its clinical aspects and two teachers from Social and Preventive Medicine department (one being a social scientist) supplement the knowledge, pointing towards completion of care which extends beyond the hospital. Bearing and rearing practices and beliefs and customs in health and disease are brought out. The acceptance and rejection of scientific medicine is discussed. The student is taught to think epidemiologically and socially in his practice. The importance of prevention is discussed. Health education techniques, family life advices, case work therapy, etc., are used in the clinical situations in care in modifying care practices. The two hour exercise in a joint and integrated teaching, twice a week, is to answer the four questions (1) what is the present condition? (2) how the condition has arisen? (3) how could it have been prevented? and (4) what is its management?



*Internship period*—The health care as should be practised by the physician in the community, rural and urban, is exposed to the interns during the compulsory rotating internship of 3 months placement in the community in the department of Social and Preventive Medicine. Here again assignments in comprehensive care are given and a group of families (3 rural and 10 urban) are assigned to each intern for investigation, social and clinical diagnosis and management of care and therapy at the Rural Health Training Centre, Sarojini Nagar (including its Primary Health Centre) and at the Urban Health Centre, Alambagh. The Urban Health Centre has been specially developed as a teaching model of comprehensive family health care in an urban community (Gupta 18). Family practice of medicine is stressed and social, preventive and curative components in therapy and rehabilitation are highlighted and the intern is made in charge of the programme as against his assignment in the undergraduate curriculum where the student's role was more of observation and advisory. Here he functions as an apprentice doctor and gets his real training in medicine to function as part of the general community welfare programme. The picture of a primary health centre as part of the community development block is brought before him and he is taught to play his role in the wider social obstetrics millieu. Specific assignments in social paediatrics and social obstetrics and family planning are given to him in which he acts as the incharge of family units with a view to collaborate in the general health and welfare programme, creating in him a social sense, getting him actually involved in not only medical care, but also in general family welfare services (which are being introduced on a countrywide level in the Fourth Plan). The medical aid, the families get, are being given to them as part of the general community welfare measures. The interns are to function as community physicians and welfare workers at large, bringing with them family welfare measures (including family planning), applied nutrition programmes and domiciliary midwifery and immunisation services. The social paediatrics and obstetrics planned at the undergraduate clinical level extends to the internship level for active involvement in real life situations in community practice.

The families allotted to each intern for completing the socio-medical investigation, analysis and presentation are discussed in the fortnightly seminars on individual families and group data on a number of families (usually about twenty-five) covered by a batch of interns. Health education and other action programmes are undertaken for specific socio-medical problem in a village for community diagnosis and action (Prasad[19]).

**Discussion**

The model of introduction of social science through teaching of family health care at ecknow is developed and integrated in the total teaching through a graded progamme to be absorbed through different phases.

*Stage I (Pre-clinical)*—The introduction of students to basic elementary knowledge in social sciences supported by a psycho-socio-clinical demonstration.

*Stage II (Para-clinical)* —The assignment of two families to the student (after he has been

taught the principles of health education) to study the real life situations and to provoke him into thinking not only medically but also socially and epidemiologically.

*Stage III (Clinical)*—The integrated teaching sessions of clinical, social and preventive obstetrics and paediatrics on cases to present the 'totality of medicine' and the need for 'comprehensive health care' in daily practice.

*Stage IV (Internship)*—In this period there is actual assignments in family care. There is allotment of 3 families in rural and 10 families in urban community for collection of detailed socio-medical data for analysis, tabulation and discussion in fortnightly seminars and motivating these families by health education for acceptance of scientific medical care, including improvement of environmental sanitation, maternal and child health and family planning services, immunization, and other health promotional and preventive measures. Allotment is also made of socio-medical problems for investigation and action in a village. Independent work and improvisation is learnt in these community assignments, and also the methodology of 'community diagnosis' and community action by directly working with and among the people through team work method in health care.

In short, practice of medicine as a social science is visualised throughout the teaching programmes in family health care. The failure of clinical medicine to meet the specific and overall needs of the individual and community is well recognised through these programmes. Practice of medicine cannot be confined to laboratories or wards—the need to practise it in human laboratory is no less important. It is time one has to understand that man is the core of medicine. "Looking at man with the naked eye, he is an individual. Studying man with microscopes, both visual and electronic, he is biological. Stepping back and viewing man through a telescope, he becomes a small unit of society. All three perspectives are requisite for full comprehension". (Stieglits[20]) It is felt that a social science approach to medicine will modify the errors in its present day practice. The scientific advancements in sociology are making it sufficiently equipped to offer a clarity of vision to the modern medicine. The new interests in the individual as a person has shown the reciprocal relationships that tie him with the culture. The 'life-history approach' to medicine help reveal how individuals are groomed and fitted into culturally defined situations and forced to fulfil their social roles and often can show at what price, adaptations are made; it becomes standard data to study the predicaments in which individuals find themselves as a result of rapid social change when they are caught in cultural cross-currents that impinge upon them (Simmons and Wolff[21]). The social science focus on the individuals and group processes and the recent trends in medical sociology on the role of perspectives in medical care and problems of medico-social convergence, all tend to place medical practice in a more practicable level and make it more humane and applied. The aim of modern medical education should be none the less than introducing these social science concepts in the betterment of care.

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# TEACHING PATTERN OF SOCIAL AND PREVENTIVE MEDICINE IN MEDICAL COLLEGES

by

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Trends in medical education have been changing and more emphasis has been placed on comprehensive health care for the individual and the family in the community. During the past two decades there has been considerable rethinking regarding the curriculum content and methodology of teaching in medical education at the undergraduate and postgraduate levels. The teaching of "Hygiene and Public Health" in the old medical curriculum was gradually changed in relation to social needs of the community, with the result in the recent years newer concept developed in the teaching of preventive medicine. This has emerged in the concept of Social and Preventive Medicine.

The teaching and organisation of Department of Social and Preventive Medicine has changed considerably during the last 10 years. This subject has suffered from developmental care, attention, and uniformity in comparison with the older disciplines in the medical faculty in different medical colleges. During the last decade due to non-uniform development of the speciality, the impact of the departments does not appear distinct with the result that the subject in different medical colleges has suffered.

It is important that the concept of Social and Preventive Medicine should be well understood by all medical persons including general practitioners, specialists and administrators. This can be achieved, by radical changes in medical education, uniformity in undergraduate medical curriculum and methodology of teaching. Non-uniform and irregular development of the subject in the undergraduate course affect the postgraduate education. Due to haphazard development of the departments of Social and Preventive Medicine the young graduates qualifying from different medical colleges are not equipped with the knowledge of basic doctor to serve in the community.

For the first time, the Health Survey and Development Committee (1946), advocated for a change in medical curriculum, in medical colleges in India, to provide undergraduates training in comprehensive medical care and social medicine. The subject of Social and Preventive Medicine had variable growth in different medical colleges in the country. The departments varied in medical curriculum, teaching, staffing pattern, allotment of teaching hours, facilities for field training, examination pattern etc. which lead to the development of individual department in its own fashion. The present article has collected information from different medical colleges on the multiple variables in the subject.

A questionnaire for collecting information regarding organisation and teaching of Social and Preventive Medicine was developed and sent to the departments of Social and Preventive Medicine of 84 Medical Colleges in the country, during the month of November 1966. The proforma thus sent contained questions on total admission capacity, duration of teaching, hours of teaching, syllabus etc. Two reminders were sent to the departments from where the information was not received within a reasonable period. Out of eighty four medical colleges only forty five (53.57 percent), sent their reply to the questionnaire. A similar questionnaire was sent to different medical colleges, three years back (1963) and at that time only sixteen colleges showed a positive response. The information then collected was inconclusive and incomplete and hence has not been included in the present study. The reason for low response in 1963 might be due to the fact that departments in different medical colleges were not fully developed.

## OBSERVATIONS AND DISCUSSION

### ADMISSIONS:

The admission capacity per year of different medical colleges varied. It ranged between 50 and 200 students each year (Table I). All these medical colleges are recognised by Indian Medical Council. Thus we see that only 18.2 percent colleges were admitting less than 100 students. The variable admission capacity of different medical colleges depends on a number of factors like, the requirements and resources of the State, availability of equipment, teaching staff etc. In none of the medical colleges 77 the student-staff ratio as recommended by Indian Medical Council existed.

TABLE I

**Distribution of Colleges according to the admission capacity**

| No. of admissions | Colleges | |
|---|---|---|
| | Number | Percent |
| 50 | 2 | 4.6 |
| 75 | 6 | 13.6 |
| 100 | 8 | 18.2 |
| 125 | 4 | 9.1 |
| 150 | 13 | 29.5 |
| 175 | 3 | 6.8 |
| 200 | 8 | 18.2 |
| Total | 44* | 100.0 |

* one college has not stated its admission capacity.

### M.B.B.S. COURSE:

The total period spent for teaching and training the undergraduates was not uniform in all the colleges. Of the total respondent colleges 73·3 per cent had accepted the recommendation of the Indian Medical Council and were running M.B.B.S. course for 4½ years period. 15·6 per cent were still (at the time of study), adhering to five year course. But 11.1 per cent medical colleges were spending more than five years period for this purpose (Table II). These institutions did not clearly report whether this period is inclusive of premedical course or is exclusively being utilised for the teaching of medical subjects.



TABLE II

**Duration of M.B.B.S. course in different Colleges**

| Duration in years | Colleges | |
|---|---|---|
| | Number | Percent |
| 4.6 | 33 | 73.3 |
| 5.0 | 7 | 15.6 |
| 5.6 | 4 | 8.9 |
| 6.0 | 1 | 2.2 |
| Total | 45 | 100.0 |

### TEACHING CURRICULUM:

The teaching of Social and Preventive Medicine is mainly grouped into theory in the form of didactic lectures, practicals in laboratories and field visits (Table III). There has been no uniform pattern of teaching the subject in different medical colleges. The subject in theory classes was taught for varying hours in the majority of the colleges (83·8 per cent) the theory lectures in the subject varied between 100 to 200 hours, during the entire period of preclinical and clinical curriculum. Indian Medical Council (1962) recommended a minimum of 166 hours for theory lectures in Social and Preventive Medicine during entire medical curriculum. Thus only 43.1 per cent of the respondent medical colleges were following the recommendations of Medical Council of India.

TABLE III

**Pattern of Teaching Social & Preventive Medicine during entire medical curriculum**

| Duration (in hours) | Theory | | Practical | | Field Visits | |
|---|---|---|---|---|---|---|
| | No. | Percent | No. | Percent | No. | Percent |
| No. classes | — | — | 14 | 32.6 | — | — |
| 25 | — | — | 12 | 27.9 | 15 | 34 9 |
| 50 | — | — | 11 | 25.6 | 19 | 44.2 |
| 75 | 1 | 2.3 | 2 | 4.6 | 4 | 9.3 |
| 100 | 8 | 18.6 | 4 | 9.3 | 5* | 11.6 |
| 125 | 7 | 16.3 | — | — | — | — |
| 150 | 8 | 18.6 | — | — | — | — |
| 175 | 6 | 14.0 | — | — | — | — |
| 200 | 7 | 16.3 | — | — | — | — |
| 225 | 2 | 4.6 | — | — | — | — |
| 250 | 2 | 4.6 | — | — | — | — |
| 250 & | 2 | 4.6 | — | — | — | — |
| Total | 43‡ | 99.9 | 43‡ | 100 0 | 43‡ | 100.0 |

‡ Two colleges did not send information regarding it.

• Include one college with over 200 field visits.

Practicals in the subject are not held at all in 32·6 per cent of the medical colleges. In rest of the medical colleges (67·4 per cent) practicals in the subject are held for a varying period ranging between 25-100 hours. Indian Medical Council recommended a total of 101 hours for practicals and seminars.

However the field visits were being organised in varying number by all the departments of Social and Preventive Medicine of all the respondent medical colleges. Nearly 89.1 per cent of the departments were arranging upto 50 hours field visits. In the remaining 20.9 per cent colleges field visits upto 100 hours were arranged. It is clear from the table that now more emphasis is being laid on practicals and field demonstrations for training basic doctors in comprehensive medical care. The conference on "Teaching of Social & Preventive Medicine in relation to the health needs of the country" held in September 1965 under the auspices of the National Institute of Health Administration and Education, New Delhi, recommended that in order to teach effectively Social and Preventive Medicine in the community, the rural and urban field practice areas should be provided with adequate staff as part of Social and Preventive Medicine Department. It further recommended that during the undergraduate period the student should spend adequate time in the urban practice field and should have exposure to the rural practice field as well.

**Preclinical Teaching:**

Social and Preventive Medicine is taught both in preclinical and clinical years, therefore the teaching of the subject was further analysed on the basis of its teaching in preclinical and clinical years (Table IV).

TABLE IV

**Duration of Teaching Social & Preventive Medicine at various stages of curriculum**

| Duration (in hrs.) | Theory | | | | Practicals | | | | Field visits | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Preclinical | | Clinical | | Preclinical | | Clinical | | Praclinical | | Clinical | |
| | No. | Percent | No. | Percent | No. | Percent | No. | Percent | No. | Percent | No. | Percent |
| Not taught | 24 | 55.8 | — | — | 39 | 90.7 | 15 | 34.8 | 39 | 90.7 | 2 | 4.65 |
| 10 | 2 | 4.6 | — | — | 4 | 9.3 | 4 | 9.3 | 2 | 4.65 | 3 | 7.0 |
| 25 | 8 | 18.6 | — | — | — | — | 7 | 16.3 | 2 | 4.65 | 10 | 23.3 |
| 50 | 8 | 18.6 | 1 | 2.3 | — | — | 11 | 25.6 | — | — | 19 | 41.1 |
| 75 | 1 | 2.3 | 1 | 2.3 | — | — | 3 | 7.0 | — | — | 5 | 11.65 |
| 100 | — | — | 10 | 23.3 | — | — | 3 | 7.0 | — | — | 3 | 7.0 |
| 125 | — | — | 7 | 16.3 | — | — | — | — | — | — | — | — |
| 150 | — | — | 11 | 25.6 | — | — | — | — | — | — | — | — |
| 175 | — | — | 4 | 9.3 | — | — | — | — | — | — | — | — |
| 200 | — | — | 5 | 11.6 | — | — | — | — | — | — | — | — |
| 225 | — | — | — | — | — | — | — | — | — | — | 1 | 2.3 |
| 250 | — | — | 1 | 2.3 | — | — | — | — | — | — | — | — |
| 250 & | — | — | 3 | 7.0 | — | — | — | — | — | — | — | — |
| Total | 43* | 99.9 | 43* | 100·0 | 43* | 100.0 | 43* | 100.0 | 43* | 100.0 | 43* | 100.0 |

* Two colleges did not give this information.



During the preclinical years, of the total respondent medical colleges 55.8 per cent were not teaching the subject of Social and Preventive Medicine in theory. 23.2 per cent department of Social and Preventive Medicine were devoting less than 25 hours for theory. Only 18.6 percent respondent colleges accepted the recommendations of Indian Medical Council (1962), which lays down that in the preclinical period a minimum of 50 hours be devoted to the teaching of Social and Preventive Medicine, of which 37 hours be devoted for lectures, 4 hours for visits, and 9 hours for practicals and seminars. It can be said that during preclinical period most of the medical colleges were not giving due attention to the subject as per recommendation of the committees for improvement of the teaching in the subject because of paucity of time duration. Shortage of medical staff for teaching Social and Preventive Medicine and also non availability of teachers in social sciences like sociology, anthropology, psychology has led to differences in teaching patterns in different medical colleges. In majority of the respondent colleges (90.7 per cent) no provision was made in the time table for practicals and field visits in the subject.

The practical hours in laboratory varied in the remaining colleges from ten hours to 125 hours.

**Clinical Teaching:**

Majority (73.8 per cent) of the medical colleges were devoting 100 to 200 hours for theory lectures during the entire clinical period. 4.6 per cent of the colleges utilised less than 75 hours for this purpose. Four colleges were spending 250 hours or more for teaching Social and Preventive Medicine.

About one third of the respondent colleges (34.8 per cent) were not arranging practicals in the subject during clinical period. The remaining colleges made provision for field visits in the Social and Preventive Medicine syllabus during clinical period of undergraduate study for ten hours to 100 hours. Two colleges (4.65 per cent) had no provision for field visits in the training programme of Social and Preventive Medicine.

During clinical period, most of the medical colleges were devoting the recommended hours for the subject, while others were devoting hours in close proximity to the recommendation.

**Examinations:**

Pattern of examination in Social and Preventive Medicine also varied from one college to another. Three of the respondent colleges do not hold any examination in the subject, whereas in four such colleges examination in the subject is held as a part of medicine.

TABLE V

**Pattern of Examination in Social and Preventive Medicine**

| Total Marks allotted for the subject. | Year of examination | | | Total | |
|---|---|---|---|---|---|
| | 3rd | 4th | 5th or final | No. | Percent |
| 50 | 2 | 1 | 1 | 4 | 9.5 |
| 150 | — | 2 | 4 | 6 | 14.3 |
| 200 | 2 | 8 | 14 | 24 | 57.1 |
| 250 | 1 | 4 | 1 | 6 | 14.3 |
| 300 | 1 | — | — | 1 | 2.4 |
| 400 | — | — | 1 | 1 | 2.4 |
| Total | 6 | 15 | 21 | 42 | 100.0 |
| Percent | 14.3 | 35.7 | 50.0 | — | — |

Of the remaining colleges a majority of 14 colleges hold examination in final year as a separate paper in Social and Preventive Medicine. In colleges where separate examination in the subject is held the total marks allotted again varied. The total marks allotted to the subject ranged from 50 to 400. The marks in theory paper ranged from 75 to 180, for viva voce 20 to 100, for practicals, 25 to 110 and for sessional 10 to 100. One college conducted examination in two stages, one at the end of 6th semester and another at the end of 9th semester. Thus three main patterns of examination were observed in the subject impress on 5th year (i) In some colleges no examination was held in the subject (ii) examination in the subject was the part of medicine and (iii) a separate examination in the subject at the end of 3rd or 4th year or final year of medical teaching.

The teaching of Social and Preventive Medicine runs parallel to the teaching of clinical subjects. Moreover for the effective teaching and training in Social and Preventive Medicine a knowledge of clinical subjects is essential. If the present doctors are to provide comprehensive medical care, the examination in the subject should be at the end of clinical years.

**Postgraduate Courses:**

Postgraduate Degree in Social and Preventive Medicine was awarded by 16 and Diploma in Public Health by five of the respondent colleges. One college was imparting training to sanitary inspector, D.M.O.H., and M.O.H, D.T.M. & H. course was run by one college only.

Thus the teaching pattern in preclinical and clinical years of undergraduate medical curriculum and method of examination in Social and Preventive Medicine was found to differ from one medical college to another. No uniform pattern was adopted although from time to time committees and conferences made recommendation on the proper and uniform development of this department in various medical colleges of the country and also on the uniform pattern of teaching and training the medical graduates in the subject. The recommendation of the Indian Medical Council are mandatory and the States were free to implement these recommendations either in toto or in part depending on their resources and requirement. In the subject there is no forum like All India Association as exists in other disciplines of the medicine, which may help in bringing the uniformity in teaching the subject in different medical colleges.

Social and Preventive Medicine is a separate subject. Besides teaching its own subject, it has contributions from all the branches of medicine. But it has its own technique to improve health of the community, hence this subject cannot be tagged to any other subject taught during the medical courses. Indian Medical Council (1962) recommended a separate paper on Social and Preventive Medicine, but its sub-committee (1964) emphasised and recommended separate examination in the subject with 50.0 per cent marks each for the written and practicals. It further recommended that the case histories, and performance at the field training centre, should also be taken into account for purposes of assessment in the final examination. Greatest harm would be done to the subject by abolishing examination in the subject or attaching it secondary importance by making it a part of any other subject of the medical curriculum. The subject had suffered in the past when it was taught by part-time teacher, used to be health officer of the municipality, who took the job of teaching (then Hygiene and Public Health) with secondary importance. Medical Officer of Health was already overburdened with the work of municipality or corporation and had little time to devote to teaching the subject. Bhore Committee (1946) while surveying the health problems of the nation, expressed its dissatisfaction on medical education on two accounts (a) the manner of presentation of topics under Hygiene and Public Health, and (b) the practice of placing a total responsibility of teaching on a public health official.

**Summary and Conclusions:**

Information, in a preplanned questionnaire, regarding total admission capacity, duration of teaching, hours of teaching and syllabus was collected from 84 medical colleges in November 1966. The response rate was 53.57 percent. The following conclusions were drawn:—

1. The admission capacity in respondent medical colleges varied from one college to another and it ranged between 50-200 in 91.8 percent of the colleges.



2. Duration of teaching of undergraduate medical curriculum in 73.3 percent respondent colleges was four and a half years and in 11.1 percent colleges it was more than five years.

3 Duration of teaching hours for theory lectures, practical and field visits also varied from one college to another. There was no uniform pattern regarding allotment of teaching hours, in Social and Preventive Medicine during preclinical and clinical period of medical curriculum in different medical colleges. Majority of medical colleges were not teaching the subject in the form of lectures, practicals and field visits during the preclinical period.

4. Pattern of examination in Social and Preventive Medicine also varied from college to college. Majority of the respondent medical colleges were holding examination in the subject in final year of the undergraduate medical study as a separate paper. The allotment of marks for theory and practicals in the subject was also non uniform.

5. A definite forum for bringing the uniformity in teaching and training of medical graduates in Social and Preventive Medicine is required.

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# Review of undergraduate examination patterns in Preventive & Social Medicine incorporating field training in India

by

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*This article reviews examination pattern of P. S. M. in medical colleges of 36 universities of India (obtained through a questionnaire) and makes comparison with its own system at B. H. U. At other places weightage is given on theory examinations. The practical examinations are "Lab. specimen-identification" type and fail to provide adequate support for the field training programmes which are practically non-existent. A plea is therefore made that comprehension abilities cannot be developed or assessed without facing or tackling problems in real life situations.*

*The appended list of examination questions provides a fair range of exercises, from classical public health to present day health care concepts. In view of the authors, validity of all examination systems must be based on needs of the society (e.g., provision of basic doctors). This can be refined from time to time through trial and error approach.*

The University Grants Commission appointed an expert committee in 1957 which was of the view that "Examination is the aspect of educational process which is intimately linked with its other important aspect—teaching and learning—that teaching and learning and examination actually constituted unit of function. Teaching as well as learning are bound to be affected by a deceptive examination system since both are dominated by the objectives that govern the examinations." Examination is a complicated psychological and social interaction between the examiner and the pupil and is determined by many subconscious factors on the part of student and temperament and professional competence of the examiner (W.H.O., 1968).

This is valid and true both in cults and concepts of a broad-based discipline like P.S.M. Many medical schools in the world felt the need to revise their curricula, not many of them have initiated scientific research into the nature and evaluation of teaching and examination methods. In all countries they bear the mark of culture and tradition and needs of the place (W.H.O., loc cit.). This is extremely valid for a new discipline like PSM too and is exemplified by laying down of a syllabus which encourages the habit of memorizing and resort to notes and guides because of the repetition of similar questions in successive examinations (U.G.C., loc. cit.).

The Education Commission (1965) while recognising the chronic nature and magnitude of the problem remarked "We are convinced that if we are to suggest any single reform in university education it should be that of examinations". In the field of medical education too, the outstanding medical educationist, late Alan Gregg after visiting various Medical Colleges in India remarked "Change the spirit and purpose of examinations in the Medical Colleges....." (Wahi, 1963).

For purposes of medical education, 'intensive care units' through family advisory schemes (Marwah, 1966) should be demarcated out of the urban or the rural practice fields of the P.S.M. departments for an effective demonstration of family medicine and





community medicine as is the case with other clinical disciplines (Marwah, et al. 1971). Meanwhile a review of the examination systems in P.S.M., however, provides a contradiction to the aims and objectives of existing training programmes. These areas are summarised hereunder:

(i) In a number of medical colleges in India there is still not a separate examination in P.S.M. It is a well recognised fact that due to various reasons our students are still examination oriented and pay scant attention to a subject or topic which they feel are not important from the point of view of examinations.

(ii) In eleven universities the examinations in PSM are conducted at IV year level with the para-clinical subject (Table I, based on personal communication, 1970).

TABLE I

| Examination in P.S.M. | Number | Names of Universities |
|---|---|---|
| I. At IVth year level (II Professional) along with Pathology, Pharmacology, Forensic Medicine. | Eleven | Allahabad, A.I.I.M.S. New Delhi, Osmania, Indore, Calcutta, Meerut, Patna, Agra, Darbhanga, Lucknow, Ranchi. |
| II. At the Final Year Level (III Professional) along with Surgery, Medicine, Gyn. & Obstet., Ophthalmology. | Twenty one | Andhra, Aligarh, Bangalore, Baroda, Behram, Gujarat, Delhi, Jamnagar, Kolhapur, Kerala, Kashmir, Marathwada, Mysore (3 universities), Rajasthan, Sambalpur, Tirupati, Utkal, Karnatak and B.H.U. |
| III. 6 months before III Professional Examination | Four | Guntur (alongwith Ophthalmology), Pondicherry, Punjab (Amritsar, Ludhiana, Rohtak), Punjabi University, Patiala. |

It may be emphasised here that for inculcation of concepts of comprehensive health care the students require all the skill and knowledge of medicine, including clinical disciplines. To assess the student before he has acquired the necessary skills and knowledge in comprehensive health care amounts to putting the cart before the horse.

(iii) In these colleges where separate examinations for PSM are held at the final year level, the examination system itself seems faulty. While the students are supposed to be trained for comprehensive health care in the background of the family and the community, the assessment consists of only theory and viva-voce examinations and occasionally spotting of a few specimen slides, some statistical exercises and assessment of practical records (Table 2).

TABLE II

| Total marks | Theory marks | Practicals | Viva | Day to Day | No. of Univ. |
|---|---|---|---|---|---|
| 230 | 43.0% | 21.5% | 21.5% | 14.0% | One |
| 225 | 33.3% | 45.0% | 11.0% | 11.0% | Two |
| 200 | 37.5 — 75.0% (18) (Mostly 50.0%) | 15.0-50.0% (13) (mostly 25.0%) | 15.0-50.0% (13) (mostly 25.0%) | 2.5-15.% (10) (mostly 25.0%) | Eighteen |
| 180 | 55.5% | 16.6% | 27.7% | — | One |
| 150 | 35.5-66.6% (mostly 66.6%) | 26.0-33.5% (mostly 33. 5%) | — | 6.6% (1) | Five |
| 135 | 49.0% | — | 25.5% | 25.5% | One |
| 100 | 50.0-80.0% | 20.0-50.0% | — | — | Two |
| 50 | 30.0%-70.0% | — | — | 30.0% | Two |

Note: (i) % indicates range of marks allocations.
(ii) % in brackets indicate the most frequent allocation.
(iii) Bracketed figures against the % range of marks indicate number of the medical colleges in that group.

The above table highlights the fact that much weightage has been given to the theory part of the examination. The practical examinations too at most of the places are of 'lab-specimen-identification' type, usually conducted at the examiners table along with viva-voce, though the detailed information regarding this could not be collected. Day to day assessments were done only in 17 out of 32 universities (personal communication, 1970). This system of examination to assess the student's skill and knowledge in the practice of comprehensive health care and his comprehensive abilities as a 'basic doctor' in community medicine are apt to be fallacious.

The above facts make it abundantly clear that the examination system in P.S.M. fails to provide adequate support for the training programmes viz. training for comprehensive health care and as such reforms in the P.S.M. examination system are urgently required.

Mathur, et. al. (1971) have emphasised in an earlier communication also that if the present doctors are to provide comprehensive medical care, the examination in the subject should be at the end of clinical years. A definite forum for bringing the uniformity in teaching and training of medical graduates in Social and Preventive Medicine is required.

To get a meaningful experience of examination system in P.S.M., the department of Preventive and Social Medicine, Banaras Hindu University has been experimenting with a new approach described hereunder to highlight the experiences of the last eight years. A sketch of training programmes highlights the purposes and significance of examinations.

*PSM Training at Banaras Hindu University*

The teaching of PSM at BHU is throughout 4½ years and the university examination in the subject is held at the end of this period. During the preclinical 1½ years the philosophy of comprehensive health care is introduced in the light of epidemiological triad and the interrelationship of social and biological sciences to health and disease in an individual, the family and the community (Marwah, et. al., 1969). The teaching hours comprise of one hour lecture per week (total about 40 hours during preclinical period).

During first year and last 1½ years of the three clinical years, the PSM training consists of one hour lecture and two hours field training per week while during intervening six months i.e. immediately preceding second professional examination in para-clinical subjects the training comprises of one hour lecture per week



only. The students are allotted a family each for the longitudinal study of 3 years during the field training hours (Marwah, 1968). During the field visits the students are required to carry on supervised studies of health and disease situations in the families and the community and provide total medical care within the framework of existing resources. Frequent socio-clinical conferences in the field and group discussions in the classroom further crystallize the concepts and provide insight in the subject.

*PSM Examination System in BHU—*

1. Day to day assessment—Some of the objectives and purposes of assessment, as communicated in previous pages, are stimulation of the teachers and the students to work regularly, to reduce failures and to avoid anxiety and apprehension in students. To achieve this end day to day assessment has been given considerable weightage at BHU. Out of 150 marks in theory and viva voce 25 (16.6%) and 100 marks in practical 25 (25%) are given for day to day work. The theory sessional marks are given according to performance of the students in the terminal/sessional theory and viva-voce examination conducted during the course of I-V year. The practical sessional marks are given on the basis of student's performance in sessional practical examinations, practical records and specially designed students assessment cards which are maintained by respective batch teachers for performance of the students during "family advisory service". These assessments are further broad-based by involving all the senior teachers in the sessional examinations for example, each teacher is asked to put one theory question in the sessional written examination out of the topics taught by him and he is also required to assess it. Similarly, teachers are rotated to assess the students of other batches in the field practical examination. Further, the students' attendance in theory and practical class is also given due weightage.

*2. Final University Examination :*

The theory and viva voce test in the final university examination are conducted like any other place. However, greater emphasis is laid on the assessment of practical aspect and principles and concepts rather than on memorising facts and figures which are not so relevant to the understanding of subject.

*The practical examination consists of the following:*

I. A long case consisting of study and discussion on the socio-economic and health and disease spectrum of a given family.

II. Two short cases, out of which one pertains to a socio-clinical or clinico-epidemiological study and discussion on the diagnosis and management on a given case in relation to the family and the community background and another case of environmental, psycholegical or nutritional problem in the family or the community.

*The Long Case:*

In the past the students were required to present the socio-economic and disease and health situations in the family which they were required to follow up during the clinical years and the management of various problems and situations within family and community resources. The idea was to assess the students' broad understanding on the subject.

However, since 1968 the pattern has been changed slightly inasmuch as the students are now allotted a new family on lot basis because it was seen that some of the students were providing monetary help in their anxiety to improve the socio-economic and health status of the family. During the same year another change was effected i.e. the students were required to study one facet of the family e.g. environmental sanitation, nutrition, psychosocial conditions etc., because it was realised that in a given period neither the examiner nor the examinee were able to fully discuss all the problems in the family and their implications on health status. Thus it may be observed that the examination system is all the time under constant review and assessments and suitable modifications are made in the light of past experiences. The short cases are also picked up from the family and community situations. Here again the attempt by the examiners is to initiate the students into discussions around principles and concepts in the practice of community medicine. A list of illustrative examination questions are given in the appendix.

Our experience has shown that about 25 students can be examined conveniently in this manner in about five hours. The students are allowed to study and comment on long and short cases. During this period they spare 20 minutes for a few spotting and simple statisti-

cal exercises and viva-voce. This experience is not in agreement with WHO (1968, loc. cit) that both oral and practical examination even under best of circumstances are time consuming.

**Prospects and Retrospects**

It is often argued that exercises in the interpretation of data are not realistic because they neither stimulate nor duplicate the real life situations. The practical examinations where students are assigned the families are observed by the examiners, appears to meet satisfactory standards of relevance and validity, since it yeilds actual samples in a realistic context (WHO, 1968, loc. cit.). Ideally a sound examination system must satisfy two important conditions. It must be valid, i.e., it ought to measure some definite achievements which is required to be measured. Secondly, it must be reliable (use of a check list), i.e. it ought to measure accuracy of whatever it is expected to measure (U.G.C. loc. cit.).

The nutshell aim and purpose of the assessment according to Sinha (1963) is (i) to stimulate both teachers and students to work regularly and sincerely, (ii) to guide the students to learn the subject and to develop self-confidence (iii) to reduce failures. In addition to this the student should be able to logically argue in a given situation and come to a tentative conclusion (Wagle, 1966). Besides these W.H.O. (1968, loc. cit.) has proposed additional objectives which are given hereunder :

1. Opportunity to exercise attitude and responsiveness to the total situation.

2. Opportunity to test skills involving all senses with observation of performance by the examiner.

3. Evaluation of the enquiring mind.

4. Recognition of medical capabilities and limitations (which justifies the background concept of graded care to students (Leavell, 1965) within available resources).

5. Ability to establish effective relationship with colleagues and other members of health team.

6. Willingness to use medical capabilities to contribute to community and patient's welfare (which will perhaps include the action component of our B.H.U. undergraduate training).

7. In a nutshell the examination in P.S.M. should be an attempt to analyse the cognitive (application of concepts e.g., attitudes, habit values and judgements in evaluating total situation and ability to create a new synthesis), psychomotor skills in application of scientific technologies and affective domains i.e. acceptance of responsibility for patient's welfare and concern and consideration of patient and his family's welfare.

8. In conclusion, the present communication is only a short review of attempts being made by this department through 8 years of indepth experimentations by trial and error to tackle the complex problem of assessments which we finally consider as recall of core knowledge, competency during application, analyses and synthesis of facts evaluation, both rational and necessary.

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**Appendix**

Illustrative examples of long and short Examination Course.

II. Illustrative examples of long cases are

i) study the case X in the family Y and outline the management within the family's realistic life situations.

ii) Undertake contact tracing of the index case X in the familial contacts of the family Y and outline your management of the problem in the family Y.

iii) Outline the socio-economic aspects of the disease X in the family Y and discuss the health implications of the problem and your management of the same.

The case X for a family Y in (i), (ii) or (iii) might be tuberculosis, leprosy, typhoid, trachoma, rheumatic fever, diabetes, filariasis and so on.

iv) Examine the antenatal or postnatal mother or infant or toddler or school child X in family Y and outline your management.

v) Outline the possible health hazards of the large family or health hazards of family's cottage industry and your management.

vi) Outline the health hazards to the Sunderpur community of the occupation of X in the family and your management of the same. (The occupation might be a milk seller or a sweetmeat seller or a washerman).

2. Illustrative examples of short cases (both environmental and sociological) are :

(i) Outline concurrent and terminal disinfection under (i), (ii) or (iii) of 3.1. in the family Y.

(ii) Inspect and report on a well or a hand pump or a PRAI latrine or a family soakage pit or a compost pit or a kitchen garden or a family house or a school building and so on.

(iii) Report on the chlorine demand of a well water or the presumptive coliform count of the inoculated media.

(iv) Outline rehabilitation of a handicapped child. This might be a blind or a deaf mute or an infantile paralysis child.

(v) Outline the social practices connected with the infant's feeding in the family Y and your management of the health connected problems.

(vi) Outline your approach to the problem of personal hygiene or food hygiene or household hygiene or lice-infestation or helminthic infestations (i.e. children with positive stool results) in the family Y.

(vii) Outline the impacts of Employees State Insurance Scheme on the management of the case X in the family Y and (viii) so on.

MP- 8E.18

# The Role of the PHC Medical Officer in Implementing Community Medicine

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**Introduction:**

The concept of preventive medicine has widened far apart since the bacteriological era when prevention of disease was taken to mean specific immunisation against known diseases. Health and disease are recognised now as dynamic processes and not 'States' and these processes are continuously being influenced by multiple factors pertaining to the host, the agent and the environment. A balance between the favourable and unfavourable factors is health. A disturbance in the balance will result in disease. A knowledge of the natural history of disease process and the application of preventive measures at the known levels will therefore involve a co-ordination of several disciplines and organisations far beyond the reach of the conventional medical services which only aim at mitigating an obvious illness. Thus the comprehensive concept of 'Community Medicine' or 'Community Health' has come up. Community medicine now pervades the realm of the entire community and individual efforts for protecting, improving, and maintaining the health of the people. Its aim is physical, mental and social well being of the individual, and it is concerned with motivating individuals and groups to move towards that goal. And for this purpose it makes use of several methods and techniques. The entire 'Community' is the focus which is given 'Community study', 'Community diagnosis', and 'Community treatment'. The individuals constituting the community are also important; the whole is as important as the parts which make up the whole.

**What should be done?**

For a Governmental agency in a developing country like ours, the provision of community medicine would mean that comprehensive health care including preventive, curative and health promotional services should be made available to all people. Shortage of funds and trained personnel make this task difficult. However an effort has been made by the national government and the primary health centre at the peripheral level is the attempted answer to this call for provision of comprehensive health care.

The unique characteristic of community medicine is that it is relevant to every speciality of medical practice. The physician applies his knowledge and techniques to individuals whereas the practitioner of community medicine approaches the problem on a community basis by attempting to reduce health hazards in air, food, water, soil, etc. In our country both these responsibilities have to be carried out by one physician and that is the medical officer of the primary health centre. The quality and range of his knowledge and skills and his attitude towards his work will largely determine the health of the individuals and families making up the communities. Our country is faced with problems of contamination of water, food and soil by human excreta and diseases carried by animals and insect vectors. Underlying these, are factors like poor housing, poverty, illiteracy, malnutrition, and deeply rooted customs, beliefs, and habits. Working under such conditions, the medical officer of the primary health centre must play a multiple role. He must undertake the treatment of the disease in the individual, play the role of family counsellor, may have to act as health officer and administrator, and also undertake research into the basic health problems of the area.

**How should he do it?**

The programme I am trying to outline here is not new to administrators and teachers who equip the medical graduate with the necessary knowledge and skills. The duties and responsibilities of the medical officer of the Primary Health Centres have been enunciated, expounded, and discussed again and again, through circulars publications and seminars. Still we

find that the enthusiasm of the medical graduate wanes when he finds himself in the environment of the Primary Health Centre. I may submit here that I have had the privilege of participating in the training of undergraduate medical students, and following up their assignments after graduation as medical officers of the Primary Health Centres in the capacity of District Family Planning Officer for sometime. With guidance and encouragement from the supervising officers, I found, that they could perform the duties expected of them to a satisfactory extent.

The medical officer conducts out-patient clinics in the mornings in the primary health centre. Usually there is heavy rush of patients, but most of it is due to 'old patients'—those who have been already examined by the medical officer and have been given prescription. If the outpatient clinic is regulated so that the doctor sees only the new patients and relegates the old patients to the compounder for 'repeat medicine', he will be in a position to go into detailed history and do justice to clinical examination and arrive at a diagnosis. In the afternoons, he plans tours of the villages, where he combines preventive work like health education, control of communicable diseases, and supervision of the work of other staff. During these village tours, he can visit patients requiring special attention like tuberculosis. For cases requiring detailed study in the home environment, he can make a separate note and include them in his tours of the villages. During these visits to the house, he can utilise some time for health education, bringing out the points relevant to the causation and control of the particular disease. A record of such interesting case studies, including epidemiological investigations would be very useful.

In the programmes for the control and eradication of mass disease, the medical officer has a major role to play. The eradication programmes for malaria and small pox have entered the maintenance phase in many areas. Any slackness of vigilance will result in reversion to the beginning stage. Continuous supervision of the peripheral workers for coverage in vaccination, early detection and prompt control (or containment) measures in the event of occurrence of a case, will be of paramount importance.

In the programmes of control of chronic diseases like tuberculosis and leprosy, case detection and holding are essential. Since these diseases require prolonged care, the domiciliary treatment under the national programmes is not met with success. The question of defaulters poses a problem for successful treatment at home. The situation can be much improved if the medical officer infuses confidence in the patients by occasional visits to their homes and persuades them to continue the treatment with regularity. This sort of personal intervention also gives prestige and support to the peripheral worker who is not otherwise given much recognition. Again it gives the medical officer an opportunity to study the disease as it occurs and progresses in the natural environment of the home and the community.

In MCH and Family Planning programme, an intimate, informal contact with the mothers and fathers is necessary. Many medical officers neglect the MCH part of the programme and do not give adequate supervision to the work of the auxiliary nurse midwives and health visitors. They do not interest themselves in the registers maintained for MCH. It may be worth stressing that, from the records and registers maintained for MCH services alone, it is possible to obtain the birth rate, fertility rate, and the infant and preschool child mortality rate and maternal mortality rate of the area without conducting any specially-designed, time-consuming survey. In motivating the 'target couples' for Family Planning, the role of the medical officer is strategic. His active lead lends support to the extension workers in Family Planning and dispels doubts and hesitancy on the part of the people.

It may be questioned whether the medical officer can find the time to involve himself actively in all these programmes as outlined above. It is not necessary that he should overburden his daily routine. He does not have to carry out all the above functions every day. Occasional home visits, well-planned in advance, and occasional but meaningful scrutiny of the records and registers will make a lot of difference to an otherwise uneventful routine work at a primary health centre. The young medical graduate who looks upon rural health work as something like a undeserving punishment can transform it into an interesting epidemiological study which will be richly rewarding in experience.

It is in his own hands: he should have the right attitude and the will to work in the righ

direction. He is the health educator ever motivating people towards the goal of 'Community Medicine'.

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# A Guide for Planning Community Health Education Programme

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Man is both part and product of environment. His physical, psychological, social and cultural behaviour reflects in constant struggle with the environment. Any change in either man or environment of which he is a part, is *ipso facto* a change in the other. Behaviour is based on the principles of 'Hedonism' i.e. 'Pleasure seeking and pain avoiding', man adheres to his old practices, values and standards to which he is attuned and rather tries to escape from the innovations although they are more useful suiting their change and the demands of the time. This applies to the health practices also.

Health is a crucial aspect of human life, it is a complex phenomenon conditioned by a multiplicity of factors and invariably prone to constant changes. The primary responsibility of a public health practitioner is to initiate change in individual and society for the improvement in health practices. The change occurs in two ways. First is natural change which is slow and steady in nature and being a process it takes its own course in free and frank environment. Force, fear and fraud cannot be applied very easily to enhance its implications. Second is a planned change where individual interference is always possible. In this context change is always directe towards the achievement of predetermined goals. The role of change agent is to provided a bridge between many sources of knowledge and furthermore number of agencies for its application. Such a mission cannot be accomplished by mere gathering and distribution of information alone but requires broad-based public health education programme planned on scientific and systematic foundations of human learning and social change affecting the existing health values and standards.

Planned change can be introduced either by force, coercion or through education. In the case of force and fear the achievement of goal is easier, but the effect is not long lasting. As soon as the pressure of force is reduced the people will revert to their old practices. The last alternative is to bring change through education. Being a process it involves agencies at different levels, such as specialists, administrators, supervisors, workers, and the public.

To make the discussion more specific and clear these categories can be classified in two groups, specialists, administrators, supervisors and the workers as the change agent and general public and their leaders who are the recipient as the client system. Change is the net result of interplay between the change agent, client system and the environment.

Effective changes in health practices do not just happen, they have to be brought about through designing good programmes, which do not develop merely by wishing for them, but by working hard for them. The effective programmes for change in community health practices result from choice not by chance or by trial and error. Ideal planning needs actual involvement of both change agent and client system.

The efforts have been made to collect and systematise the experiences gained in the course of planning, implementing and evaluating various health education programmes in the community. The discussion in the present paper is prominently confined to the concept, factors influencing the change, principles, steps and importance of planned programme with diagrammatic presentation of a guideline for planning a community health education programme. This may be useful to professional health educationists in their practical lab. situation.

*Concept*: Programme planning for change in health practices is a deliberate course of action designed carefully to attain predetermined goals. Being a process it details out the objectives, tasks and procedures in a sequence to transform the decision into action.

**haviour**

It has been emphasised that mere dissemination of technically correct information designed for general application does not serve the purpose but needs consideration of motivating factors that shape the human behaviour. The application of principles of learning and social change have given promising results to change in health behaviour.

| Internal factors or psychological | | External factors or cultural factors. |
|---|---|---|
| 1. Past experience<br>2. Motive, needs<br>3. Aspirations<br>4. Education<br>5. Perception<br>6. Beliefs<br>7, Apprehension<br>8. Value system | → Knowledge ↓ Attitudes ↓ Behaviour ← | 1. Customs and traditions<br>2. Norms<br>3. Folkways and mores<br>4. Power structure<br>5. Communication set<br>6. Reference Groups<br>7. Service facilities<br>8. Psycho-social support |

These factors may be internal (Psychological), such as perceptions, motives, aspiration, beliefs, value system etc and external (socio-cultural) i e. customs, norms, traditions, communication set etc. play a vital role in change process.

**Principles:**

The scientific planning aims for change is always based on fundamental principles. Effective and realistic planning considers the existing local conditions and the felt needs of the community. The manageable and real approach always keeps in mind the resources (men, money and material) and the objectives i.e. short range and long range to be achieved. The involvement of client system through their leaders ensures greater success of planning. The categories and agencies involved in the programme are assigned clear-cut responsibilities with technical support. Flexible and liberal approach *widens more chances* of success with the provisions of assessment at every step.

**Steps**

The key of success in bringing the change in health practices through planning strictly depends upon the steps followed by the change agent.

The community where change is to be brought should be thoroughly studied in its total perspective such as physical, social, cultural and economic conditions prevailing.

**(ii) Location of problem and its solutions :**

It is envisaged that the health problem under consideration should be based on felt needs and the real needs of the community so that the people may feel more contented. People should be helped to help themselves rather than to give them direct solution.

**(iii) Fixing the priorities and objectives :**

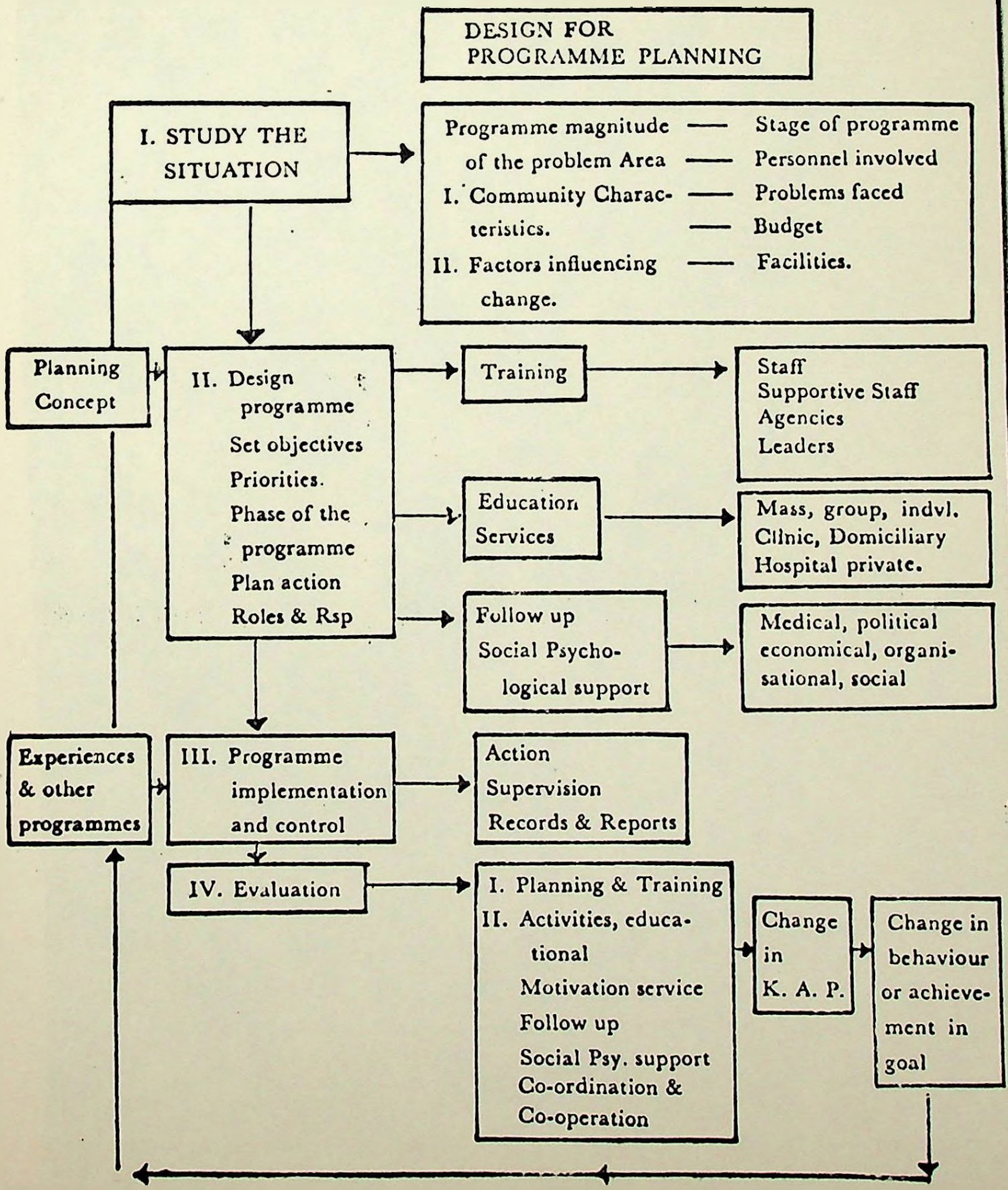
Few health problems which need immediate solution and affects the large section of the society should be taken on the priority basis. The next problem for the next time and soon. This process will develop a continuous action from the public who are the real consumers of the fruits and after sometime they will be able to solve their problem themselves.

**(iv) Plan a Programme:**

In proposed outline of the programme, involvement of local agencies, official and non-official, working in the area in other programme, should be given importance. Plan should be time-bound and target-oriented. The methods and media must be decided with the clear definition of the objectives to be reached.

**(v) Implementation of the Plan :**

Execution of the plan should start involving the community leaders, programme staff, supportive staff etc. The proper training such as orientation training, refresher courses and pre-service training will streamline the action to be taken in the community.


DESIGN FOR PROGRAMME PLANNING
I. STUDY THE SITUATION
Programme magnitude of the problem Area
I. Community Characteristics.
II. Factors influencing change.
Stage of programme
Personnel involved
Problems faced
Budget
Facilities.
Planning Concept
II. Design programme
Set objectives
Priorities.
Phase of the programme
Plan action
Roles & Rsp
Training
Staff
Supportive Staff
Agencies
Leaders
Education Services
Mass, group, indvl.
Clinic, Domiciliary
Hospital private.
Follow up
Social Psychological support
Medical, political economical, organisational, social
Experiences & other programmes
III. Programme implementation and control
Action
Supervision
Records & Reports
IV. Evaluation
I. Planning & Training
II. Activities, educational
Motivation service
Follow up
Social Psy. support
Co-ordination & Co-operation
Change in K. A. P.
Change in behaviour or achievement in goal

**(vi) Evaluation and Feedback :**

The programme assessment should move along with programme with all the stages spelling out the criteria of success and indicators of the progress. This may be done in the light of achievement of goals, input and output, process adopted, media used and co-operation and co-ordination of various agencies. The necessary modifications can be made at any stage in the light of community needs.

**Importance :**

The programme in black and white serves the purposes of a guideline and considerably helps to choose the alternative courses in order to minimise the chances of failures.

The proper sequencing of activities saves the time, efforts and resources and avoids the heavy risks of wastage The continuity to the programme is ensured through planning a programme for change and helps in evaluation and feed-back mechanism in relation to objectives defined.

**Conclusions :**

Proper planning is an integral part of all health programmes. Once it is initiated it continues till the determined goals are achieved and planning a health education programme based on needs and requirements of the people widens the avenues of greater success. Systematic follow-up of the steps in programme development for introducing new or strange into stable and resistant socio-economic and cultural milieu shall go a long way in providing scope for the involvement of people and enables them to improve their lots through changes in the existing situations.

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# Community Health and Curricula for Health Personnel

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**Introduction**

Before one goes into the main problem of curriculum planning for different categories of health workers in community health, it is essential to define the meaning and scope of the words 'Community Health', its relationship to Health Services Administration in our country and the roles that physicians and other health workers need to play in this service programme.

The phrase 'community health' as we now mostly accept is concerned with the delivery of integrated and comprehensive health care to populations as against individuals. It comprises a number of methodologies of which epidemiology is central but which also includes biostatistics, demography and social sciences more particularly behavioural sciences. Additionally, it concerns itself with the methods and techniques of health planning, delivery, administration and management and evaluation so that the benefit of technical knowledge and professional skills are delivered to the communities efficiently and effectively.

In terms of its relationship to our health services, a programme of public assistance, suffice it to say that preventive and therapeutic services which history divided into separate public health services and hospital-based curative services are being brought together as community health services under common staff and administration. Since the commencement of Five Year Plans national objectives for health services for the country require that medical care should be available to every individual and which should be comprehensive in terms of diagnostic, therapeutic and preventive care. Further, these objectives lay a special emphasis for the health care of rural populations and on people's participation by placing these services near enough for their benefit through small units of health administration and through health education. The people have also begun to assert for these objectives in the shape of growing demands by the society claiming more and more its right to receive adequate health care and to benefit from the progress in medical science and technology.

These socio-political considerations have therefore led to the district health services including its peripheral centres, and sub-centres forming the key element in health services administration in our country. These centres strive to provide basic health services to the people more particularly rural people. National disease control eradication programmes and limited programmes of health insurance and social security are also available to the public. Sophisticated health services come from the State level or city health centres including teaching hospitals and other specialised health agencies. Excepting perhaps the centres of excellence like teaching and other large hospitals all too often these centres suffer from severe constraints of finance, staff, equipment and essential supplies, transportation etc., to accomplish what needs to be done for the community. In other cases there is lack of desire and motivation to innovate to overcome such difficulties and to do whatever is possible within those constraints. This then is the level at which comprehensive health care is delivered to most of the population and the sum of the activities carried on in these organisations for this responsibility constitutes one of the basis for formulating curricula for health workers be they physicians or health auxiliaries, etc. It is therefore imperative that health personnel need to be trained no only in the technical functions and tasks bu also for administration of community healt

services at various levels including hospitals and medical practices as well as in the traditional public health measures.

**Community Health Physicians**

The third aspect in our discussion of curriculum planning for health workers relates to the roles that physicians and other health workers need to play in this service programme. Regarding the role of physicians, it may be considered at two levels: The basic physician and the community health specialist. The Medical Education Committee Report 1969 has defined the term 'Basic Doctor' as one who is well conversant with the day to day problems of the rural and urban communities and who is able to play an effective role in the curative and preventive aspects of the regional and national health problems. Besides being fully well up in clinical methods and treatment of common conditions, he should be able to judge which conditions should be referred to a hospital or a specialist. According to the Committee, he should also be able to immediately provide aid for acute emergencies and should have the necessary motivation and facilities for constant advancement in medical knowledge and methodologies of care.

The above description provides a fairly good basis for the preparation of basic doctors in technical as well as delivery aspects of these services at the undergraduate level of medical education. Curriculum therefore must be adapted to achieve the objective of creating such a medical manpower equipped with knowledge, abilities and motivation necessary for the effective carrying on of their activities in the fields of prevention, treatment, rehabilitation and, more generally, health promotion. Other adaptations would also be needed. It is evident that teaching institutions as centres of over-specialisation and excellence currently are in contradiction to the proper kind of education to the students who would be able to deliver the goods as per needs and against the conditions of limitations prevailing in our centres particularly in the district health services complexes. Medical faculties must now come forward for much greater involvement for purposes of training of basic doctors in our health care delivery system. Such a development can also lead to useful researches for improving health care delivery and influencing curricular reviews. It is the question of medical educators making serious attempts for making the process of comprehensive health care explicit to the students as they do on the hospital wards.

As the definition also provides for his role for linkages of services, a management and operational issue, for integrated and comprehensive care it is clear that our physicians even at the level of undergraduate training must be prepared for administrative responsibilities if we desire that as incharges of community health centres they function efficiently and effectively. Available data shows that there is gross under-utilization of our staff and facilities and poor guidance and supervision of workers. It seems much more is possible within the existing constraints with better leadership and if management of these centres could be toned up. A set of 'basic sciences' exists for the student who is learning to practise community medicine on a scientific basis and these are behavioural and social sciences, epidemiology, biostatistics, demography, disease prevention, administrative sciences and environmental sciences. There is now no question as to the need for the physician in community health practice to be a good administrator. He must have sound basic knowledge and skills in planning and organisation as well as in the management of personnel and finances. This training for administration must be provided in the undergraduate curriculum after which it becomes too late for most of them. These aspects, however, do not seem to be strongly represented in the existing curriculum for the training of young doctors.

The community health specialist or managerial physician has much greater and complex responsibilities and roles to play in this programme. He possesses the distinctive skills and knowledge as well as the needed attitudes for community health administration and co-ordination of different services. Broadly his involvement in health services administration rests on several roles and responsibilities as under:

1. To determine the health needs of populations in terms of both quality and quantity and to identify and working towards future needs.

2. To assess the competence, quality and distribution of health care resources within the community in terms of the assessed needs.

3. Planning, organisation, administration and management of health care services including evaluation and responsibility for their optimal effectiveness.

4. To undertake and/or promote research in health services administration for greater efficiency and effectiveness and for solution of health problems.

5. May even provide consultation services when capabilities for such a role become available.

Curriculum contents for the preparation of specialist categories of community health physicians would come from the same administrative and other sciences already enumerated before with one or two more subjects such as health economics, research methodology in community health, public administration and sciences for developing skills in human communication etc. Further, each of these subjects would go into considerable breadth and depth depending upon the category of specialist to be trained. Diploma level community health specialist may not be required to acquire that level of competency as would be the case for instance of a doctoral level community health specialist who in addition to managerial competencies may occupy positions of administrative research, consultative and teaching positions or a combination of these assignments. Here too the universally accepted idea of dividing the curriculum into 'basic sciences' and 'applied sciences' helps develop working knowledge in basic sciences before the student begins to study the applied subjects. For instance for M.D. (Community Health) programme conducted at the National Institute of Health Administration and Education, New Delhi, the subjects included in each category are as under:

*Basic Sciences*

Epidemiology
Public Administration
Social Sciences
Health Economics
Biostatistics
Demography
Research Methodology

*Applied Sciences*

Public Health Administration
Medical Care & Hospital Admn.
M.C.H. & Family Planning
Public Health Nursing
Health & Extention Education
Environmental Health Services
Occupational Health Services
Education and Training
Health Planning & Evaluation

Neither list may be exhaustive and we can have differences on this thinking. These lists are also not that mutually exclusive. Epidemiology for instance is both a basic and applied science, for community health. Research methodology is in fact an applied subject but had to be grouped with basic sciences for reasons of students requirement to have some working knowledge before he moves on to his doctoral research.

Physicians can also be involved to develop managerial competencies through short-term inservice orientation training programmes for comprehensive care as is being done at the National Institute of Health Administration and Education, New Delhi. For instance, the Staff College Course of 8-9 weeks' duration is offered to senior health executives (district level and above) coming from diverse fields such as hospital and medical care, general health services, medical education, nursing administration etc. including primary health care of rural communities. This gives the participants an opportunity of examining different administrative practices in their special fields in order to prepare them for still higher opportunities in the future. The curriculum during this training besides the contents for social sciences, statistics, administrative sciences etc. is reinforced with modern management techniques as an element of their further development for health care delivery.

An important consideration for training in managerial competencies is to elicit maximum participation of the students. This can be ensured by involving the students in various kinds of group dynamics such as the syndicates, group field studies, prepared case studies, lecture-discussion sessions, role playing, panel discussions etc. These methods greatly enhance the capabilities of an administrator in making use of his knowledge and skills for effective and efficient health care delivery as well as for effective functioning as team member. As such these teaching methodologies should be considered at the

time curricula for community health training are designed.

**Other Health Workers**

The other key personnel in the system are the various categories of health workers, hospital or institution-based and others functioning as front line health personnel or first contact functionaries with the population. Some of these functionaries would belong to full professional grades while others would be classified as auxiliaries who have to be trained simply for specific functions and tasks and to work within an organised health service providing for guidance and supervision. Their role as an instrument for development of health services and even as a factor in the development of the community at large demands their adequate preparation. Their training must be adapted to the population's needs. The first task of these workers in helping to develop the health services is to try to extend their activities to cover the whole population. So far as the fixed rural health infrastructure is concerned, observations show that only 20% of the population are reached by health services. This means at the peripheral level these workers will generally need to be mobile. This would call for a dynamic approach for their development through training so that they seek out problems instead of sitting and waiting for them duly supported by the health centre infrastructure more particularly by the middle level auxiliaries.

The principles already enunciated would equally apply for framing the curricula for various categories of these workers. The first step therefore, is to define the functions of these categories of health workers. Help to identify the functions can be derived from situational analysis and the selection of priorities in relation to available resources which influence the nature of work to be done by different members of the health team. Thereafter one is concerned to provide sound technical training for each category of personnel identified for delivery of health care services to the community. The training objectives must then be defined in terms of knowledge, skills, and attitudes to be imparted. The curricula will be prepared on the basis of these objectives which in turn would also influence the choice of teaching methods. The professional value of these categories of health workers does not merely depend on the technical knowledge and skills that they possess, their value very much depends upon the human culture and attitudes acquired by them in their capacity as health workers. They also need to be introduced to social and administrative sciences for managing their work with the people as well as for the organisations they serve. They must be able to observe, analyse and evaluate factors which influence health and understand the purpose of the activities carried on in the community.

All curricula should be sufficiently flexible for the introduction of new subjects of study or the reduction to a minimum, even the deletion, of sections which have become obsolete, or unnecessary or of low priority. As such there should be a mechanism to constantly review the objectives and curriculum contents of these programmes either by concurrent or terminal evaluation or both. Better still would be to observe the trained personnel on the job for assessing the quality of curriculum administered while under training. This is the best form of evaluation to judge whether the worker is performing the role, functions and tasks for which he was trained and whether he is able to work in organisations, teams or with people for results and solution of problems. To this extent therefore resources should be allocated for follow up evaluation of the participants for needed changes in the curriculum.

# Teaching of Preventive & Social Medicine : A Model

By

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**ABSTRACT**

Preventive and Soeial Medicine by its nature is never likely to be as interesting as Medicine or Surgery, and a challange to the teacher of this subject is to make it as effective, interesting and praeticable as any other clinical subject. With this idea a symposium was kept in PSM Department, Medical College, Jaipur, wherein the teachers of different cadres and seniority from the Medical Colleges of Rajasthan participated, and students, interms and residents staff opinion was also collected. In the currentsession teaching programmes were framed on the basis of conclusions drawn from this symposium, which proved to be highly effective and easily acceptable to the students with a desired outcome. In the present paper the methodology with outline of contents brought out from the symposium nas been presented. Such programmes can be followed by Medical Colleges affiliated to different universities with suitable local modifications.

## Introduction

In early fifties Medical Educationists realised that Medical Education is focussed on the diagnosis and management of diseases which often were not major health hazards. This preoccupation was reflected in the services provided which were costly, mainly curative and for few urbanites. This was in sharp contradiction to WHO definition of health, which stressed health for all and interdependence of promotion of health on one hand and prevention and cure of disease on other. It was then in this direction to equate disease curative service with health care, Departments of Preventive and Social Medicine were created in 1956 in Medical Colleges of India, with following expectations :

a) Undertake the teaching of Preventive Medicine and Public Health.

b) Organise and undertake teaching of Epidemiology and Social Sciences.

c) Organisation and administration of Rural and Urban Health Training Centres, for training undergraduates, so as to get them oriented on desired lines.

d) Function as a catalyst aad co-ordinator especially for clinical departments so that all of them can add preventive and social component in their teaching.

e) to play its role in preparing a 'Basic Doctor'.

Since then many methodologies have been evolved and much experimentation has been undertaken particularly at undergraduate level. Although this subject provides an important perspective, not provided by any other discipline, yet teaching of PSM could never be made as interesting as Medicine or Surgery. Bhatia (1972) collected and classified the reasons for failure to achieve the desired results in teaching PSM, from eminent medical educationists and experts in Preventive Medicine. A reason which could further be added to the list is, lack of timely provision of well organised Rural and Urban Field Demonstration Centres and develop training facility in them. These reasons might have made Shrivastava Committee (1975) to comment that PSM Departments have not met with significant success. Still the committee did not move in the direction of solving these problems.

Recently Medical Council of India (1977) in its recommendations laid down the new strategy to teach community Medicine at undergraduate level. Although the committee has rightly recommended that teaching of community Medicine be continued at all levels, but it has failed to realize that the knowledge of subject can be properly assessed only when student has studied clinical subjects well.

In the present paper a model has been prepared to teach Preventive and Social Medicine, keeping in view the contents and curriculum recommended by MCI. In all, the course of M. B., B. S. can be divided in four phases to demarcate the levels of teaching this subject.

I M.B.B.S. (Preclinical) : Theory lectures.

II M.B B.S. (Paraclinical) : Field Training and Theory Lectures.

III M.B.B.S. (Clinical) : Practical Demonstrations and Theory Lectures.

Internship : Field Training

**Preclinical Teaching :**

At the time of entering into the Medical Schools, students should be given an idea of what Medicine is ? In the light of history of public health, changing role of a Doctor in the society should be emphasised. Series of six lectures (in continuation) can be kept covering different Medical systems in existence, traditional Medicine vis a vis Primary Health Care, Role of a Basic Doctor and Concept of Team Approach.

**Paraclinical Period :**

**Field Training :** After passing out I M.B., B.S( examin, i.e. in IV Semester students should be taken to field preferably in remote rural area for 10-15 days. During this first exposure students should be encouraged to gain faith in the community and an impact should be made at this budding phases to to learn the importance of cooperative living and action and combining the physical work and intellectual pursuits. During such exposures students can learn about : a) Snrvey technique and sampling methods (b) Collection, compilation and presentaion of data (c) Rural Health Organisation (Team Approach) (d) Rural Sanitation i.e. disinfection of wells and installation of Sanitary Latrines (e) Principles and Practice of Immunisation (f) Surveillance for Small pox/Malaria (g) School Health Programme etc.

**Theory Lectures :** At the rate of one lecture a week, 15-20 lectures can ba kept in each semester during this period, covering following topics :

1. Introduction to Preventive Medicine, Behavioural sciences, sociology and Public Health.
2. Ecology of Health, Health Indicators, Natural History of Disease and levels of Prevention.
3. Concept of Dispensary and Health Centre, Community Health and role of a Basic Doctor.
4. Nutrition and Preventive Medicine.
5. Genetics and preventive Medicine.

These lectures should focus over the public health aspect and the teachers should not be over-emphatic for physiological and clinical aspects of nutritional and genetic diseases.

**Clinical Course :**

Practicals : Once a student has passed out II M. B.. B. S. Examines practical training should be started in two components.

Afternoon practical sessions
(including Field Visits)
and
Morning Posting
(emulating Clinical Ward Postings).

**Afternoon Practical Sessions :** In these sessions number of students should not be more than 15-20 for the demonstrations kept in the Department, teaching aids like models, charts, and specimens should be uscd. Evaluation of this teaching should continue through oral quizes or written objective type questionnaire. Afternoon session can be completed in approximately 50 Demonstrations and 20 visits, as outlined in *Appendix-I*

**Family Care Programme :** Family health advisory service is a tool and teaching technique for epidemiological exercise to demonstrate the relationship to health and disease to total environment and thus to enable the students to comprehend the problem in larger context Lakhanpal (1978) have defined the family care exercises as to teach systematically the Anatomy. Physiology and Pathology to be studied and therapy to be given according to the socio-economic and cultural conditions of the family in the same pattern as we study in an individual. The following method is practised in the PSM Department at SMS Medical College, Jaipur for family care training.

At one time a group of 25-30 students is posted in Urban Field Practice Area where each student is allocated two families. He notes down the particulars of family and community in an advisory note book. Students are asked to prepare a note on Medico-social factors responsible for the health/disease condition found in that family. Work of every ten students is supervised by one teacher. We strongly feel that one teacher should not have more than ten students under his supervision so as to pay full attention.

Apart from studying these families in their natural setting, each student is given a project for which information is collected by the group as a whole on the predesigned protocol. This information is pooled into common Master Charts kept at the Centre. At the end of survey, each student takes out the information relevant to his/her project from these Master Charts. After analysing data and collecting literature on the subject, presents it before his group. A list of such projects is given in Lowe and Kostnelwski (1973), students develop the concept of carrying out research work and presenting the same before a group through such an exercise.

**Morning Posting :** In the routine clinical Programme, two weeks posting in the PSM Department should be kept, in the morning hours. This posting should be utilised in teaching epidemiology which is the Central science of P. and S. M. Students should be taken to those area where clinical work of preventive and social medicine is being carried out. Appendix II shows the model of Morning Posting Programme.

**Theory Lectures :** Throughout last three semesters one to two lecture a week covering the topics which emulates the contents of Clinical teaching are to be kept viz—

Epidemiology (General, Communicable and Non Communicable Diseases).

Social and Preventive Obstetrics and Paediatrics.

Health Problems of different Age groups.

Planning and Administration including different Health Programmes.

Occupational Health and Social Security.

Mental Health

National and International Organizations.

Intership Programme (Jain and Tomor.1973).

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## APPENDIX-1

**Outline of Afternoon Demonstration/Practical Teaching in Preventive and Social Medicine to Undergraduates**

| Topic | Demonstration | Visit |
|---|---|---|
| Water | Chemistry, bacteriology and purification (4-5) | a. Filteration Plant<br>b. *Sanitary well*<br>Insanitary well |
| Air | Health effects, prevention, control and Indicators of Air Pollution (1) | Film on Air Pollution and control |
| Housing and Ventilation | Through models (1) | Visit to a slum and a modern Housing Colony. |
| Lighting, Noise and Radiation | 1 Demo. each | — |
| Solid Waste Disposal | One lecture | a. Trenching, Grounds Sewage Treatment Plant<br>b. Military Demonstration Unit. |
| Excreta Disposal | Models of different types of latrines and water closet system (1-2) | — |
| Medical Entomology | Models, specimens and slides of different insects/insecticides (4-5) | Urban/Rural Malaria Unit. |
| Disinfection | Specimen on disinfectants (1) | — |
| Helminthology | Specimens and Models of different Helminths (2-4) | — |
| Population Programme | By Audiovisual aids, Population statistics,<br>Demographic cycle and Organization of Family Planning Programme (5) | a. Urban Family welfare Clinic<br>b. R.P.P.T.C.<br>c. Film on Population explosion and Demography |
| Contraceptives | Two demonstrations | — |

| | | |
|---|---|---|
| Health Education | Different methods and media used (4) | Hospital situation for different media |
| | | Preferably to an exhibition |
| Industrial Health | Occupational Health hazards (2) | Any Industry showing health hazards. |
| | | E. S. I. Dispensary |
| Vital Statistics | Birth and Death Registration Averages, SD, Sampling | Municipal Health Office |
| | Morbidity and Mortality and Fertirity Indicators (15-20) | —Census office |

*NOTE:* 1. Such programme makes about 50 Demostration and 20 visits.
2. Benefits of local situation can be taken by keeping visits to places of public health interest.
3. Figures in paranthesis indicates number of demonstrations.



## APPENDIX-II

### MORNING POSTING PROGRAMME

| Day | Topic | Proposed Venue |
|---|---|---|
| 1. | Introduction Levels of Prevention, Breaking the channels, principles of prevention. | Infectious disease hospital. |
| 2. | Immunization | Immunization clinic |
| 3. | Cross Infection/Allocation of different area of Hospital. | Attached Hospitals. |
| 4. | Rabies | Antirabic clinic |
| 5. | Fever with rashes | Infectious Disease Hospital |
| 6. | Poliomyelitis different levels of prevention. | Rehabilitation Centre |
| 7. | Faeco-Oral group of diseases | Infectious Diseases Hospital |
| 8. | Epidemiological Intelligence | Dy CMHO (Health) Hospital Record Room |
| 9. | Tuberculosis | District TB & Chest Clinic |
| 10. | Vector Borne Diseases | Distt. Malaria Organization. |
| 11. | Presentation of Hospital study/Disinfection Procedure. | |
| 12. | Assessment. | |

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# An Experiment on Re-orientation of Undergraduate Teaching of Community Medicine*

By

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**Introduction :**

The subject of hygiene in the medical curriculum with its emphasis on impersonal services like environmental sanitation and its principles and practices metamorphosed first into Social and Preventive Medicine and lately as Community Medicine. These changes in nomenclature reflected the growing emphasis on the holistic concept of total man in total environment with greater stress on community diagnosis and management of disease processes and extending comprehensive health care to the community incorporating special personal services such as maternal and child health including family welfare, school health, nutritional services etc. This re-oriented curriculum in community medicine was introduced for medical undergraduates of Madras University during 1977. In the previous routine, the pattern of the examination consisted of a written and viva-voca test. In the newly introduced semester system, the pattern has been changed into one of written, oral and practical examination of the university level and internal assessment at the departmental level. Such a far-reaching change in the concept of the discipline warranted radical changes in the teaching methodology from abstract theoratical class room lectures to more purposeful practical demonstrations, supervised field training, integrated teaching, clini-co-social conferences and family follow-up studies. In order to incorporate these aspects of the curriculum into the teaching programme, practical schemes both for teaching and evaluation had to be drawn up. The details of these schemes are discussed in this paper.

**Material and Methodology :**

The material available being the curriculum and syllabus for teaching and the course content as prescribed by Indian Medical Council and Madras University, a time table at the institutional level was formulated. Methods of teaching consisted of lectures with audiovisual aids, demonstrations, laboratory work seminars, symposia, workshop, supervised field training, field visits, exercises on statistical and epidemiological problems, clinico-social studies and integrated teaching programmes with other allied departments. Schemes of practical training and practical examination were evolved by the Department of Social and Preventive Medicine, Stanley Medical College, Madras and three batches of students numbering a total of two hundred and sixty two trained and examined so far.

**Perject report submitted for 6th National course on Educational Science for Medical Teachers, JIPMER, Pondicherry.*

The second clinical year students who are to appear far Part I of the final MBBS. examination comprising of community medicine; forensic medicine, ophthalmology and otorhinolayngology and divided into four batches and posted for training in these four departments for one month each in the forenoons. During this one month posting in community medicine the following programme of training was implemented.

| *No. of days* | *9 A. M. to 12 Noon* | *Details of training* |
|---|---|---|
| Two | Anti-rabies clinic | Management of dog bite and prevention of rabies. |
| Four | a) Field training | At the Primary Health Centres. |
| | | 1. Acquiring knowledge about the functions and set up of P.H.C. |
| | | 2. Maternal and Child Health and Family Welfare programme. |
| | | 3. Malaria surveillance |
| | | 4. Chlorination of the water sources |
| | b) Field visits | To institutions and installations of public health importance such as water works, milk project etc. |
| Eight | a) Laboratory work | Spotters and specimens on preventive medicine, demonstration of public health chemistry experiments and statistical and epidemiological exercises. |
| | b) Under Five clinics | Maintenance of road to health card and immunisation programme. |
| Eight | Integrated teaching-clinico social case discussion | With emphasis on scabies, leprosy STD and malnutrition among children |
| Eight | Hospital services (community service) and family follow up | Kitchen diet section, water supply, ward hygiene and sterilization and record keeping at the S. M. C. Hospital. |





**Recording And Internal Assessment :**

Recording of the day to day work during the entire training was carried out under supervision in the record formulated for this purpose. At the end of the training for each batch, a model examination similar to that the university was conducted and marks obtained were incorporated in the internal assessment.

**University Examination :**

The marks allotted for the university practical examination are forty and duration for each batch is one hour The programme consists of :

a) Spotters (Annexure I)
Three specific questions were given for each of the ten spotters and students were asked to write the specific answer for these question. Mark for each question being half.
Marks allotted — Fifteen
Time allotted — Twenty minutes

b) Exercise (Annexure II)
One epidemiological or one statistical exercise for each candidate.
Marks allotted — Five
Time allotted — Ten minutes

c) Clinico social case presentation; (Annexure III)
Marks allotted — Twenty
Time allotted — Thirty minutes.

Each candidate was required to examine the given case, elicit the clinico family and social history of the patient, fill in the proforma given and discuss with examiners

**Results**

The incorporation of practicals in the scheme of training has improved the standard of understanding of the subject and created interest in the learning process of the subject besides infusing a greater sense of enthusiasm on the part of the staff For the first time a small change from disease oriented teaching in medical course has been achieved by this. It has also improved the overall percentage of result in this subject.

**Limitations**

1. Lack of specific guidelines from the university on the training programme and examination in the subject has resulted in lack of uniformity in teaching and examination pattern in all the medical colleges under the same university.
2. The time allotted for the pratical examination was found insufficient.
3. It is too early to assess whether this change in training will meet the challenge of an

educational programme of training health personnel able and willing to provide comprehensive health care.

**Summary and Conclusions**

The above experimental project revealed that the students showed greater involvement and evinced better interest in the subject and consequently more benefitted. The implementation of integrated teaching programme was found to be of great help for better comprehension and coverage of the diverse facets of the natural history of disease processes and their control and prevention. There is a felt need for early steps to standardise the practical training programme and examination scheme in community medicine in all the established departments of Social and Preventive Medicine of all medical colleges within the purview of the university of Madras.

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## ANNEXURE-I

| SPOTTERS | QUESTIONS |
|---|---|
| 1. Smallpox vaccine | 1. Identify and name the solvent.<br>2. Mention the contraindications.<br>3. Name one rare complication. |
| 2. P. Vivax | 1. Identify.<br>2. Mention the drug that is effective against this stage of the parasite.<br>3. Mention the other stages found in peripheral blood. |
| 3. Anthrax (Model) Face | 1. Identify.<br>2. Name the causative agent.<br>3. Name the preventive measures. |
| 4. Mansonia eggs | 1. Identify.<br>2. Mention the disease transmitted in the adult stage.<br>3. Mention the control measures for the equatic stage. |
| 5. Ragi | 1. Identify.<br>2. Mention the nutritive value for 100 gms. of this.<br>3. The advantages of its use over others. |
| 6. Culex female | 1. Identify.<br>2. Mention favourite breeding places.<br>3. The diseases transmitted. |
| 7. 4 AQ tablets (labelled) | 1. Mention the adult dose and duration of treatment.<br>2. What is its importance ?<br>3. What is the action of this against the parasite ? |

| | |
|---|---|
| 8. Paris green | 1. Identify.<br>2. Mention its use.<br>3. Mention its mode of action. |
| 9. Cresol (Labelled) | 1. Mention the percentage commonly used<br>2. Mention its uses.<br>3. Mention its mode of action. |
| 10. Loop | 1. Identify.<br>2. Mention its use.<br>3. How is this sterilised ? |

## ANNEXURE—II

### 1. Practical Exercises in Community Medicine

In a town the following vital data for the year 1971 was recorded.

| | |
|---|---|
| Population | 70,000 |
| Live births | 2,500 |
| Still births | 30 |
| Deaths | 1,120 |
| Infant deaths | 280 |
| Maternal deaths | 31 |
| T.B. deaths | 68 |

Calculate the crude death rate, crude birth rate, infant mortality rate, maternal mortality rate, still birth rate and tuberculosis death rate.

2. Calculate the amount of bleaching powder in grams required to chlorinate a swimming pool measuring 20'×10' and having 10' of water with 331/3% of available chlorine in bleaching powder so as to give 2 P. P. M. of chlorine (given —1 cft of water = 6.25 gallons of water).

(If definite blue colour is seen from the 3 white cup onwards, in the Harracks apparatus)

3. In a town with a adult female population of 10,000 twenty five persons were diagnosed to have cancer cervix for the past two yearss Calculate the prevalence rate of cancer cervix in that population and suggest the preventive measures to the same.

4. In a town with a population of 50,000 persons were examined for microfilaria in their peripheral blood and for clinical manifestations of filaria. Of this 50 persons showed microfilaria in their peripheral blood and 100 persons showed clinical manifestations for filaria. Calculate the microfilaria rate, filaria disease rate and filaria endemicity rate.

5. A rat flea survey was conducted in a village and 20 rats were caught one day. On combing the rats. 40 rat fleas belonging to xenopsylla cheepis species were identified. Calculate the specific flea index and comment on the result.

ANNEXURE—III

**Proforma for Integrated Approach to a Clinical Case**

Name of the patient :

Age : Sex Income

Address :

Complaint :

History of previous illness :

II Family History :

Members of the Family :

| Name | Age | Sex | Occupation | Education | Relationship to the patient. | Immunisation status. |
|---|---|---|---|---|---|---|
| | | | | | | |

Hereditary History :

Food habits

Per capita income

Expenditure

**Environmental History :**

Physical

Biological

Social—Ignorance, illitracy, customs & habits

What is the probable source of infection ?

Natural History of the Disease

What level of prevention has failed and what are the reasons for the same. ?

What are the remedial measures to be taken at the individual and community level. ?

# Evaluation of 'Morningness-Eveningness' in human Circadian Rhythms by Self-Assessment Questionnaire, A Preliminary Study in Medical Students

By

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'Morningness and Eveningness' in medical students and staff was determined by using 'Self assessment Morningness-Eveningness questionnaire' of Horne and Ostberg (1977). 64.37% students and 60.00% staff members were moderate to definitely morning type, 34.37% students and 40 03% staff were of neither type and only 1.25% students were moderately evening type. None of the subjects were of definitely evening type. An advance of 60-90 min in the arising time of morning type of individuals as compared to neither type or moderately evening type, with no significant defference in their mean bed time was also observed. Earlier awakening is due to a low thresholds for arousal associated with higher level of arousal in the morning which declines rapidly in the evening, Since the arousal level, learning and subsequent recall are significantly related, the knowledge of individual variation in circadian rhythms of our student population would help in planning their learning experiences at a time when their arousal level is at optimum and would result in better receptivity, memory and performance.

Further when these morning type students would later, as residents and casualty officers would perform duties round the clock, it is likely that they may not be at their best during evening and specially at night and their performance hence may be affected both physically and mentally. It is suggested that while alloting such emergency duties, the person's circadian variation should be taken into consideration and the 'Principles of entrainment' employed in shift work may be utilised to make them more suitable to their job requirements.

Since, O'Shea (1900) reported on the differences in cricadian rhythms of individuals and grouped them as 'Morningness' and Eveningness', these individual differences in circadian rhythm have attracted great interest. Yet only few systematic studies have been carried out to confirm these two categories, (Freeman and Hovland, 1934; Kleitman, and Folkard, 1975).

Oquist (1970) proposed a swedish language Morningness Eveningness Questionnaire which

# Teaching of Medicine in The Community* Through Field Practice Areas: Some Considerations

by

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**ABSTRACT**

*There are many obstacles to a change in the existing traditional structure of medical education. However a need exists for a radical change in view of the present social and health needs of the community and health care delivery system of the country. In bringing about such a change, the quality of medical education should not suffer. Only the contents should change to commensurate with the need of the community. This necessitates teaching of medicine in the community for which a 'teaching community' is required in addition to a 'teaching hospital' attached to each medical college. Such a community based teaching can only be organised through field practice areas. It has been emphasised that the objectives of field practice programme should be defined, in clear terms, at the first instance and the design of teaching and training may be developed accordingly. The aim and operational objectives of field practice programme have been defined. In view of these objectives some guidelines in initiating community teaching of medicine through field practice areas have been evolved. Based on these considerations an outline of a model of a rural field practice area for undergraduate medical students and for a medical college admitting 100 students has been discussed.*

**General**

Medical Education in India is at cross-roads. A critical evaluation of the existing medical education system in India, to ascertain it's utility in it's present state, will reveal that a departure from the traditional structure is imperative. It is because the medical education system of today has failed to produce doctors who can fulfil the needs of local community, both rural as well as urban. The reasons of the failure are many and have been high-lighted at many conferences and committees, national and international in character, and need not be elaborated in the present context. However it is also now amply evident that there are many obstacles to a change in the existing traditional set-up of medical education (Mahadevan, 1971).

It need no research to say that today's medical educational system is sophisticated—curative care oriented rather than priority oriented—community based. Further it has limited relevance to the jobs that need to be done by the young doctors. Medical education needs to be oriented to meet the community needs and should commensurate in contents with the existing and health care delivery system of the community and country. Hospital training, no doubt, is an essential part but it is only a part of the total training and have many serious limitations in the present social and health needs of the community. As such we have to

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consider seriously a change in our medical educational system so that the training of medical students, right from the earliest stages, can be undertaken in the community environment. This will necessitate complete orientation of medical education from the hospital to the community and will mean radical changes in the pattern of training. However it is felt that in bringing about such a change, the quality of medical education must not suffer, only it's contents should change according to the social and health needs and health care delivery system of the community.

Such an orientation in medical education requires a 'teaching community' comprising of a fairly good cross-section of the community, rural as well as urban, in addition to a 'teaching hospital'. The solution lies in developing field practice areas (urban as well as rural) attached to each medical college. It is through these field practice areas that a medical college should transform itself into a powerful and vigourous health activity to function as a social institution and in which students participate actively to undergo training in community based medicine.

It is however essential to define the objectives in the first instance and then develop the field practice areas and design the teaching and training programme in accordance with these objectives. Principal guidelines need to be enunciated to achieve these objectives.

**Objectives of Field Practice Programme**

The objectives of field practice programme have to be viewed in the broad context of the objectives of medical education.

Today in India, the objectives of medical education should be to produce good 'basic doctors' who are "professionally competent and emotionally prepared' to cater to the social and health needs of the community, rural and/or urban. They will not only be clinicians and therapists, but also will make their contribution in the preventive and promotive aspects of health of the community, functioning as Leader of the health team and making optimum use of the available limited resources.

Speaking precisely, the aim of the field practice programme should be to help produce such a 'basic doctor' with the attributes desired in him.

Operational objectives of the field practice programmes should be to orient the students to the :

i. local problems of health and disease;
ii. broad concept of genesis of diseases prevalent in the community;
iii. role of social, cultural and economic factors governing the incidence of physical and mental illnesses of the community;
iv. development of diagnostic sense which is not dependent on elaborate laboratory tests and other sophisticated investigations in handling day to day ailments;
v. population problem in relation to health;
vi. ways, best suited in the present context, to prevent and treat diseases in the family and community environment and with limited resources;
vii. problem of environmental health and their solutions;
viii. team concept, where the doctor has to function as leader of the health team, being capable of guiding other members of the team in the implementation of national health programmes and other preventive measures;
ix. development of effective communication with local population in order that he functions as health advisor to the community. With these objectives in view, guidelines for field practice programme may be evolved,

**Same Guidelines:**

The following may serve as guidelines in initiating community teaching of medicine through field practice areas :

1. The students need to be trained in an environment in the community, as similar as possible to that, in which they are actually going to work.

2. The students need to be involved in real life situations where they see and participate in the practice of medicine in the community, may be rural, urban or sub-urban. 'Make believe' type of participation is now well known for it's ineffectiveness in teaching and training programme.

3. Teaching and training of students in community settings should no longer remain to



be the responsibility of the department of social and preventive medicine alone but has to be shared actively by the other clinical departments of the faculty like general medicine, general surgery, pediatrics, obstetrics and gynaecology etc. Clinicians should recognise the field practice areas as much in their domain as the hospital and laboratory.

4. Field practice areas should be considered as projection of medical college in the community rather than a separate entity and have a pride of place in no way less than wards or laboratories in the overall set up of the college.

5. The concept of health team, with doctor as the team leader needs to be introduced. Ideally it should be such that the medical students and other health workers are trained together in the field practice areas so that they are able to understand each other's work as member of health team which is concerned with the delivery of health care services to the community.

6. A part of students' clinical clerkship time should be spent in community setting, in the field practice areas, outside the teaching hospital.

7. A purposeful and correlated curriculum need to be developed for the teaching of medicine in the community. This is essential if the limited time available, of the students, is to be gainfully utilized.

8. And finally as Tiwari (1970) has said "it will need to encompass, first and foremost a change of mind all along the line, a determination to translate into action what has been discussed over a number of years, a genuine acceptance of a new order of priorities and a recognition of a new scale of values."

With the foregoing consideration of objectives and guidelines of field practice programme a broad outline of a 'model' of field practice area and the design of teaching and training there may be drawn. It may however be confessed at the very onset, that "the idea may be easier to conceptualise than to successfully exemplify" in the present set-up, but the model is discussed here as it may have some potentialities in developing teaching of medicine in the community.

**The Model**

The model of a field practice area and design of teaching and training, which is being discussed presently, has been conceived for a medical college admitting 100 students for teaching and training of undergraduate medical students and for a rural community. However it will be utilised for post-MBBS interns and postgraduate students of any clinical subject including social and preventive medicine. Further only broad outlines are discussed leaving details which can be worked out later. The model is presented under the following headings :

**Criteria for the choice of field practice area:**

It should provide a good cross-section of the rural community and should be at a workable distance from the medical college.

It is suggested that four Primary Health Centres situated in four different directions and at a distance ranging from 16 to 24 kms. from the medical college may be selected to develop them as rural field practice area. They may be designated Teaching Primary Health Centres.

**Organizational Framework:**

At the college, the College Council (consisting of all heads of the departments with Dean/Principal as the Chairman) should lay out broad policies regarding organization of field practice areas and design of teaching and training there. The College Council should also evolve an effective curriculum.

A sub-committe of the College Council consisting of Dean/Principal as the Chairman and heads of the departments of general medicine, general surgery, obstetrics and gynaecology and pediatrics as members with head of the department of social and preventive medicine as member-secretary should work out details of the day to day programme of teaching and training in field practice areas. The District Medical Officer of Health and Family Planning/Chief Medical Officer of the District may be given ex-officio appointment in the faculty and should also be coopted as member of the sub-committee.

Some additional staff and transport shall be required at the college. It is suggested that in addition to the existing staff, one Reader/Associate Professor in each of the departments

of general medicine, general surgery, obstetrics and gynaecology, pediatrics and social and preventive medicine may be provided to undertake additional load of work as field training programme is time consuming. It is also suggested that four light vehicles may be provided for the mobility of teaching staff from the college to the field practice area in addition to a college bus for the transportation of students.

At the Teaching Primary Health Centre, the teaching and training programme shall be co-ordinated by the Lecturer in Social and Preventive Medicine who shall reside there. Additional facilities of buildings, staff and transport are also required to be developed at each of these Teaching Primary Health Centres. Additional budget will also be required to be provided. It is suggested that residential accomodation should be provided for the Lecturer and hostel accommodation for 20-25 students; hospital accommodation for additional 25 indoor beds; and a seminar/lecture room with projection equipment.

In addition to the staff already available at the Primary Health Centre, one lady doctor should also be appointed.

Medical Officer of the Teaching Primary Health Centre including the Lady Medical Officer should carry teaching designations (Demonstrators, Tutors) and may be allowed to undertake postgraduation in any of the major clinical disciplines like medicine, surgery, obstetrics and gynaecology, pediatrics and social and preventive medicine.

**Research and Demonstration Components:**

In the Teaching Primary Health Centres the usual health care delivery system consisting of medical care, control of communicable diseases (including activities pertaining to national health programmes) maternity and child health services including family planning, school health services, vital statistics registeration and verification, improvement of environmental sanitation and health education should be organised by the usual staff of the centre on scientific lines under the guidance of teachers from medical college. In the early para-clinical years, the students in small batches, should pay frequent observational visits to these Teaching Primary Health Centres along with teachers from the college to see the various functions in operation. In the clinical periods they should stay at the Primary Health Centre for a period of atleast one month to participate in these activities, in small batches of 10—15 each, in a few selected villages under supervision of teachers from the college, working with the staff primary health centre, including para-medical staff.

The seven basic functions of the primary health centre, in which students need to participate, may be developed on scientific lines under guidance of the teachers from the departments of the college as indicated below:

| | |
|---|---|
| Medical Care | General Medicine<br>General Surgery<br>Obst. & Gynaecology<br>Pediatrics |
| Control of Communicable Diseases | General Medicine<br>Pediatrics<br>Social & Preventive Medicine |
| Maternity & Child Health Services | Obst. & Gynaecology<br>Paediatrics<br>Social & Preventive Medicine |
| Family Planning | Obst. & Gynaecology<br>General Surgery<br>Social & Preventive Medicine |
| Environmental Health | General Medicine<br>Social & Preventive Medicine |



| | |
|---|---|
| School Health | General Medicine<br>Paediatrics<br>Ophthalmology<br>Dentistry<br>Social & Preventive Medicine |
| Vital Statistics | General Medicine<br>Social & Preventive Medicine |
| Health Education | Social & Preventive Medicine<br>General Medicine<br>General Surgery<br>Obst. & Gynaecology<br>Paediatrics. |

Joint Clinics at the Primary Health Centre and community rounds may be held in the villages along with students for practical teaching and training in the field. The students by rotation should attend to indoor patients, outdoor clinics, emergencies, domiciliary confinements. etc.

In a few selected villages around the headquarters of the Teaching Primary Health Centre, comprehensive health care may be developed. Students being made responsible for curative, preventive and promotive health care services of a few, say about 20 families, which they look after and follow during their posting at the Teaching Primary Health Centre. The same families may be alloted to the new batch of students posted subsequently to maintain the continuity of care. This innovation may bring about some new ideas for a family based comprehensive health care programme in rural areas and may be a very good piece of research in medical care delivery system through participation of students.

What is actually needed is the following to be demonstrated to the medical students in the field practice area:

—Existing health care delivery system in operation in the rural areas;

—Simple diagnostic techniques;

—Community outlook towards problem of health and disease and their prevention and treatment;

—Comprehensive health care for rural community as ultimate goal in health care delivery system.

**Administrative Coordination**

The field practice areas should be administered by the Dean/Principal of the college who may designate one of the teachers from the departments of social and preventive medicine to run the day to day administration. However it is desirable that a full time officer-incharge of the field practice areas like the Superintendent of a Teaching Hospital, may be appointed to run day to day administration of the field practice areas and develop liason with the district health authorities. He should be with a postgraduate qualification in public health.

As mentioned earlier, the field practice area should be considered as projection of the medical college and not as a separate entity belonging to one particular department. Clinicians should be as much involved in the teaching, training and practice of medicine in the field practice areas as the teachers from the department of social and preventive medicine.

In the end I conclude with the remark that for developing an effective teaching and training programme in the field practice area, it is essential that the faculty members develop tolerance for each other, develop cooperation among themselves and finally interdependence in the teaching of medicine in the community.

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# TRAINING OF MEDICAL STUDENTS UNDER COMMUNITY MEDICINE POSTING



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## ABSTRACT

As per the recommendation of the Medical Council of India, the second clinical year (senior) students of JIPMER are imparted training under "Community Medicine Posting" by Department of Preventive and Social Medicine in rural field practice areas. Batches of 15 - 20 students are posted for 3 hours every day for one month. Based on previous experience the programme has been modified and phased as Village Health Survey, Community diagnosis presentation and Clinico-social case presentations. Analysis of pre-tests and post tests showed that the knowledge of the students improved significantly after practical field exposure in the community medicine posting. Their attitude towards villagers also changed. Students liked the programme and felt that it helped them.

## INTRODUCTION

As per the recommendations of the Medical Council of India, [2,3] the community medicine posting for II nd clinical year (senior) students is being carried out in JIPMER, Pondicheery since Feb. 1980. Bansal *et al* [1] have reported about the community medicine posting in JIPMER including the educational objectives and methodology. Since then the posting was modified based on feedback

from students and staff. This article reviews the modified community medicine posting in JIPMER and analyses the same for the year 1985.

## Educational Objectives of the Community Medicine Posting including Clinico-Social case Presentations:

There was no change in the educational objectives of the Community Medicine posting and Clinico-social case presentations. These were:

### a) Community Medicine Posting

At the end of the posting the student should be able to — i) plan and organise a health survey, ii) describe the demography and socio-economic status of the population surveyed and compare the same with national statistics, iii) identify the health needs and problems of the community including the type and extent of common morbidities prevalent in the area, iv) interpret the health statistics of the community, v) describe the health sources available to the community, vi)suggest appropriate promotive and preventive actions to be taken.

### b) Clinico-Social case Presentation

The student should be able to — i) elicit the agent, host and environmental factors in the natural history of disease, ii) suggest appropriate promotive, preventive and curative measures for the patient, his/her family and the community.

## Details of the Modified Community Medicine Posting:

The II nd Clinical year students (seniors) are posted in batches of 15 - 20 (total about 60) in the Department of Preventive and Social Medicine for one month between 1000 to 1300 hrs. every day. The day-to-day work schedule is given in annexure I.

## Modifications done in the Posting

During the first few years from 1980 the community diagnosis part of the posting was only for 10 days including analysis and presentation. Then students were taken to the urban field practice area for 8 days to work with field health personnel and thereby understand their working pattern and also to work on the clinico-social case alloted to them (Bansal *et al*,) [1]. Later based on the periodic staff review meetings in the department and suggestions from students to improve the community medicine posting, the urban health centre posting was stopped and the posting in rural area was increased, since students indicated that they wanted more time to work in the village for community diagnosis; besides, they are taken to urban field practice area once every week for their family health advisory proagramme which is spread over two semesters.

The various changes made in the community medicine posting were:

**1.** Administration of pre-test and post-test (see Day 1 and 25, Annexure I).

This was to assess the gain in knowledge of students through the postings.

**2.** More time for village health survey to allow satisfactory coverage.

**3.** Visit to the local PHC and local office for reg-

istration of births and deaths.

4. Daily health talk by students.

5. One full day for school health.

6. One seperate day for chlorination of a well and environmental sanitary round.

7. Cases for clinico-social presentation were identified by the students from the village during their health survey.

**Analysis of Pretests and Post-tests for the year 1985:**

A total of 61 students attended the pretest and 59 attended the post-test. For purposes of analysis the following grading was used according to the percentage of correct responses to each question, viz;. below 30% - poor; 30% to 50% - below average; 50% to 60% - average; 60% to 70% - above average; 70% to 80% - good; 80% and above - very good.

**TABLE 1**

**Students' knowledge about general life and socio-economic status of villagers**

| Questions | Correct responses in % Pre-test | Post-test |
|---|---|---|
| 1. % of rural population in India | 80 | 85 |
| 2. Common occupation in villages. | 78 | 90 |
| 3. Common crops grown | 70 | 92 |
| 4. Village administative set-up. | 98 | 98 |
| 5. Common type of houses | 72 | 73 |
| 6. Whether over-crowding is a problem. | 96 | 97 |
| 7. Common source of water supply. | 88 | 92 |
| 8. Is water chlorinated regularly. | 91 | 95 |
| 9. Method of refuse-disposal | 86 | 88 |
| 10.Method of excreta disposal. | 98 | 100 |
| Average | 85.7 | 91.0 |

The pre- test showed that an average of 85% of the students had correct ideas about general life (including general health practice)and socio-economic status of villages as evidenced by their responses to questions like percentage of rural population in India, village administration, common occupations, common crops grown, common types of houses, whether overcrowding is a problem, common source of water supply, method of refuse and excreta disposal etc.(Table 1).

But this was not so regarding demography, vital statistics, health knowledge, attitude and practices of villagers, health care, health services including duties of field health personnel, etc. The knowledge of students in these areas was poor to below average on the whole ( 28% ) in the pre-test. But this changed significantly in the post-test -average to very good on the whole (65%) - which indicates that practical field exposure helped the students in these areas. Details are given in Table 2. This was found true even in the last batch of students which attended the posting in rotation by the term end and therefore had already underwent most of the theory classes.

The attitude of the students about the villagers also changed. In the pretest most of them felt that rural people were uncooperative , suspicious and very superstitious. During the post-test they felt that villagers are more cooperative, trusting and only somewhat superstitious. Their attitude was the

**TABLE 2**

**Students' knowledge in pre-test and post-test**

| Questions | Correct responces in % Pre-test | Post-test |
|---|---|---|
| 1. Male female ratio in India | 47 | 68 |
| 2. Average family size India | 5 | 51 |
| 3. Literacy rate | 18 | 76 |
| 4. Monthly per-capita income | 18 | 81 |
| 5. % population sick at any given time | 28 | 61 |
| 6. CBR | 8 | 59 |
| 7. CDR | 5 | 56 |
| 8. IMR. | 26 | 63 |
| 9. Antenatal cases per 1000 | 14 | 22 |
| 10. Eligible couples per 1000 | 2 | 5 |
| 11. Beliefs of villagers about causes of diseases. | 59 | 86 |
| 12. Most popular family planning method in villages. | 34 | 80 |
| 13. Health personnel available in the villages | 54 | 90 |
| 14. Person giving immunisation in villages. | 26 | 76 |
| 15. Routine immunisation to under five | 13 | 25 |
| 16. Persons providing antenatal care in villages | 46 | 81 |
| 17. Persons conducting most of the deliveries in Villages | 56 | 85 |
| 18. Place where delivary is commonly conducted in villages. | 58 | 98 |
| Average | 28.7 | 64.6 |

**TABLE 3**

**Students' assessment of their gain in knowledge through the community medicine posting**

| Questions | Poor | Fair | Good | Very Good |
|---|---|---|---|---|
| 1. Clinical ability under rural conditions | 17 | 57 | 17 | 9 |
| 2. Understanding Epidemilogy and natural history of disease | 2 | 27 | 59 | 12 |
| 3. Application of principles of prevention in clinical practice | 5 | 26 | 47 | 22 |
| 4. Ability to establish good relationship with villagers. | 2 | 20 | 46 | 32 |
| 5. Understanding socio-economic factors in disease. | 4 | 13 | 46 | 37 |
| 6. Health education | 4 | 37 | 37 | 22 |
| 7. Other community health measures. | 14 | 30 | 46 | 10 |
| 8. Ability to get along with professional colleagues and auxilliaries. | 7 | 23 | 46 | 24 |
| 9. Ability to learn from practical experience. | 2 | 18 | 46 | 34 |
| 10. About rural life. | | 17 | 49 | 34 |
| 11. Research and survey methodology. | 12 | 35 | 34 | 19 |
| Average | 6.2 | 27.6 | 43.0 | 23.2 |

same both in the pre- and post-test about the villagers' friendliness. dependability, honesty and religiousness. It may be noted that more students in the post-test felt that the villagers are pessimistic. Students also understood and appreciated important aspects like community involvement, health economics, and multisectoral approach in solving problems related to health .

While assessing their gain in knowledge through the community medicine posting, on an average 23.2%of the students rated it as very good , 43% felt s good, and 27.6% termed it as fair. Table 3 gives the figures in detail. It may be noted that almost 70% of students termed their gain as "good/very good" with reference to understanding epidemiology and natural history of disease, application of principles of prevention in clinical practice and understanding socio-economic factors in disease, whereas 57% students termed their gain as only "fair" with reference to clinical ability under rural conditions indicating that there is need for reinforcement in the latter category.

**Students' suggestions to improve the posting**

1. Most of the students felt that the posting should be increased by another 15days.

2. They felt they can meet all the people in the village if they go to village in the early morning hours (eg. 0700 hrs.) rather than 1000 hrs.

3. They felt that they should stay in the village itself for the whole month of the posting to allow comprehensive understanding of their life.

4. Students were of t iew that the questionnaire for village health survey should be structured by themselves after briefing and guidance.

5. Students felt that nutritional survey can also be included in the health survey.

## CONCLUSION

In addition to the theory and practical classes direct field exposure of students in the practice of Preventive and Social Medicine helps them to learn and remember more. Personal involvement helps in reinforcement of knowledge.


## ACKNOWLEDGEMENT

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## ANNEXURE I

## DAY-TO-DAY SCHEDULE DURING COMMUNITY MEDICINE POSTING

**Day 1** : pre-test is administered to the students on the following regarding the villages : 1) Demography, 2) Topography and geography, 3) Socio-economic status, 4) Environmental sanitation , 5) Health knowledge, attitude and practices (including customs and beliefs), 6) Vital statistics, 7) Health care and health administration , 8) Students' idea of rural people.

Then a detailed briefing is done on community diagnosis and methodology of village health survey.

**Day 2:** Students are taken to the village of posting. They identify the village leaders (formal and non-formal), talk to them and win their confidence and cooperation for conducting the health survey of their village. They also make a spot map of the village.

**Day 3-9:** Students do the house-to-house village health survey in smaller batches (3-4) and collect data with the help of a predesigned questionnaire. Everyday they give health talk to groups of villagers on specific, relevant topics.

**Day 10:** Students visit the local school/balwadi/ anganwadi and carry out a detailed sanitary round of the school. They do health check-up for the children and if possible see the school health records. Health talk is given to the children.

**Day 11:** A sanitary round of the village is done to observe the environmental conditions and a health talk is given. They also chlorinate a well.

**Day 12:** Students are taken to the local PHC. They have a meeting with the health workers to understand their duties and their nature of field work. Later they visit the office of Registration of births and deaths.

**Day 13-14:** Students in small batches (4-5) work on selected clinico-social cases of public health importance which they have identified in the village like: pulmonary TB, leprosy, malnourished child, expectant mother, any other communicable or non-communicable disease of interest like RHD, enteric fever, STD, etc.

**Day 15-19:** Presentation and discussion of clinico-social cases are done with a senior faculty staff as moderator.

**Day 20-22:** Students do analysis of data collected.

**Day 23-24** : Presentation and discussion of community diagnosis and recommendations with a senior faculty staff as moderator.

**Day 25** : Post-test is administered on the same pattern as the pretest. In addition students give their own assessment of gain in knowledge through the posting and also give suggestions to improve the posting.

# Needs for Understanding Community Medicine

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During the past few years, there has been much discussion concerning the need to re-orient medical education and medical practice so as to provide better total service to the public. Medical science has been progressing rapidly, particularly in the past 50 years, to a point where brilliant results can be obtained, but often only through the expenditure of ever-increasing financial resources. While no one would deny the right of all individuals to the best care possible, it is obvious that only wealthy societies or affluent individuals can afford the same.

Because of this, and because it is generally accepted that the medical community has as its primary responsibility the health of the total population, new methods of health care delivery have been looked for. To this end, community health programmes have been initiated and developed. Their basic goals have been to provide the best care possible to maximal population within a reasonable cost. However, development of the basic delivery systems is the responsibility of Government and is sensitive to political changes. Unfortunately, too frequently, in the past particularly, those responsible for beginning or managing such systems have been too far from the actual fields of service to understand their numerous problems. Unfortunately, only infrequently have physicians with adequate field experience been associated with the programming agencies. Equally unfortunately, too few physicians have such field experience. This, however, seems to be changing and many physicians are seeking to establish community programmes which will be suitable to the environments in which they are situated. However, too often these programmes are based upon the genius or commitment of one or two workers who stimulate others to join with them. Not often enough are they based on doctors or para-medical workers trained purposefully in these fields.

The solution is obvious. The solution is to get physicians involved and interested in community medicine. Before examining possible methods of developing physicians so skilled, we should examine and determine what we mean by 'Community Medicine' and what we expect of those who might commit their life efforts to this work.

We believe it is very important to recognise that community medicine is *not* simply another term for public health. While the two are undoubtedly related, as indeed, are all forms of medicine, public health to-day has certain very definite commitments; in the preparation and control of epidemics, and in the overall sanitation and water-supply of the community. While community medicine must encompass many of these aspects, it seeks to go further and to determine the needs of the individual community, and how best they can and should be met, and eventually develop a programme for this purpose. In accordance with this, community medicine includes a large amount of practical therapeutic medicine which will vary from one geographical district to another, but certainly will include, in India at least, knowledge of communicable diseases, nutritional deficiencies, maternal-child health family planning care besides, internal medicine, ophthalmology, public health, and some of the more simple surgical skills. The community health physician to-day must be able to diagnose disease, to treat the majority of ailments, and to know which conditions require referral for specialized therapy.

As stated earlier, the problem has been to get physicians involved and motivated to work in this field. To say that such service is not challenging is puerile, to say it is not intellectually stimulating, is ignorance. There are not adequate inducements, however, to-day or nor have there been so in the past. Motivation of physicians has frequently been a desire

to serve. While this is the ideal motivation, there is no question that financial remuneration, and position in society have also played a very large role. Indeed, it is wrong to expect all physicians to be motivated by the concept of service and by this alone, even as it is wrong to expect all lawyers or engineers to have similar motivation in their work.

Accepting the fact that financial remuneration and social status are motivation in any field of work, it becomes important to ask ourselves if we have provided these stimuli to encourage physicians working in community medicine. The answer is an unequivocal no. The physician who goes into a clinical field such as surgery or medicine may rise to be a professor, a physician of status, or he may enter private practice and receive large monetary rewards which are certainly unavailable to those in the fields of community medicine or its allied branches. The innate abilities of the community physicians and the surgeon may be equal but recognition of this by the public as well as by the medical profession itself is not. It, therefore, becomes important to establish measures to recognize both the importance of community medicine and the ability of the physician who is well trained and capable in this field.

We, therefore, propose and believe that community medicine should be recognized as a separate and distinct postgraduate field of study and should receive suitable educational and financial rewards. Quite obviously the academic reward would be the establishment of suitable and recognizable degrees in community medicine and the financial rewards would be to recognize community medicine as a specialized field in its own right. Without this, we do not believe that it is practical in India to-day to hope for adequate development in this most important and most pertinent area.

It is easy to say there is no syllabus for education in community medicine. This is a specious argument, for the development of such a syllabus could easily be stimulated by agencies such as the Indian Medical Council, the Association of Physicians of India, or the office of the Director of Health Services. Clearly any such syllabus must include basic therapeutics in the fields of medicine, dermatology, pediatrics, obstetrics, and gynaecology and ophthalmology. Surgical fields should emphasize minor surgery and the recognition of major surgical problems needing referral to more specialized centres. Quite properly a large segment of time must be devoted to public health work, and we believe experience in administration and the development of useful para-medical workers should be included. It is our belief that at the end of training, an examination should be given and accreditation awarded if the candidate be successful.

Where should such a training take place? Medical Colleges, affiliated as they are to Universities, should not be the only places. The present curricula direct the attention of the student to the minutiae of the diseases of the few who *come* seeking help, and the needs of the community from which these patients come is often overlooked. While none would understimate the importance of good medical care being given in hospital, there is no hope of training doctors for the developing world so long as this aspect of their training is left to department of Social and Preventive Medicine. This department is probably the one which can most easily co-ordinate theory, field work and the active participation of all the clinical departments. Ideally this could be done by having in each clinical department at the level of Assistant Professor, a teacher responsible for the Community Medicine teaching of that department. This does not mean that he alone will teach this aspect but, will see to it that the community health teaching to the undergraduates posted in his department is taught by the most appropriate faculty member, for example, malnutrition in the homes, by the teacher in the pediatric department whose special interest is in disease of nutrition. This person will have to work with communities to be able to appreciate the needs of community.

Entrance into Medical Colleges is highly competitive and few who gain admission do so with the ambition of becoming Community Health Physicians. This term is still synonymous with the need to live in a village, to forgo the amenities which many now consider necessities, and to commit social if not professional suicide since this speciality has until now no post-graduate training or qualification.

However, few of us who are specialists to-day, entered medicine with that speciality in mind: opportunity in certain departments and the enthusiasm and expertise of clinicians whom we admired were factors which influenced many of us. Why could this not be true for Community Medicine?

In Christian Medical College, Ludhiana, we have realized the need for exposure of the medical students from the first year, to the community, its problems and the relevance to the course they have started. Someone, usually the community health team with the help of the Social and Preventive Medicine Department guides the students in their involvement with families in the city area, and conducts regular meetings of the whole class and teachers to share information and discuss problems. Faculty committed to Community Medicine could alter the present curriculum without any radical changes at Medical Council of India or University level, i.e. we do not have to wait for these changes although obviously they are desirable and must come. Concurrently, with the formal course in Social and Preventive Medicine the clinical students are exposed to the community aspects of all they are learning in the wards, every lecture course can have at least one session devoted to the community aspect of the subject, and in this way the faculty themselves receive the training in a skill which is new to them and and increases not only their knowledge, but effectiveness as teachers. As the course proceeds, the students are taught in the community as well as in the wards. For example, the field staff finds a problem in the course of their home-visiting. It may be a child with malnutrition, a man with bladder stones, a diabetic case or rheumatic heart disease. The field team 'work up' the family, send a synopsis to the appropriate clinical teacher, pediatrician, surgeon or physician respectively and that teacher, instead of bedside teaching in a ward, will take his class to the home where the field team present the problem. Teaching on all aspects is given by the clinician who may at first need guidance from the Community Health Department but soon learns that what is needed is the highest quality of clinical teaching. This is teaching not 'watered down' by the field circumstances, but 'sharpened' so that the potential doctor is being taught to manage the situation without complicated facilities, i.e. his clinical acumen is being trained and less reliance is being placed on his ability to interpret a battery of expensive laboratory procedures, which are largely irrelevant for the developing world.

By the time that the final examination is over the student is prepared for community internship. This, therefore, is not a new speciality of which the intern is afraid but one in which he is already familiar with the problems. He already knows how to study a community, learn its needs, make a community diagnosis, make treatment programmes and evaluate their effectiveness and understand the priorities of the community. This makes his internship interesting as he learns managerial skills and how to become a leader of the medical team. Already we have found that, just as one's first house-job often decides one's future career, community health internship motivates the graduate to take this discipline on a career basis. This has already happened in Christian Medical College eventhough the undergraduate preparation is still not being done in sufficient depth by a sufficiently large proportion of the faculty. However, once a young doctor has caught this vision and sees in this a challenge demanding the highest possible curative skill and continual education rather than stagnation in a *cul de sac* where third class practice goes unnoticed, the problem now is, what is the next step? Following graduation field experience is mandatory, but there comes a time when a post-graduate qualification is not only necessary for his own professional satisfaction, but the lack of this may debar him from holding a teaching post where he in turn can influence others. Therefore now is the time to press those responsible for the under-and post-graduate curricula of the country to lose no time in reshaping the training programmes that the potential community physicians, who are already enthusiastic about remaining in this field, may not be discouraged and leave it for areas where the rewards are more easily obtained.

# Health Needs of The Community *

by

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1. The theme of the Third World Medical Education Conference that was held in Delhi in 1966 was "Medical Education in the Service of Mankind." It is indeed appropriate that the 4th conference in 1972 is following it up as a logical sequence the "Educating tomorrow's doctors" as its theme.

1.1 Evolving Mankind : Evolving man has passed through three phases. The first was strictly biological and during this phase human beings acquired the basic habits of dealing with one another which still govern the behaviour of the individuals, communities and nations. The Second phase was the beginning of cultural development like domestication of animals, hunting, arts and crafts, religious practices and seeking of new things. The third phase began with the Neolithic Man and in the last 10,000 years, gradually acquired all the qualities and culture of modern civilization and inventions. Health as a part of cultural development began to appear as a great human activity. At the end of this phase in 1945, Man developed the capacity to destroy himself by inventing the nuclear device. The fourth phase ushered the organisation of United Nations and the allied agencies for the benefit of all mankind.

1.2 The march of progress and development, however, has not been uniform for all mankind and as such in this spaceship "Earth" there are three words with different social systems with different needs. The First, the World of the advanced Western Nations with the highest Gross National Product; the second, the Communist World with a different social system and social values and the third the World of the less developed countries in different stages of social development, burdened with poverty, sickness, illiteracy, and struggling to benefit from the advances made in science and technology to catch up with the other two, as speedily as possible. As such when the question of educating the tomorrow's doctors is considered, it is necessary to ask, for which World? The needs of the communities and the people of the third World in Asia, Africa, Latin America and West Pacific island are different and their environments physical, biological and social are so varied.

1.3 In the preamble to the Constitution of the World Health Organisation, the following are some of the principles enshrined :—

"Health is a State of complete physical, mental and social well-being and not merely absence of disease or infirmity.

"The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic and social condition.

"Governments have a responsibility for the health of all people which can be fulfilled only by the provision of adequate Health and Social measures."

All the Governments who are UN members have attested to the above principles.

With the organisation of the UN and its allied agencies, the revolution of the rising expectations of the peoples of the emerging countries and the Health revolution are set in motion.

* Presented at the Family Health Workshop, India International Centre, Organised by the Population Council of India,



**2. Health Status and Health Needs**

In determining the Health needs, the Historical, Political, Cultural, Economic, Demographic, Environmental, Epidemiological and Scientific and Technological, etc. determinants have to be considered.

2.1 Historical determinants: The Bhore Committee (1942-46) in its recommendations kept some of the following principles for future health development in our country.

"No individual should fail to secure adequate medical care because of inability to pay for it.

"In view of the complexity of modern medical practice the health services should provide, where fully developed, all the consultant, laboratory and institutional facilities necessary for proper diagnosis and treatment.

"The health programme must, from the beginning, lay special emphasis on preventive work. The creation and maintenance of as healthy an environment as possible in the homes of the people as well as in all places where they congregate for work, amusement or recreation are essential.....

"The health services should be placed as close to the people as possible in order to ensure the maximum benefit to the communities to be served. The unit of health administration should therefore be made as small as it is compatible with practical considerations.

"It is essential to secure the active cooperation of the people in the development of the health programme.....

2.2 Political Determinants: The Directive Principles of State Policy in the Constitution of the Republic of India state as follows :—

"The state shall, in particular, direct the policy towards securing.....

.....that the health and strength of workers, men and women and the tender age of children are not abused and that citizens are not forced by economic necessity to enter a vocation unsuited to their age and strength.

"The State shall within the limits of its economic capacity and development, make effective provision for securing the right to work, to education, and to public assistance in cases of unemployment, and in other cases of undeserved want.

"The State shall make provision for securing just and humane conditions of work and maternity relief.

"The State shall regard the raising of the level of Nutrition and the standard of living of its people and the improvement of the public health as among its primary duties."

The Planning Commission was established in 1950 and Health development has been taken up as an integral part of the socio-economic development of the country. The Health sector has received about 4 to 5% of the plan outlays for its programmes. They are broadly, establishment of Primary Health Centres in the Rural areas and expansion of institutional facilities; development of Health Man Power, Control of communicable diseases such as Malaria, Smallpox, Cholera, Tuberculosis, etc; environmental hygiene; Family Planning and other supporting programmes for raising the standard of the health of the people.

2.3 Cultural Determinants: The cultural determinants of the Health care system in India had a great past from the time of the Indus civilization. The Ayurvedic system was at its height upto the Moghul Conquest when the Unani system was introduced. These two systems still flourish in the country and a large population patronise and obtain relief. With the advent of East India Company, Western medicine was introduced and the public health movement started. The present Hospital system began in Madras, Calcutta, and Bombay and later at the headquarters of the districts and Taluks besides rendering medical relief through dispensaries and mobile units to serve remote areas. To man these institutions, Medical Colleges and Medical Schools were established on the lines of the then prevailing system of medical education in U.K. with little emphasis on community medicine.

After the advent of independence parallel systems of medicine are operating, with the encouragements of the Government, though by and large the modern system of medicine is gradually extending its scope and services. Primary Health Centres are developed in 5500 blocks each with 80 to 100 thousand population, and they are expected to offer integrated health services to the people.

The cultural determinants are further hampered by linguistic, ethic, religious beliefs, customs, poverty, supersition and illiteracy impeding the progress of modernization and social change.

**2.4 Demographic Determinants:**

2.4.1 India with 2.5 per cent of the world's land area has 15 per cent of the world's population. The population of India recorded at the 1971 census was 547.4 millions with a ratio of 932 females to 1,000 males. Population growth is 2.45 per cent per annum. The density of population is 180 per square km. The literacy rate is 29.35 per cent (Males 39.49 and females 18.47 per cent). The urban population is 108.8 million (19.9 per cent) with 438.6 million (79.1 per cent) rural population.

The birth rate (Sample Registration System) is 38.8 Rural (1969) and Urban 32.8 per 1,000. Total 37.5. The death rate (S.R.S.) is 17.5 per 1,000 in 1969. Total mortality is estimated as 9 million (1961). Infant mortality rate (1969) 139 (1935) 174. Age specific Infantile mortality rate for 1969 shows:

| | Total | Below 7 days | 7-28 days | 29 days to 6 months | 6 months to 1 year |
|---|---|---|---|---|---|
| 1969 | 139.9 | 42.7 | 32.1 | 42.7 | 22 6 |

The expectation of life (1968) is 53.2 males and 51.9 for females. Basic data and Age specific death rates (1961) (Annexe).

Population increase over 1951 census is 213.7 million.

2.4.2 Population Pressure: The interaction between Population and health is well known. Health in the family or a social group depends on the dynamic relationship between the numbers and the space they occupy and the skills they have acquired to provide for their needs. The well-being of a family or a social group or a nation depends on the ratio between resources and population. If the resources are constant and the population increase in numbers the levels of living will fall, in a family or a nation.

In India children under the age of 14 number nearly 210 million (1961) i.e. 40 per cent of the total population. This large dependency rate consumes the savings leaving very little for investment for development to raise the levels of living. Further one third of the children die before the Age of 5. The total deaths under the Age of 14 are 3.28 million a year and under the age of one 1.4 million. The differential mortality according to social class indicates that the majority of deaths occur in the third, fourth and fifth social classes. Considering the money value of man and the economic loss that is incurred consequently it is for consideration whether this huge economic waste should be permitted to go on or it is to be prevented. The relationship between Fertility and infant and child mortality has been fully established.

Population, Food and Nutrition are interrelated and nearly all the problems of family life and Family Health depends on its size.

Public Health and Medical education are vitally concerned with population, their numbers, age, sex, composition, migrations, birth and death rates in Age specific groups. Overpopulation affects the health of the community adversely both physically and mentally.

Population in India is growing at the rate of 2.4 per cent per annum which means the population would double itself before the end of the century unless effective steps are taken. Winslow has made out that poverty breeds disease and disease breeds poverty. After the advent of the demographic revolution a new phenomena is taking place. Poverty-disease-population increase-Poverty-disease. This chain of interactions can only be broken by the adoption of fertility control.

**2.5 Environmental Determinants:**

2.5.1 Housing: National Sample Surveys showed that in Rural areas about 73 per cent of the households live in "Kucha" and about 2 per cent in "Pucca" houses; in urban areas such houses are 25 per cent and 8 per cent respectively; the remaining ones both in urban and rural area being of the mixed type i.e. partly "Kucha" and partly "Pucca". Density per room in rural areas was found to be 2.4 persons and in urban areas 2.2 persons. Average floor area per person in the rural and urban area was 77.8 and 69.5 square feet respectively. The conditions in the Metropolitan and industrial cities and capital towns are much worse.



2.5.2 Facilities such as tap water, etc. are largely unknown in rural areas but by the end of the third plan 1700 villages are provided with piped water supplies. 30 per cent of the villages and hamlets are without adequate water supply. 20 per cent are without any satisfactory source of water supply. People mostly depend on wells, ponds, and tanks for drinking water. In urban areas 47 per cent of the households do not have tap water facilities and 30 per cent depend on wells, tanks, etc.

2.5.3 Sanitation: Even after the three plans, the environmental sanitation with particular emphasis on water supply and sewage disposal remains one of the major public health problems on account of enormous outlay that is required. About 2 million deaths are caused by water borne diseases and about 45 million people suffer from ankylostomiasis.

2.5.4 Urbanisation, Industrialisation and rural, urban migration:

The 1971 census has shown with 19.9 per cent of the population are in the urban areas. It should be noted that a population of 109 million from the urban India which alone can rank among the biggest countries in the world. On further analysis it is found that 142 cities, with 1,00,000 or over, have 52.4 per cent of this popluation. Without adequate housing, sanitary facilities and employment opportunities for the migrants, the condition is getting precarious. The social consequences of mushrooming and squatter settlements in almost all cities have become a public health hazard. Political violence, student unrest, extensive housing shortage, break down of public transport, water supply, electricity, etc. have become a routine feature of our urbanisation. Urban development with integrated Health and Social Services requires a long range planning to avoid the fate of Calcutta repeating itself all over. The problem of pollution of the environment is real in our cities. Air pollution, water pollution and even radiation hazard need our increasing attention.

**2.5.5 Social Environment: Poverty and Health**

Poverty affects all aspects of life including Health, illness and related behaviour. The mortality and morbidity rates are high in lower socio-economic classes. High rates of illiteracy, high rates of non-utilization of the existing health facilities, traditional approach to problems of life, high fertility, the demographic disease pattern of infants and children and poor levels of living are all present in this social group. There is a distinct health deficit among the poor. These form the major segment of the people in rural areas and in urban slums. Poverty is a causative factor in human ill-health. As we are committed to the social betterment of this disadvantaged group, the working of the Primary Health Centres and Urban Centres serving them should have comprehensive health services. The physician of tomorrow should as a team leader solve the problems arising in the delivery of health care services to all segments of the population. A compulsory Health Insurance Plan to all members of the society with contributions for this group made by the State would take away the stigma of poverty.

2.6 Economic determinants: The average National Income per capita (1966-69) is Rs. 315.1 (314.9 in 1961-65). It has been found that consumption expenditure per person during 30 days is about Rs. 20 in the rural sector and about Rs. 27 in the urban sector. The expenditure on health in India is about 0.6% GNP and Rs. 2 per head per year when compared to Ceylon 2.8% GNP and Rs. 17, and US 1.2% GNP and Rs. 140 (1954-56), per head per year. This expenditure however does not represent the total spending. The National Sample Surveys of India suggest that even the poorest rural communities spend 2 to 3% of private income for drugs and medical care. In India where the public expenditure on health is particularly low, the implication is a great "inequality in the distribution of expenditure on medicine and medical services." (P. C. Mahalanobis 1959). The lower half of American households account for 37% of total private expenditure for medical services, and the corresponding figure for India is 6%. So far in India the concept of "Investment" means only physical investment. Investment in Health and Education is investment in "human capital" but this realization is yet to come to our planners in India in our approach to development.

**2.7. Epidemiological Determinants and Health situation in India.**

2.7.1 Mortality and Morbidity: Women: In the recent census it is seen that there are only 932 females for 1,000 males. There is greater mortality and morbidity amongst

women. There is no data on female infanticides. The maternal mortality is 6.8 per 1,000 live births (1968). In the rural areas 85% of women continue to have the services of the indigenous dais at the time of child birth. In the rural areas even at the time of child birth, when it is a matter of life and death, services are inadequate and mothers continue to deliver in unhygenic environments resulting in high perinatal and maternal mortality and maternal morbidity. It is estimated that 9 million abortions occur of which 30 to 40% are stated to be induced. The disability and deaths abortion causes in women are not accurately known but this would explain partly the ratio between the males and females in India.

2.7.2 Children: The proportion (1961) of children under the age of 1 is 3.78% with 28.3% age specific death rate; under 5 is 12.67% with 13% deaths, and 5 to 14 24.5% with 6% age specific deaths. This shows 47.3% of the 9 million deaths occured under the age of 15. The total number of births per annum are about 21 million (1961). The infant mortality forms 6.76 per 1,000 population (I.M.R. 159). According to parity 24% (first), 13% (second); 11% (third); 11% (fourth); 13% (fifth); 11% (sixth); 17% (seventh and others) infant deaths took place (Gordon). 10.71 deaths per 1,000 live births are due to the low birth weight; 20.3 due to tetanus, 27.8 Diarrhoea, 107 Pneumonia, 5.7 Measles per 1,000 live births (Khanna Study). These figures are of great significance for taking preventive action.

**2.7.3 Causes of Deaths—1962-64.**

| | |
|---|---|
| 1. Infective and Parasitic diseases | 14.42% |
| 2. Disease of Respiratory system | 15.78% |
| 3. Early infancy | 13.23% |
| 4. Senility | 10.90% |
| 5. C.V. Diseases | 9.21% |
| 6. Nutritional diseases or disease of blood forming organs | 8.65% |
| 7. Digestive system | 9.24% |
| 8. Accidents, Poison, etc. | 6.87% |
| 9. Diseases of C.N.S. | 4.67% |
| 10. Neoplasm | 4.2% |
| 11. Miscellaneous | 3.6% |

2.7.4 Prevision of Medical Care: In 1968 there were 3,107 hospitals; 6,764 dispensaries giving a bed population ratio of 0.4 beds per 1,000 population. 5,500 Health Centres (Unopened 250: without M.O. 400).

*Family Planning Services*: Family Planning Services are available in 34,000 family planning centres and sub-centres located in the urban and rural areas besides 800 mobile units. The aim is to reduce the birth rate to 32 by 1974. Of the 97 million (1961) couples in the reproductive age group only 11% have been reached by one or the other of the contraceptive services offered.

2.7.5 Health Man Power:—Physicians 103, 184 (1966); 80% in urban areas. 5,673 Dentists, 74,564 Pharmacists; 57,621 Nurses; Nurses/Doctors ratio 1:2 (Normal 3:1)

It may be noted that the Health Pyramid is inverted and that there are more doctors than nurses. The proportion of doctors to paramedical personnel should be 1:20. Doctor/Population ratio is 1 per 4,800 (1968). At present 95 medical colleges have about 12,000 admissions. It was estimated that the number of indigenous practitioners in the country varies between 200,000 to 400,000.

2.7.6. Social Security: The industrial population is over four million who are covered by the Employees State Insurance Aet. With the inclusion of families for medical benefits about 20 million population are thus cared for. There is need for extension of the service to include Agricultural labour.

The Government employees, the Defence Service personnel, the railways, and other specialised groups have arrangements for health care. Even in these groups there is no comprehensive health service and there is a need for reappraisal of the quality of the social security and the benefits they obtain.

**2.7.7 Communicable Diseases:**

Malaria; The National Malaria Eradication Programme is expected to continue beyond 1975. Out of 393.25 units in the country in 1968, 209.88 are in the maintenance phase; 183.77 were in the consolidation and attack phase. The Malaria Programme had a set back since 1965 due to irregular supplies of chemicals. There is no adequate epidemiological surveillance for want of proper basic health services in position. Reintroduction of



Malaria in some pockets is reported. The establishment of basic health services and the retention of Malaria Workers as basic health staff for all public health work is considered fundamental.

*Smallpox Eradication:* In 1968 there were 34,741 cases with 7,727 deaths. The progress at present is reassuring. The maintenance phase requires intensive primary vaccination program and epidemiological surveillance.

Diphtheria continues to cause preventable deaths.

Cholera: 18,145 cholera cases occured in 1968 with 2,916 deaths.

Tuberculosis: 1.5 to 2.5% of the population require clinical attention. It was stated that out of 502 clinics only 195 are equipped. 15 demonstration centres are functioning today. Mortality due to Tuberculosis is estimated to be 100 per 100,000 population. 10 to 12% are resistant organisms.

The estimated number of the Leprosy cases is 2.5 million of whom 20% are infectious. 182 control units and 1,136 SET centres are functioning.

Filariasis: It is another major public health problem. 126 million people are living in endemic areas. It is estimated that 45 million people are infested with *Ankylostomiasis*. 10% of the population are infected with *Amoebiasis*.

Cardio Vascular diseases: 3.2% urban morbidity and 2.8% rural morbidity.

Blindness: There are 2 million totally blind and 4 million partially blind people in the country. Trachoma is very common in many of the States in the North.

Diabetes: 2 to 5% of the population suffer from Diabetes and it is not known how many of them are under treatment.

Nutrition: For an average Indian the Caloric requirement is 2,300; but the Calories available are only 87% The number of undernourished are about 25-30% and malnourished are estimated to be 60%. The direct relationship of Nutrition to health of the individual and the community is obvious. Recent work indicates that the Nutrition of the pregnant women and preschool children (0-5 years) is considered essential for the prevention of infantile mortality and mental subnormality in children.

*Consequences of ill health*: In addition to the diagnosable conditions there are incipient diseases and general debility caused by low levels of living, undernourishment and malnourishment. This is largely responsible for the low productivity and efficiency.

**2.8 Scientific and Technological Determinants**

2.8.1. In the twentieth century there has been remarkable progress in the field of scientific discoveries and their application to Medicine. The introduction of antimicrobial drugs and pesticides has revolutionised our therapeutic efficiency and the control of insect borne diseases; longevity of man has been increased; diseases have been brought under control; mortality has been reduced, which has resulted in the high population growth. Death rates have fallen steeply in the last 20 years though not to the same extent as in advanced countries without any comparative rise in the levels of living and reduction in birth rate, thus hampering social and economic development. Advances in contraceptive technology have given us tools for fertility control but their use is lagging behind. There is hope that improved methods would be available in the forseeable future which would help developing countries in their economic and social progress.

2.8.2 Mass Media and Communications: The use of modern technology in communications with rural masses in the field of Health education promises great dividends. The Satellite instructional Television experiment (SITE) that will be launched in 1974 offers great advance in the use of mass media, in health education, agricultural innovation and family planning.

**3. Health Needs**

3.1 In conformity with the recommendations of the Bhore Committee and Mudaliar Committee, the principles outlined in the preamble to the Constitution of the World Health Organisation and the directive principles of State policy there is a great *need* for a Health Policy declaration, including Social Security for every citizen of this country. The concept of comprehensive health care gives hope for mankind. Promotion of health, prevention of disease, early diagnosis and treatment and rehabilitation have become parts of the spectrum of the comprehensive health

services, which specifically include the contribution of a variety of personnel and community services. The aim should be the organisation of a comprehensive health service to meet the *Needs* of the people. This requires: (1) Planning the delivery of the total services during the next decade or two. (2) Determining the number and quality of Health Man Power required for these services, and (3) Planning the education of the required health Man Power.

### 3.2 Planning delivery of Health Services

3.2.1 Basic Health Services: In view of the great inadequacy of the existing Health services there is great need for the establishment of Health centres to reach a population of 30,000 and beyond and for the location of sub centres for 5,000 population. The Rural Health Services require high priority in view of the fact that 80.1% of the population live in the rural areas. Without the establishment of the basic health services it would be not possible to enter the maintenance phase of National health programmes.

### 3.2.2 MCH and Family Planning Services in Comprehensive Health Care:

In our traditional society in the rural matrix, the large amount of vector macro parasitive diseases have been reduced. With the sustained human fertility, the high birth rates have caused high dependency demographic pattern with high proportion of infants and young children. This is leading on to a demographic diseases pattern with high proportion of ill health of infants and pre-school children. In the absence of decisive action for preventive services there is a high mortality in infants under one and pre school children. This again leads on to increased fertility as the parents would like to have some children. This vicious cycle of cumulative causation is sustaining high birth rate. This cycle can be interrupted by combined action in fertility control, immunization against preventable diseases and reduction of protein caloric deficiency nutritional diseases. This vicious cycle of high fertility and high infant mortality can only be broken by the provision of basic health services. Hence the need for extensive infrastructure of basic health services in comprehensive health care. With the passing of the Medical Termination of Pregnancy bill the need for good Gynæcological service throughout the country has become imperative. It is estimated that 9 million abortions occur and that 30-40% are induced. The Health Centres need equipment and visiting consultant services.

3.2.3 Surveys and Research in Health Practices: Multiphasic Screening techniques may be for early detection of disease. There is need for operations research and systems analysis of the Health structure and its functions for effecting further improvements. Functional or job analysis is very much needed for the development of the health team and for the proper education of the Health Man Power. The Indian Council of Medical Research has been encouraging such research which requires to be ploughed back.

3.3 Determining the number and quality of Health Man Power required for the services:

There is need for building up the needed Health Man Power to man the health services to come. The quality of the Man Power deserves prior consideration as without it there will be an uneconomic use of personnel for work which does not require higer skills. The stock of existing Health Man Power indicates that the health Pyramid is upside down with more doctors at the top and fewer paramedical personnel at the bottom. There is therefore need for a greater number of Nurses and para medical personnel to take over delegated responsibility and relieve the Physicians for extended professional work. Greater coverage of the population could be achieved if the physician, as the team leader, assigns work under his supervision to the health assistants and Nurses to give comprehensive care. The entire sequence of events required to improve health care is the *recognition of the need* for comprehensive health care and effect the necessary changes to remove the constraints.

3.4 Planning the Education of the required Man power:

3.4.1 In the education and training of the health professions and technicians, the social objectives, the curriculum, the methods of teaching, assessment and evaluation of the educational outcomes require emphasis.

3.4.2 Training of the health team: As far as possible training of the health professions should be as a team.



3.4.3 In the education of the physician and other personnel Social Sciences such as Sociology, Psychology, Anthropolgy Economics, Political Science in addition to demography and statistics, should find a place early in the curriculum. The above sciences should form the basic sciences for the discipline of community medicine which should be integrated throughout the curriculum in all the years.

3.4.4 The pattern of educational experiences for the doctors of tomorrow needs to be based on the "World" they are to serve. It is needless to add that in a quarter century of effort Health Needs of villages has been paid little attention by medical education. Rural and Urban health centres should be considered as teaching laboratories for community medicine. To apply community health care a doctor needs special skills and attitudes. The principles of Administration of health care, the concept of health team, appreciation of community control measures to diseases, Maternal child and family planning services should form the basis of training in Community medicine for the physician to play a vital role in the building of better India.

3.4.5 At the 23rd World Health Assembly, the education of the Health professions was considered at the technical discussions and five elements emerged as fundamental to the efforts of National Health Administration for securing health personnel best suited to local needs. For the implementation of comprehensive health care it was realised that highly trained physicians alone do not meet the situation. The physician should be ready to assume leadership of a team of health workers including auxiliaries. Adaptation of education for the health professions to the local health needs and resources and a judicious distribution of functions to the other members of the team was emphasised. National Health Administrations are enjoined (1) to bring about close cooperation between the National Health Services and those responsible for education of the health personnel; (2) redistribution of functions of health workers to work as a team with the physician as the team leader; (3) to effect changes in the educational programme both in the type of personnel and the content of curriculum; (4) Continuing Education for all health workers: (5) Evaluation and operational research in education and services.

### 4. Obstacles to Progress

In all developing countries including India there are many obstacles to progress. Gunnar Myrdal in his books, Asian drama and the challenge to World poverty, brings out vividly why some countries remain poor. Amongst the obstacles there are five factors which require attention. First the uninformed and ill prepared leaders, secondly the civil services that are untrained for development economy, third the financial procedures of the old colonial administration, fourthly the technical expert not having a role in decision making and fifthly the lack of participation of the people in all walks of life in developmental activities.

### 5. Agents of Social Change

5.1 Medical Educators: In the field of medical education the teacher is the kingpin for effecting adaptation and change. The commitment of the teacher to social objectives is vital for the preparation of the Social physicians of the future.

5.2 Education: To effect rapid social change and development it is necessary for us to remember H.G. Wells' prophetic words that the World is engaged in a race between Education and Catastrophe and unless all men and women have been properly educated, neither the individual nor the country as a whole will ever be able to attain a decent standard of living and take their place in the modern world before the end of the century.

5.3 Let the physician of tomorrow be an agent of social change and in his preparation let us dedicate our efforts.

**Base Data Used to Calculate an Estimated Age-Specific Death Rate for India—1961**

| Age Structure | Persons in each group (in millions) | Deaths in each group (000's) | Probability of death at age | Percentage population in each age | Percentage death in each age |
|---|---|---|---|---|---|
| 0-11 months | 16.6 | 2,543 | .1532 | 3.78 | 28.3 |
| 1 year | 15.2 | 458 | .0301 | 3.46 | 5.1 |
| 2 | 14.2 | 337 | .0237 | 3.24 | 3.7 |
| 3 | 13.4 | 245 | .0184 | 3.05 | 2.7 |
| 4 | 12.8 | 140 | .0139 | 2.92 | 1.5 |
| 5-9 | 58.0 | 362 | .0063 | 13.2 | 4.0 |
| 10-14 | 49.7 | 179 | .0036 | 11.3 | 2.0 |
| 15-19 | 43.0 | 220 | .0051 | 9.9 | 2.4 |
| 20-24 | 38.0 | 215 | .0057 | 8.7 | 2.4 |
| 25-29 | 34.3 | 233 | .0068 | 7.8 | 2.6 |
| 30-34 | 30.4 | 291 | .0096 | 6.9 | 3.2 |
| 35-39 | 25.6 | 375 | .0147 | 5.9 | 4.1 |
| 40-44 | 21.6 | 432 | .0200 | 4.9 | 4.8 |
| 45-49 | 18.1 | 463 | .0256 | 4.2 | 5.1 |
| 50-54 | 14.6 | 480 | .0329 | 3.3 | 5.3 |
| 55-59 | 11.4 | 488 | .0428 | 2.6 | 5.3 |
| 60-64 | 8.5 | 468 | .0551 | 1.9 | 5.1 |
| 65-69 | 5.7 | 403 | .0708 | 1.3 | 4.4 |
| 70 and over | 7.1 | 700 (est) | .1000 | 1.6 | 8.0 (est) |
| ALL AGES | 438.9 | 9,000 | ... | 100% = 438.9 million persons | 100% = 9 million persons |
| | CBR = 41 3/1000 population | | | CDR = 21/1000 population | |

*Sources :*

1) Census of India, *Paper No.2 of 1963, 1961 Census Age Tables* Section II, adjusted population by single year of age, p. 35 (It may be noted that the number for year 0-11 months, i.e. 16.6 million, is recognized by the authors to be under-enumerated).

2) Census of India, *1961 Census : Life Tables 1951-60.* Age-specific mortality estimated from probability of dying between ages 0-99, by single year of age, All-India (males) as applied to total age group by single year 0-5, and 5 year sections thereafter. Problem of non-terminal series was handled by estimating proportion of deaths reported occuring from age 70-99 to total deaths in the series. This was chosen in preference to probability for females (despite some age-specific variation for women 15-44) because authors believe female ages to be more likely under-enumerated, especially in ages 1-10. Since only rough proportions were desired, it did not seem necessary for this exercise to undertake a more elaborate weighting and averaging between males and females.

with the courtesy of USAID



**Health: Selected Achievement and Targets**

(Numbers)

| Sl No. | Item | 1960-61 | 1965-66 | 1968-69 anticipated | 1973-74 targets |
|---|---|---|---|---|---|
| (0) | (1) | (2) | (3) | (4) | (5) |
| 1 | beds | 185600 | 240100 | 255700 | 281600 |
| 2 | primary health centres | 2800 | 4631 | 4919 | 5427 |
| 3 | medical colleges | 57 | 87 | 93 | 103 |
| 4 | annual admissions | 5800 | 10320 | 11500 | 13000 |
| 5 | dental colleges | 10 | 13 | 15 | 15 |
| 6 | annual admissions | 281 | 506 | 586 | 800 |
| | *manpower* | | | | |
| 7 | doctors* | 70000 | 86000 | 102520 | 137930 |
| 8 | nurses | 27000 | 45000 | 61000 | 88000 |
| 9 | auxiliary nurse-midwives and midwives | 19900 | 36000 | 48000 | 70300 |
| | *control of diseases* | | | | |
| 10 | national malaria eradication programme (units) | 390.00 | 393.25 | 393.25 | 393.25 |
| 11 | attack phase (units) | 390.00 | 80.26 | 112.985 | 30.00 |
| 12 | consolidation phase (units) | — | 170.36 | 70.385 | 93.25 |
| 13 | maintenance phase (units) | — | 142.63 | 209.88 | 270.00 |
| | *tuberculosis control* | | | | |
| 14 | clinics | 220 | 427 | 502 | 582 |
| 15 | demonstration and training centres | 10 | 15 | 15 | 17 |
| 16 | isolation beds | 26500 | 35000 | 35000 | 37500 |

*In practice.

# Evolution of Social Medicine and the Problem of Training

by

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Medicine is as old as humanity. From the earliest times, man has been looking for and using whatever was available at the time for cure of the diseases. Prevention has similarly been sought after from the earliest of times. Evidence of pre-historic efforts for prevention is available in plenty in magics, customs, traditions etc. The concept and practice of Social Medicine is of more recent origin. That social factors which affect and action at the society level are needed for preservation of the health of the community has been appreciated at a such later date rather recently that for treatment and prevention.

Individual action by heads of States in different parts of the World for health of the citizens are mentioned in history. Even state action for such sanitary construction for the population as the Cloaca Magna are known. But almost all these are products of individual action.

The relation between the state and the individuals of the state has been much debated since the time of Plato. However, it has since been accepted that the State has responsibility towards the individuals and they individual towards the society which is represented by the state. A sort of uneasy balance between the power of the State over the individual citizen in limiting his liberty and the liberty of the individual citizen is continuing. The recent pleadings before the Supreme Court of India are continuation of the evidence of the same dilemma which was evident since civilization evolved the state.

Nevertheless, it has been deeply appreciated that without state action welfare of the individual is not possible. In the 19th century there was an upsurge of human thoughts about the state privilege versus individual liberty. The philosophy propounded by Marx, writings of Mill, action by earl of Shaftsbury and Simon were directed towards these problems.

So far as health is concerned, one of the most important contributors was Virchow. As a member of the German Parliament Virchow crossed verbal swords with Bismarch on the duties of the newly formed Germanic states towards the welfare of its citizens. For the first time he coined the word Social Medicine (of course in German) and spoke that medicine was another name for Politics. So ingrained were the facts of social medicine in his mind, Virchow, the intrepid researcher, the real genius, the father of Cellular Pathology, the discoverer of Foray, the Anthrapologist and the Politician fought for practice of social medicine.

From the 19th century every State had been showing signs of accepting the Philosophy of State responsibility and State action for the health of the individual citizen. During the Ist World War and the II, World War their intervening period and particularly that following the IInd World War, medical profession has been taking more and more interest as regards identifying areas of social responsibility and social action for health of the nation. The 1945 San-Francisco Conference declared that every state should ensure the four freedoms for its citizens. One of them being freedom from disease. So it is that today it is accepted all over the World that health service and medical practice are based not only on aiding the individual for prevention of and cure from disease, but also on inducing social action for the community as a whole in treatment of the ill, prevention of disease, promotion of health and searching for more areas for such action.



If such are the responsibilities of Modern Medical practice, the training of such practitioners becomes a matter of concern. This Association is vitally involved in the matter.

It would be useful to go into some points as regards the training of medical practitioners in India. There are now more than 100 medical colleges where training is going on towards developing the students into practitioners of comprehensive medicine. Such efforts are evident in all these institutions which at the same time show good deal of deficiency in training programme and in the facilities for the same. Whereas all departments in the medical colleges are working in a complementary manner for developing young and uninitiated minds, the preventive and social medicine Department has the special responsibility in teaching theory and practice of social medicine. Hence some of the difficulties affect the P.S.M. departments are mentioned below :—

(1) The training of an undergraduate has to be in the class room, the hospital and the Community. All training must be complementary, to one another. It is clear that guidance for such training and the training institutions have to be concentrated at one place under one authority. Such unification has not yet taken place in all medical colleges of the country much to the detriment of teaching the community aspect of health and the needed services.

(2) Staff position in the P.S.M. departments of the medical colleges are very poor. If one understands that teaching in the community needs a mountain of time, one can perceive the present shortness of staff even more. It has to be appreciated also that in the teaching of the different subjects which are included under the umbrella of P.S.M. non-medical teachers should contribute heavily. Such teachers should be only those who know their subjects sufficiently in order to be able to teach students of undergraduate and P.G. Study. To list them these teachers should be for sociology, medical entomology and statistical methods in Epidemiology and health services. A medical social worker or a statistician on a clerical pay is not the person who can undertake such teaching.

(3) Whether one likes or does not, a medical student is examination oriented and examination stimulates attention of the student to the teaching. The examination has to be at the proper level when a student is expected to be able to learn the subject. By the very nature of the subject of P.S.M. a candidate can be properly examined in it only when he has studied the clinical subjects well. Earlier placement of the examination in P.S.M. will not allow the examiner to test the students sufficiently and the student in his turn will allow gaps and deficiencies in his study and interest. Such deficiencies are sufficient obstacles to the learning by the students of social responsibilities, practice of social medicine and even Preventive Medicine and Epidemiology. Teaching of these subjects also become seriously hampered.

(4) Every medical college is under one of the three ownerships, viz. Government, local body or Private Organisation. Primarily, the owner is responsible for fulfilling minimum standards recommended by the Medical Council of India for under or post-graduate training. It is a notorius fact that many of such authorities are not carrying out those minimum instructions in full. The Medical Council of India is entrusted by the Government to guide and inspect the teaching facilities and examination standards in the Medical Colleges. Unfortunately such responsibilities are not sufficiently fulfilled. So one finds a very large number of institutions continue to be recognized though they have not fulfilled its, minimum recommendations.

Above certain deficiencies have been pointed out. There is another neglected field where efforts in proper training can offer good dividend. That is the compulsory post MBBS examination traineeship. Much uninformed criticism can be heard when this training so wisely introduced by the Medical Council of India comes up for discussion even decrying it as wastage of time, and a year's holiday or a picnic which should be abolished. On the other hand instead of being carried away by this unfortunately popular current of despair it is easy to do so rather than to strive against odds-where serious thoughts and efforts have been directed to it, this period of training can be one of intense interest and practice of comprehensive medicine by the trainee students. A model has been developed in the Medical

College, Baroda, by starting a curative and preventive General Practice unit in the main teaching Outdoor Hospital. Its success has been quick and very satisfactory as regards the understanding of Social Medicine and practice of comprehensive medicine by the rotating interness.

The sum total of effect of these deficiencies shown above is that the Country is getting medical graduates we are not modern in their thought and action and who are unable to fulfill their responsibility.

These are the problems that are being placed before the attention of this Association today.

# Training in Preventive and Social Medicine

## REASONS FOR FAILURE TO ACHIEVE DESIRED RESULTS-II

## ANALYSIS OF REASONS

by

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In the previous paper published in this issue of the Journal, the author reviewed the reasons identified by medical eduacators, vice chancellors and others for failure to achieve desired results, in the matter of training in Preventive & Social Medicine. These reasons were categorised under the following headings :

1. Inadequate appreciation of the role of Preventive and Social Medicine in Education
2. Inadequate and / or inappropriate effort inputs
3. Inadequate teachers' motivation
4. Quality of teachers in the Departments of Preventive & Social Medicine
5. Discrepancy in training and practice
6. Inter-departmental stresses in Medical Institutions :
7. General atmosphere in the country
8. Rejection by the students

The authorities who propounded the reasons reviewed in the first paper, did not elaborate on these reasons. A critical analysis is needed to understand the factors that are responsible for emergence or continuation of these reasons. The following paragraphs are an attempt at such analysis :

1. *Inadequate Appreciaton of the Role of Preventive & Social Medicine* in medical education is perhaps one of the most important reasons for failure to achieve results. The concept of preventive and social medicine in relation to clinical practice originated and took shape in west european socio-economic and medical care environments. Its importance into socio-economic and medical care environment of a poor country like ours, was bound to create difficulties in its application and implementation. While it is quite logical to expect a physician (in the west) who sees a limited number of patients a day, and who is backed by well organised official and voluntary social welfare agencies of the community to attend to social and environmental factors that are responsible for initiation or progression of disease, it is unrealistic to entertain similar expectations when almost all basic physicians (in India) are literally buried under the load of scores and even hundreds of sick patients that throng his clinic, more so when the official and voluntary social welfare agencies are either non-existent or poorly developed. The kind of social and preventive action that an Indian physician can take has to be different and limited in its scope. This latter has yet to be worked out and determined under native conditions. Another important consideration, in this connection and following from the first, is lack of commonly agreed concept and scope of practice of, and training in this discipline, in the minds of teachers of the discipline, other faculty teachers of the medical college, medical eductors and general/political administrators. Instead of providing a rich field for planned experimentation,[1] this situation has given rise to confusion, mutual recrimination and frustration.

**2. Inadequate and/or Inappropriate Effort Inputs :**

Teachers of preventive and social medicine who have been held (so far) primarily responsible for failure to achieve desired results, have, by and large, taken the plea that they have not been given adequate facilities and funds to organise training in a comprehensive manner. They point out that the departments have large number of vacant staff positions, meagre or no community health centres in rural and urban areas to be used as field training areas,

no mechanism by which they can work in live clinical situations in the teaching hospital and no indoor beds to keep in contact with problems of communicable diseases. To this list may be added their isolation, in perhaps the majority of medical colleges, from live public health activities and health services administration. Effort inputs by the departments of preventive and social medicine, particularly in the field of clinical preventive medicine under these conditions, amount to no more than theoretical and sterile exercises, disliked by students and teachers alike. Integrated seminars and combined teaching sessions, sometimes stimulating and useful, on most occasions, do not achieve the purpose, as the students easily recognise their concocted character.

**3. Inadequate Teachers' Motivation:**

Training in preventive and social medicine ideally 'permeates'[2] teaching programme of all medical disciplines, which carries the implication that the total faculty of the medical college must be properly and fully motivated and deliberate and planned efforts are made to achieve such permeation. Motivation of the teachers in the departments of preventive & social medicine to do their best in this regard can be taken for granted as training in preventive and social medicine is the only reason why they have been engaged as teachers and it is only through such training that they can hope to progress in life. Teachers in other disciplines however may not have similar compulsions and or may not bend their energies to deliberately planned programme towards this end. They have their own commitments and may not have time, energy or willingness to take on "additional worries." This is likely to happen more often in the clinical disciplines as clinical teachers, of all the faculty in the medical college, are preoccupied with extensive service loads which they consider as claiming their first priority. That this has actually happened has been suspected by many people.[3] Recent trend in medical colleges of diluting the responsibilities of the departments of general medicine and surgery, by instituting sub-speciality departments and assigning them responsibility for undergraduate training in their respective specialities, has aggravated the situation as such departments focus attention on the minutae and emphasise laboratory aspects of medicine. If the motivation of clinical teachers to practise and teach 'applied aspects of preventive medicine'[4] are undermined under the circumstances, it should not surprise anyone.

**4. Quality of Teachers in Departments of Preventive & Social Medicine:**

The 'quality' of a teacher depends, besides natural and acquired aptitude for teaching, on the type of training he has received. opportunities to practise what he teaches and relevance of his teaching to interest and motivation of the majority of the students body. It may be assumed that aptitude for teaching in teachers of the department of preventive and social medicine is of the same order as in teachers in other departments. On the question of their training, it might be stated that senior teachers are mostly trained in conventional public health while many of the seniors and majority of junior teachers have postgraduate training in departments of preventive and social medicine. Generally speaking, teachers in the department do not have the same facilities for practical work responsibility in clinical preventive medicine or health services administration—the two courses they are assigned to teach—as clinical teachers have in their respective fields. Add to this the rather weak interest of the students in the subject (see below), the verdict of 'poor quality' will appear a little unfair.

**5. Discrepancy in Training and Practice:**

"Experience has shown that the habits taken by the student into his profession are those acquired through self-participation, rather than through lectures and quizzes" and "The practitioner of medicine, as a rule, rarely enlarges the scope of his medical view point after graduation, although within this limit he educates himself in detail and technique"—these two quotations from 'Selected Papers of Dr. John B. Grant',[4] underline the need for ensuring that only those teachers who are actively engaged in service work connected with the subject of their teaching should undertake training of undergraduate medical students. Any teacher not actively engaged in such work may inspire but cannot succeed in changing attitudes and work habits of his students. Clinical preventive medicine (which is an integral part of the practice of clinical medicine) taught by teachers in the department of preventive and social medicine, who are themselves not actively engaged in the practice of clinical medicine cannot carry conviction to the students. In this connection, a quotation from Bhore Committee, who originally recommended creation of departments of preventive and social medicine is relevant: "A preventive habit in clinical medicine can only be cultivated in the practice of clinical medicine and not elsewhere..... If the physician is to practise preventive medicine, he must be taught that subject by his clinical professors."[5] The same remarks apply to training in courses on community health i.e. community pathology and diagnosis, conventional public health activities and structure and function of health services organisations and institutions—but to a lesser extent. Even though not carrying actual responsibility for such services in the country's health organisation (with some exceptions) the senior teachers at least had close contact with such services before coming to medical colleges and the departments in many cases have working relationships with primary health centres. Even in this field, service responsibility of teachers in the departments of preventive and social medicine is not as profound as that of teachers in clinical departments in respect of treatment of patients in the teaching hospital.

**6. Inter-departmental stresses in Medical Institutions:**

It is difficult to find a complex social institution without its own internal social stresses, and if they have been present in medical colleges and teaching hospitals, it should surprise no one. Differences of opinion between 'basic science' or 'laboratory' departments on the one hand and "clinical" or 'hospital' departments on the other, are well known. Introduction of a 'Third type' of department in this social structure has raised new problems. Is this department one of the basic (para-clinical) departments or a clinical department? Difference in the status and location of the departments of preventive and social medicine on the basic-clinical spectrum in different medical colleges and in the same medical college at different times reflects partly, the movement of rivalries and jealousies in the medical colleges. The objectives of preventive and social medicine i.e. change in the attitudes of teachers and students to the way medicine is practised, are not likely to be achieved until strong, purposeful and devouted leadership keeps inter-institutional rivalries and jealousies in check and weld the entire faculty into one force directed to the achievement of this common objective.



**7. General Atmosphere in the Country:**

In the post-independent era in our country, a yawning gap between promise and performance has been noted. In the field of medical education, Col. Amir Chand, whose contributions to reform in medical education will be recognised by all, in a paper contributed to the Souvenir of the IX Annual Conference of the I.A.A.M.E. (1970), said "The present pattern of medical education has been widely criticised. Its defects have been brought out and reforms have been suggested by many.....Catch phrases and changed nomenclature are being introduced and widely advertised to show, advertently, as if things were progressing, but that, at least in this country, is self-deception, more or less.....The Medical Council of India laid down that the subject (preventive and social medicine) is to be brought in collaboration with other departments throughout the entire course of training of the undergraduate—in the college, in the associated hospitals and in the field units of the area. Is this being done in the actual practice, in the manner in which it is intended by the Council to be done? No, it is not being done, except perhaps in rare instances."[7] The implications are obvious.

**8. Rejection by the Students:**

When a young student enters medical college, he has a certain image of a physician. This image, in the main, is that of a professional person who receives sick people, diagnoses their disease and treats them. The other part of the image is that there are 'chotta doctors' and 'burra doctors'—the general practitioners and the specialists. He has also known the difference between the salaries and status of these two types of doctors. Preventive and community health services are not a part of this image of a physician—such duties are for 'health officers'. This differentiation in duties and status of three types of doctors is re-inforced and amplified by the environment of a teaching hospital, where the difference in the duties/practice of departments of clinical medicine and preventive and social medicine is more clear and sharp. He becomes certain that both the society and the profession value curative services, especially at specialist level,

much higher than the preventive and community health services. No wonder he decides to do only the minimum necessary by way of training in preventive and social medicine, in order to cross this 'hurdle' and get his degree. Under the circumstances of our society and profession the students' attitude of rejection seems rational and justified.

This analysis of possible reasons for failure to achieve desired results in training preventive and social medicine, together with its companion first paper, is intended to stimulate interest of the medical education institutions and authorities who are responsible for our educational policies in the direction of detailed study of the problem along scientific lines and making planned experiments to rectify the situation.[6] We cannot afford to postpone any longer this much talked of and urgently needed reform in our system. Many approaches and strategies to achieve the desired objectives have been suggested from time to time. In the papers to follow, the author plans to review and discuss these approaches, strategies and methods in an effort to arrive at a blueprint for action.

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in their area as such knowledge can be of tremendous help to the public health doctors interested in improving the health status of the people. A well-planned study of folk medicine, with adequate emphasis on the role of "Svanas" (Spiritual healers) can be intellectually stimulating for the social scientists and at the same time highly useful for the doctors. The social scientists can perhaps make a major contribution in the training of health personnel as, especially in the rural areas, most of the time the problem of communication between the administrator and the health personnel or between the doctor and the other health personnel is so acute that the health targets set are, rarely met. The social scientists can profitably be involved in all stages of planning, implementation and evaluation of health programmes. The best suited social scientists to public health, however, are the 'action social scientists' and not the 'arm-chair social scientists', who in the opinion of this author are probably 'misfits' owing to their lack of interest in field assignments.

**Suggestions for better collaboration**

1. Well trained social scientists, preferably representing the disciplines of sociology, social or cultural anthropology or social psychology, having adequate knowledge and practical experience of public health, should be encouraged to work in the public health departments;

2. Social scientists should be given positions suitable to their training and experience and, as far as possible, their role should be well-defined;

3. Social Scientists should orient their studies, from the point of view of the needs of the public health projects or programmes and, as far as possible, avoid long-term, and or only knowledge-oriented studies. However, at the same time, they should not sacrifice the quality of their contribution, for example, if they find that the fashionable KAP studies in family planning are not quite reliable they should try, to conduct depth studies by following the traditional anthropological method;

4. Social Scientists, will do good to combine their research interest with service part of the public health programmes;

5. Social Scientists should not be called only to study the post-mortum effects of a public health programme. On the contrary they should be involved in it right from the beginning;

6. Social Scientists' valid contributions to public health should be timely recognized as this will encourage them to make further contributions; and lastly,

7. There should be sufficient understanding, tolerance and cooperation between the social scientists and public health doctors as without this the public health programmes will fail to produce the desired result.

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# Training in Preventive and Social Medicine

REASONS FOR FAILURE TO ACHIEVE DESIRED RESULTS—I

A. REVIEW

by

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**Introduction**

Sir John Ryle's renunciation of the chair of clinical medicine in favour of establishing a centre for study of social and preventive medicine in early 1940s, focussed attention of medical educators to the urgent need for reorienting medical practice and teaching to include preventive and social aspects of disease and promotion of health. Closely following this event, Bhore Committee[1] considered the health needs of India and made detailed recommendations on how to introduce preventive and social bias in the training of doctors and practice of medicine in this country. They recommended the creation of a new department of preventive and social medicine having full time professor and other teachers. In 1955 at the Medical Education Conference convened in New Delhi by Govt. of India,[2] there was unanimous support for the creation of a department of preventive and social medicine in each medical college. Since then Medical Council of India has made organisation of a full-time department of preventive and social medicine a precondition for extending recognition to medical colleges. Last 15 years have witnessed a phenomenal growth of these departments and almost all the ninety-three medical colleges have organised full time department of preventive and social medicine. The Bhore Committee underlined the catalytic function of the new departments and the 1955 Conference suggested that these departments "should be manned by persons who would be able to bring about a complete change in the existing approach to the teaching of medicine."[3] Details of how the subject of preventive and social medicine should be taught were also discussed in the 1955 Conference.[4] The conference recommended that in order to build up a spirit of social service in the medical student, the teaching of preventive and social medicine should start from the Ist year of the medical course and that students should be given experience in community health work. They further recommended that teaching in preventive and social medicine should permeate the entire course of medical training in medical colleges and should extend even to the period of internship. It was advocated that this teaching should be integrated with that of other departments, particularly clinical departments. It was felt that the cooperation of these other departments was basic to and essential for success. Dr. R. V. Sathe,[6] Vice-Chancellor, Bombay University, in his address to NIHAE convened conference in 1965, summed up the objectives of preventive and social medicine teaching as "Shifting emphasis from a purely individual curative approach to a community centred preventive approach in the ultimate direction of evolving a curriculum that is in tune in meeting nation's health needs."

**Developments:**

Since 1955, medical education in India has included, in undergraduate curriculum, training in

i. knowledge and skills of "clinical preventive medicine";

ii. broad understanding of community health services and health services structure of the country;

iii. awareness of the importance of physical and social/environmental factors in the causation and progression of disease;

To this end, several steps have been taken. Such steps include—

1. Creating departments of Social & Preventive Medicine with whole time teachers of professional and other ranks.

2. Creating Rural and Urban Health Centres where students spend varying periods of time during or immediately after their formal undergraduate course.

3. Allocating increased curriculum time and including teaching of social and preventive medicine in all the years of medical training.

4. Reserving three months of one year internship for training in a primary health centre.

5. Introducing the students during their undergraduate training period to concepts of family health care, clinical social case review, epidemiological approach and community health structure and administration.

The newly created departments of preventive and social medicine were expected to :

i. organise and undertake teaching of basic sciences e.g. Epidemiology, behavioural sciences, statistics, etc. for a proper understanding of medicine's role in society ;[6]

ii. undertake teaching of preventive medicine and conventional public health ;

iii. organise and administer rural and urban health centres and use them for training medical students so as to give them orientation along desired lines ;

iv. function as a catalyst in stimulating other departments specially clinical departments, so that all of them teach preventive and social medicine in relation to their subject;[8]

v. function as a coordinating agency for the purpose of ensuring that all the other departments of medical colleges, include preventive and social aspects of diseases in their teaching ;[9] and

vi. "help preserve in the medical student the ideals and ideas of service with which he enters medical college."[10]

It was believed that clinical departments would eventually take complete responsibility for clinical preventive and social medicine after which the department of preventive & social medicine would continue to teach community health services and health services administration. It was presumed that a few visits to rural health centres during the undergraduate training period and three months residence in a primary health centre during internship, would generate enough enthusiasm, interest and liking for rural health work in at least a good percentage of the student population, so that some of them would elect to accept service work in rural areas.

**Assessment of Impact :**

These hopes have been belied, taking the country as a whole. Reports and claims of some limited and sporadic success in orienting the thinking of the students towards community medicine concepts have been published from time to time but no medical school is in a position to claim that the objectives of teaching preventive and social medicine have been achieved to any significant extent. In fact, there is a wide-spread fear that this teaching has, in many cases, further alienated the feelings of the undergraduate students, who have started developing negative attitude towards the subject and the activities that it seeks to train in. The Health Survey and Planning Committee, 1961, expressed their opinion that "training in Public Health in rural areas in collaboration with the department of preventive and social medicine has not been quite a success."[11] Dr. R V. Sathe addressing a N.I.H.A.E convened conference on teaching of preventive and social medicine in 1965, voiced the feelings of many other educationists and medical college deans and faculty, when he said "Despite these multiple developments, the impact of this discipline of preventive and social medicine on the medical colleges as a whole including their various departments, is not as distinctive and enduring as one would have hoped. It would seem that a greater degree of appreciation of the nature, role and contribution of a department of preventive and social medicine to medical education is necessary."[12] A similar opinion was expressed by the Hon'ble Minister of Health, Dr Sushila Nayar,[13] while inaugurating the Conference. To quote from Col. Amir Chand "Has such teaching (of preventive & social medicine) which has been expected to have been going on for several years, made any real impact on the teaching and practice of 'Medicine, or Community Medicine, if you like to call it? No, it has not".[14]



In the last 4-5 years a little different emphasis is emerging. There is increasing dissatisfaction with medical education process as a whole (distinct from and in addition to dissatisfaction with training in preventive and social medicine). Third Conference of Deans and Principals of the Medical Colleges held in New Delhi in August 1967, Central Council of Health meeting in April 1968 and Medical Education Committee Report 1969 have all voiced this feeling and have made recommendations designed to reorient basic objectives of medical education to make it genuinely "Indian" in character and "need-based".[15] These two streams of dissatisfaction are closely connected—in fact, the first is only a part of the second.

**Reasons for Failure :**

While there is a good deal of agreement that the objective of orienting medical students to preventive and social aspects of disease and making them interested in community health services and work in rural areas, has not been achieved during the last 15 years of our efforts, the reasons for this lack of success have not been fully probed. Reviews made by several professional conferences and medical educators focussed their attention on the functioning of departments of preventive and social medicine, but not much has been discussed or enquired into regarding the contribution of other departments, especially clinical departments, in relation to teaching of this discpline. In the last 4-5 years, as indicated above, medical education as a whole has come under critical review. Some of the important reasons identified by medical educators, vice chancellors and others, are summarised in the chart below :

**Reasons for Failure to Achieve Desired Results in Training in Preventive and Social Medicine**

| Reason | Authority | Time (Year) | Remarks |
|---|---|---|---|
| Efforts were "fragmentary and not a part of established mechanism which is integral to the daily routine of clerkship and intern years. Further-more students feel their extraneousness to the major contents of his ordinary work. He may acknowledge their value in principle but he does not subconsciously accept the necessity of undertaking these measures as an essential part of his routine to the same degree that he does in the case of corresponding measures which he participates in the diagnosis and cure of disease." | G B. Grant | 1928 | John B. Grant : Health Care of the Community, edited by Coard Scipp. The American Journal of Hygiene, Monograph Series 21, 1963<br><br>Still valid — (author's view). |
| Taught solely by public health teachers. | Bhore Committee | 1946 | Still valid — (author's view). |
| Strengthen the Departments of Preventive & Social Medicine. | Mudaliar Committee | 1961 | The Indian Association for the Advancement of Medical Education Souvenir Number of IX Annual Conference, 1970. |
| Inadequate appreciation of the nature, role and contribution of a Deptt. of PSM to medical education. | R.V. Sathe | 1965 | N I H A E Convened Conference |

| Reason | Authority | Time (Year) | Remarks |
|---|---|---|---|
| Inadequate "dialogue" between Department of PSM and clinical departments. | R.V. Sathe | 1965 | do |
| "With the institution of chairs of PSM, teachers of medicine and surgery, eye, ear, nose, throat, Gynaecology and obstetrics etc. have in many cases, ceased to teach the preventive aspects of their own subjects or to give due importance to prevention of disease." | Dr. Sushila Nayar | 1965 | NIHAE Conference on The Teching of PSM in relation to Health Needs of the country. |
| Failure of teachers of different subjects to carry responsibility of teaching prevention of disease as it applies to the individual. | do | do | do |
| Lack of "mutual appreciation of role of PSM and sister departments to achieve the common objective." | Dr R.V. Sathe | do | do |
| Failure to practise what the teachers teach in the Deptt. of PSM | Dr. H. V. Vaishnava | do | do |
| Failure to attract teachers of good quality | Dr. V. Ramalingaswamy | do | do |
| Inadequate arrangements for collaboration of teaching programmes of various departments. | NIHAE Conference | do | Implied in recommendations for corrective measures. |
| Failure of clinicians to have built in mechanisms and facilities for prevention and health promotion in their service units. | do | do | do |
| Absence of rural and urban field practice areas. | do | do | do |
| Inadequate staffing of Deptt. of PSM. | do | do | do |
| Inadequate staffing of fiield practice areas. | do | do | do |
| Lack of motivation or weak motivation of teachers. | D.N. Pai | Undated (about 1967) | Memiographed paper entitled "Utilisation of Urban Practice Field by Clinical, Para-Clinical Departments in teaching of Individual and Community Health. |
| Student rejection because not relevant to his professional objectives. | do | | |
| Poor student-teacher ratio. | do | | |
| Inadequate effort in the proper utilisation of existing facilities. | do | | |



| Reason | Authority | Time (Year) | Remarks |
|---|---|---|---|
| General atmosphere in the country of passing resolutions but not implementing them. | Col. Amir Chand | 1970 | The Indian Association for the Advancement of Medical Education Souvenir Number of IX Annual Conference, 1970. |
| Failure of Medical Colleges to ensure collaboration between clinical departments to teach PSM. | do | do | do |
| It is human to try to shirk what is difficult. | do | do | do |
| Rivalries and jealousies can't be brushed aside easily. | do | do | do |
| Necessary motivation to bring about desired change is lacking. | do | do | do |
| Lack of close integration of PSM as a subject with other subjects. | Wig and Bajaj | do | Implied in recommendations for corrective measures. |
| Teaching of clinical medicine is too much hospital oriented. | do | do | Indian Journal of Medical Education, June-July 1970. |
| Absence of clinical teachers from community health centres. | do | do | |

The reasons mentioned in the above chart may be broadly classified as falling in one of the following categories:-

1. Inadequate appreciation of the role of Preventive and Social medicine in medical education.
2. Inadequate and / or inappropriate effort inputs.
3. Inadequate teachers' motivation.
4. Quality of teachers in the departments of Preventive and Social medicine.
5. Discrepancy in teaching and practice.
6. Inter-departmental stresses in medical institutions.
7. General atmosphere in the country.
8. Rejection by the students.

The author subjects these reasons to a critical analysis and discussion in a separate paper published elsewhere in this issue.

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# AN APPROACH TO UNDERGRADUATE TRAINING IN SOCIAL & PREVENTIVE MEDICINE

by

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## Introduction

Modern medicine is preventive, positive, collective, community oriented and community managed. The age old practice of medicine has also shown a shift from the hospitals and clinics to the practice of medicine in the community. Indian Medical Council (1969) has also recommended a shift of teaching of medicine from hospital to primary health centre, thus rendering comprehensive health care to the family rather than to an individual sick man. This concept has formed the basis of national health programmes (Patel, 1970). Therefore with the changing needs of the society in the light of social changes and scientific and technological advances made in the world, dynamic changes in the medical education are being brought in to produce basic doctors who should be able to render a comprehensive medical care to the community. Similar recommendations have already been made by W.H.O. (1964), NIHAE conference (1965), the Medical Council of India (1969) and Medical Education Conference (1970).

The rural and urban health centres form the basic laboratories for the teaching of the under graduates in social and preventive medicine. In these field practice areas family studies should be assigned to inculcate in the student the basic concept of a social physician. Besides, it will help the student to develop community outlook, to study the various environmental factors and their role in the disease causation and in the maintenance and improvement of health of the community.

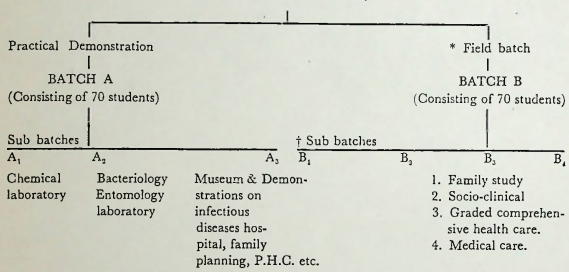
The practical training in social and preventive medicine in most of the medical colleges still remains in the form of visits to a few health agencies which do not introduce community outlook in the students of this subject. G.S.V.M. Medical College, Kanpur is one of the institutions where community oriented practical training has been organised for undergraduates during the paraclinical period of $1\frac{1}{2}$ years. Although Medical Council of India (*loc. cit.*) has recommended the teaching of social and preventive medicine throughout the whole period of medical study, but due to the meagre staff and resources at Kanpur it could not be implemented in preclinical and clinical periods.

The teaching and training of the paraclinical students are being imparted through didactic lectures, demonstrations, visit to health agencies, laboratory exercises and the field work in the community on various community health problems.

Didactic lectures, visits to health and welfare agencies and demonstrations are commonly organised in any medical college. Our special interest remains in reorganisation of practical training. During didactic lectures students are given instructions in family care programme and teachniques of interview in community to utilise principles of medical social work. Our special problem remains far more unsatisfactory students teacher ratio of 25: 1 instead of 10: 1 recommended by the Medical Council of India (*loc. cit*). In order to improve training, imparting of instructions and supervision, our endeavour remains to keep sub batches small, consisting of never more than 25 students (Fig. I.). Even with the batches of this size active co-operation of families is available to the students. Mathur (1961) however reported that with large groups of students the family co-operation is vanishing.

FIG. I

**Distribution of students for practical training.**




*Field work*—The village is divided arbitrarily in sectors. Each sector is supervised by a teacher, paramedical staff and a postgraduate student. The teacher allots families to undergraduates in his own sector. The detailed village map along with other details is provided at the entrance of the village. Every student is alloted a health topic including service programmes to work upon in the 4-5 rural families. Some of the topics are given below:

i) Study immunity status and perform immunization.

ii) Perform diet survey and plan a low cost balanced diet for the family.

iii) Study the incidence of anemia in relation to iron intake or worm infestations and suggest remedial measures.

iv) Study the anenatal and postnatal cases and provide maternity services.

v) Survey of water supply including bacteriological examination of water and suggest measures for improvement.

vi) Study the attitude towards family planning and provide family planning services to the needy couples.

vii) Study the beliefs and customs in regard to common communicable diseases (or pregnancy, child birth) and provide health education.

After they are being given a preliminary outline, the students themselves are required to prepare a proforma on the alloted topic under the guidance of the teacher incharge and postgraduate of the batch. This practice enables them to consult the literature on the health topic and thus enhances their knowledge. Usually the topics are being changed for the subsequent batches.

* Note—The batches for field and practical demonstration rotate every week.

† These sub batches are again divided into small groups depending upon the number of students in each sub batch. Each sub batch works in respective sector of the village.



The paramedical staff contacts the families beforehand and prepares a favourable working atmosphere in the families. On first visit the students are being introduced to the members of the alloted families by the paramedical staff and on subsequent visits they go themselves and work under the supervision of the departmental staff. The department provides in the field the necessary equipment, vaccine and routine medicines. Besides, a technician, dispenser, midwife, health visitor, sanitary inspector, and a social worker remain in the field to provide necessary help concerning their nature of work. College bus and UNICEF vehicles are made available for quick transport of students, staff and equipment.

The necessary investigations like urine, stool, blood examination, etc. on individuals or analysis of water wheresoever needed are done by the students themselves, either in the field or in the departmental laboratories. Specialised investigations e.g. radiogocical are conducted in the various specialised laboratories of the college on reference from the department teachers.

Besides his own topic of work each student also renders graded comprehensive health care in the alloted families. After examining the patient they write down the prescription which are being countersigned by the respective teacher of the batch and then the medicine is being given by the pharmacist in the field. The students have to record these observations in their practical note books. The UNICEF material assistance is of great help in carrying out these field programmes. The socio-clinical conferences are also arranged in batches on the cases found in the alloted families. Besides the teacher holds discussion with the students on the topic with the family to emphasise the role of various factors in health and disease.

After repeated visits the students fill in the desired information of the families in the duly checked and approved proforma. The students are also given reference cards for medico-social problems encountered in their alloted families. These cards are being handed over to paramedical staff of their batch who follow up and return back the completed reference card after discussing with the students the medicosocial problems. During the field-visits the students in small batches are given exposures on applied statistics. The statistician tells them regarding designing, sampling techniques, collection, compilation, interpretation and diagramatic representation on the rolling black boards using the data collected by the students themselves. The practical application of statistics has also been recommended by Mathur *et al.* (1964) and Jain (1964). After completing the proforma they compile, analyse the data and present it in tabular and diagramatic form, apply statistical tests, draw out the conclusions and make necessary recommendations. They also give suggestion to the families and render the promotive, preventive and curative services to these families. Throughout, their work is checked up daily in the field by the respective teacher.

*Demonstrations and agency visit*:—The demonstrations are arranged on vital topics soon after the students have been imparted knowledge through lectures on the topic. In the demonstration they are given exercises i.e. to draw low cost balanced diet, to correct defects in environmental models etc. Demonstrations are also held in public health and welfare agencies like water works, infectious disease hospital, primary health centre and industries. They solve the exercises and write the demonstration in the practical note books which after being signed by the teacher incharge of their batch are submitted in the department the same day.

*Laboratory Exercises*:—The students are given training in laboratory on water chemistry, bacteriology and entomology. In the laboratories they are being given a preliminary talk and demonstration of the experiment which they have to perform on the day. They do the exercise at their own and write their methodology and findings in the practical note books which are being checked by the respective teacher incharge of the batch. They are not allowed to take away the practical note books to their homes. This practice discourages the students regarding the habit of copying from the books or from fellow student's note books and makes them to complete the work the same day. Some of the exercises of the laboratories are given below:—

i) Life cycle of arthropods through the entomological slides, draw their labelled sketches and enumerate the characteristic features and the stage of development at which the control measures should be undertaken.

ii) To perform a bacteriological examination of water.

iii) To estimate chlorine demand and residual chlorine in water.

iv) Estimation of nitrites and nitrates in the water.

v) Estimation of chloride or hardness in the water the sample of water for these examinations are drawn from the village wells of Rural Field Training Centre, Kalyanpur, tap water and river water. They interpret the results and suggest measures to improve them.

*Examination*:—The students are evaluated periodically by day-to-day and terminal examination in theory, field and laboratory exercises. In the university examination also they are evaluated in a theory paper as well as in the fields, laboratory and in *viva voce*. In the field examination they are being allotted a small health topic, besides the work already done by them, to work upon in two hours in the allotted family. They draw out small working proforma and collect the desired information and necessary health advice in being given to the family. Besides they are also examined within the families on the previous work on the allotted topics.

*Concluding remarks*:—This type of community oriented training is found to be much more educative as the students practise in the laboratory as well as in the field what has been taught to them in the lecture and what they have to practise in real life. Besides they learn how to collect data, analyse them and present them in the statistical form. They also have an exposure to the rural health problems and practice graded comprehensive medical care in the rural community. Such training imparted in the undergraduate period have definitely benefitted and improved compulsory rotating interns training programme in the department.

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Key Note Address

# MANAGEMENT & SERVICE RESPONSIBILITIES OF THE DEPARTMENTS OF PREVENTIVE AND SOCIAL MEDICINE

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At the outset I want to thank the organizers of the VI All India Conference of the Preventive and Social Medicine Departments for having given me this opportunity to be with them and share some of my thoughts. All of us now accept that prevention is better than cure and prevention of diseases within the community is the best form of immediate health care. On this basis, if departments of Preventive and Social Medicine in the Indian Medical Colleges owe their existence, one would like to give some thoughts as to how they have executed this responsibility. It is in this context I consider their service responsibility.

## ORGANIZED TO LOOK INWARDLY

The departments of Preventive and Social Medicine in different medical colleges are nearly 100 now. Their full complement of staff will consist of a professor, associate professor, two assistant professors, three tutors, one epidemiologist, two social workers and one statistician. This makes a total of eleven personnel. Those who do not have the full complement of this personnel are looking inwardly to fulfill this complement of personnel. What are their responsibilities when once their full complement of staff is achieved?

## LOOKING OUTWARD

Looking outward is considered in its narrow sphere of managing the services at the attached field practice area. Normally all departments will have a primary health center and an urban health center as their field practice area. In this field practice area, students are trained, and professors too

get their seeping into community health. It is hoped, that the students get their necessary rural bias and thereby become more receptible for ideas of serving the community, the rural masses, etc. It is common knowledge that the students do not get inspired to serve the rural areas by their mere orientation in the rural practice field. If that were so, the unwillingness of doctors to go to rural areas would have disappeared long ago. However, even in the rural practice field, the PSM Departments do tend to look inwardly rather than outwardly. The inward look gives them the concern of their not being able to manage the Primary Health Center themselves. Because PSM is normally under the administrative control of the principal, the professor of PSM has some kind of link responsibility for giving services. In the normal kind of management practice, the person who is responsible to deliver the goods should also have the control capability for resources. In this case, the situations seem to be of a different nature. I am not pleading for greater control capability for the PSM departments in the rural practice area. This is a matter for greater amount of study in depth and debate. The concern here is that even within the rural practice field, the practice of looking inwardly makes the Preventive & Social Medicine departmen a medical college based discipline rather than a discipline of community health. Service responsibility of the Preventive and Social Medicine department extends not only to the rural practice field but also to every kind of rural area wherein prevention has assumed such great importance. The fact that it has assumed such an importance is amply evidenced by the data which has come about in various studies that 80% of the cases in the Primary Health Center are diseases which could have been prevented by better sanitation and personal hygiene. So, the stress is on health education. Looking outwardly one should also notice that 100% of patients attending any PHC come from within 10 kms of such a PHC. This means about 80% of the block in which the PHC is located is not covered by the PHC. Therefore, the service responsibility of the PSM extends beyond the borders of their departments and PHC rural practice area to the villages in the remote corners of the country.

PRESENT PRE-OCCUPATION

The present pre-occupation of the PSM department has been, apart from inward looking is also on making studies in the epidemiological status, community care etc. These studies are good in themselves only if they can be applied by way of improved practices. This means studies should have:

-- reproducibility
-- reliability, and
-- reality.

Let me explain this. Any pattern of health services which is applicable in any rural set-up should have the reproducibility value in other rural centers. The data that is produced should be reliable enough to have a basis for a semblance of reproducibility elsewhere. From this it obviously follows, that rationality behind the kind of studies should lead us towards a new health policy for India.

TOWARDS A NEW HEALTH POLICY

The present health policy is a policy of medical care rather than health care. It can never be called sickness care.

Medical education policy is pre-occupied with increasing the number of colleges and producing more number of doctors. The result has been that we have produced more number of doctors than we can absorb in the open market for which we produce them. Medical education is in the premises of hospital-cum-college with some sprinkling of rural practice, and field dem-onstration given by PSM department. The result has been, apart from the disastrous consequences of nearly 10,000 doctors being unemployed, there has been undesirable trend of more than 50% of doctors going for specialization. Specialization has become an end in itself to suit medical doctors rather than to suit the needs of the community health. What are the considered thoughts of PSM departments to shape the medical education policy.

Public health policy has been one of instituting verticle health programmes and then thinking as to how we can integrate this into the basic health services given by the PHC. Medical care has become sporadic sickness care. All this has resulted in the image of the doctor still being good, whereas the image of the hospital is bad.

As a consequence of this, prevention is being imagined as exclusive sphere of PSM department even by the doctors. The PSM department naturally occupies a place of secondary importance within the compound of the medical colleges, compelled to look inwardly and forced to look selfishly, without much of a new direction. PSM Department has the responsibility to shape a new health policy for India if it considers the above situation as unsatisfactory.

DIRECTION NEEDED

The direction that the PSM Departments need to take in the area of prevention is broader than the activities that are now being carried out by them. If nearly 61% of our deaths are from preventable causes, the direction that the Preventive and Social Medicine Department has to take is very clear. If 80% of the diseases which come to the PHC could have been prevented by the primary care at the source, the direction that the PSM Departments have to take are in ameliorating the suffering of these. This is more imperative in view of the fact that only 20% of the population covered by the PHC come to the PHC. The image of the PSM department will get a new status if they become articulate about the needs of the community and thereby the needs which direct us towards a new health policy. The new health policy will not be the continuation of what we are following so far. It will be one with a concern to the majority of the masses and their diseases. It will be one which will have a concern to give some medical care for many before expert care for a few. It will be one which will make the policy makers realise the compulsive need of establishing more rural health care before a grandiose hospital. It will also be the one in which the distinction between public

health and individual health in a conceptual level and, hospital care and dispensary care in the organizational level will merge into what is called as community care. It will also be one in which the number of terminologies which will exist will all take its due place under the term, community health. The present different nomenclature like public health, preventive and social medicine, administrative medicine, community medicine will all find a common goal in the community health. All this will give new challenge and meeting this challenge will give a distinct image to the community health. As to how to meet these challenges and whether it will be easy, is not a subject matter here.

All that I can say is, that the challenges have to be met. When we have met the challenge we would be able to give answers as to what should be the minimum medical care expenditure before we ask for 300 more crores for malaria. This will also help us to think as to why we should establish one more medical college hospital with Rs.7 crores expenditure. It will also tell us as to what we have achieved by way of Rs.1850 crores of investment on health in four five year plans. It will also tell us as to what we should do in a predicament wherein we are looking as to where our three billion rupees have gone in our national family planning programme as only 15% of the target couples are covered. This means, new responsibilities for the PSM departments to make a dent for the success of the national programmes of this country. Above all, it will help institutions like hospitals, PHCs, dispensaries etc. to operate more effectively and efficiently. This is a challenge that has to be met. I wish you all success in this.

Thank you.

7 years of its establishment has expressed their admiration for the speed with which the Institute has progressed in education and research to significant academic heights.

The principle of whole time faculty and the concept of the Institute as a residential university where the faculty and students live together in the campus have also played a significant part in enabling the Institute to reach its present stature in the world of science and education.

### The Relevance of the A.I.I.M.S.

The relevance of the A.I.I.M.S. to present Indian conditions is many sided. Autonomy by which the growth and development of academic programmes and policies are influenced largely by the scientific community itself has proved to be an encouraging experiment. The extension of this principle to other teaching and research institutions in India would serve to liberate the creative forces in these institutions and channelise their energies to elevation of standards.

Excellence in a few centres only removed from the main stream of national life can only lead to scientific aristocracy. The principles which guided the formation of the concept of the A.I.I.M.S. could be extended with benefit to other institutions in the country. Teachers and investigators must be trusted by the administration and a forward looking policy evolved by which teachers, students and administrators are all unified together in one essential task of elevation of academic standards. Mediocre laboratories can only train mediocre men.

This is a time where sermons and satire, irresolution and despondency abound in our public life. Breast beating about low standards does not solve problems nor will platitudinous sermonising on priorities in education and service. Gloom about resources, a recurring theme in scientific circles, tends to sap the will of the scientist to go forward and design effective measures. The despondency inhibiting intellectuals can be a serious psychological barrier to scientific and technological development. Through discovery of the newer purposes of learning, through bold and imaginative policies in the support of scientific research can grow a new hopefulness. The way the A.I.I.M.S. has grown and developed provides opportunities for new thinking on the whole pattern of medical education and medical research.

The greatest and deepest need of an institution is to be needed.



# Community Medicine and Medical Education

BY

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Adapting medical education to the needs of India clearly requires a new and expanded emphasis on Community Medicine. The achievement and failures of the past 10 years permit a clear statement of practical innovations which can work if given adequate faculty support.

No subject has received so much attention in speeches and so little practical attention by medical educators as the health needs of village communities. This discrepancy is due mainly to the large volume of speech-making and only partly to the slow build-up of efforts. The speech-making is valuable in so far as it creates a climate for implementation. We can no longer postpone action, however, because of the excuse that we don't know what to do.

A solid foundation of achievement in the past 10 years now provides a basis for planning. Our present knowledge is derived from the numerous 'experiments' in community medicine which have quietly been taking place around the country.

The verbal enthusiasm for rural teaching which followed the 1955 All-India Congress on Medical Education carried the flavour of much of the general development planning in India during that period. The goals and ideals were impeccable but so exalted that their translation into performance would have been possible only if all medical educators and students had been paragons of dedication. We all shared a kind of enthusiastic naivete that made us believe that difficult goals would be readily attained. Without this willingness to try anything, many of the important achievements of that period would have been impossible.

The post-independence burst of energy led to great accomplishments in medical education which now appear to have been more quantitative than qualitative. A rapid numerical growth of the medical profession was considered the first priority to meet the mass needs of a rapidly expanding population. This effort has in itself been a clearly defined challenge demanding phenomenal investment. It is increasingly evident that the race with population growth requires the medical profession to realistically reappraise its own rule as part of national health system. The goals of the past are not necessarily the best response to the challenges of the future. The greatest hope continues to be that the leaders of Indian medical education have always strongly supported the maxim that medicine must be responsive to the needs of society. More bluntly the fact is that health services must be organized for the good of the people and not to meet the personal needs of doctors for material gain or scientific satisfaction or altruistic motivation.

In this brief analysis two points are stressed: some basic principles of community medicine are restated as they apply especially to the needs of India's village communities; secondly, new challenges for change and innovation are presented in the exciting pattern which is emerging from past efforts.

### I. Background

First, a few words of history are indicated to help provide understanding of a kaliedoscopic transition in terms.

Community medicine is not merely a new label applied to old efforts. As the old unpopular subject of hygiene began its frenzied struggle to keep from being drowned by the flooding growth of scientific clinical medicine it tended to turn toward the relative security of Public Health separatism. One of the most unfortunate legacies of western medicine as transplanted to developing countries was the separation of curative and preventive

medicine. The maintenance of this dichotomy has been as much the fault of public health practitioners as of clinicians. Because they were so low in the pecking order of medical prestige as to be almost ignored, public health physicians have tended to get their professional satisfaction outside of the usual range of medical activities. An awareness that they were contributing more to overall improvement of health than their clinical colleagues increased their feeling of satisfied isolation when both clinicians and the public tended to ignore them. The only times they could count on being noticed was when there was a major epidemic for which they were blamed. The public health profession drew a special personality type of dedicated and underpaid sanyasis who appeared as anything other than glamorous role models to medical students. The image of this part of medical practice needed to be changed in order to incorporate it into the mainstream of medical education and practice.

The first step in the change process was the reorganization of teaching in new departments of preventive and social medicine. Thousands of words both in publications and speeches went into definitions of what the new image was to be. Curriculum time allocations recommended by a long series of conferences was for teaching in each year of the medical course. Actual implementation varied with convincing arguments for both preclinical and clinical emphases. Obviously the ultimate decisions about what was actually taught were mainly determined by the personal predilections of particular professors. Clinically oriented teachers of preventive and social medicine wanted strong linkage with clinical subjects. Those departments most concerned with research activities in epidemiology or social medicine stressed the basic sciences of preventive medicine. The old arguments on both sides are still valid. Students need first the foundation of a basic introduction to ecology, epidemiology, the sociology of medicine and demography. Then they certainly need a well organized educational experience during a practice period in the clinical years.

A major emphasis has appropriately been on the development of rural and urban health centers as teaching laboratories. These may be used profitably in both the pre-clinical and clinical periods of preparation. Great variation exists among the colleges in the size, facilities, staff activities and degree of control over the health center by the medical college. Now it is increasingly recognized that a single health center is not enough and the next evolutionary step will be to have a medical college serve as a regional base for comprehensive health care.

Within medical faculties there was some decrease in the low caste stigma of public health as a result of the use of the term preventive and social medicine. Some clinicians were attracted to professorships with a resulting transfer of glamour from their old familiarity with clinical wards. Political and financial support also improved the image of this field. There was, however, a simultaneous loss in glamour through the punitive approach taken in developing rural health work. With the decision to turn rural health centers over to preventive and social medicine many medical educators relaxed back into their traditional roles. Students and interns were then forced to take their dose of village work as though it were bad-tasting medicine. Since no one really knows how rural teaching should be done clinical teachers were safe in severely criticising the courageous attempts of preventive and social medicine teachers to pioneer this new area.

## II. Definition of Community Medicine

It is time now to really create a new image and a new atmosphere. The label of community medicine should help. The first requirement in this new effort will be to get the active participation of the whole medical faculty.

The struggle to adequately define the various labels which have been applied to this elusive field of medical activity have tended to degenerate into bickering over trivialities. Distinctions in terms have been clouded by over-definition. The greatest value of the new term community medicine is that it can be used as a fresh start to identify a general area. In general, this field must be recognized to share a gray area of association with all the clinical disciplines in what has been called clinical preventive medicine. It goes beyond that, however, to a group of special competences and skills. It is demonstrably wrong to say that community medicine will eventually work itself out of a job when other clinical departments take over because no other discipline can cover the special areas of knowledge and practice. It must also be agreed at the beginning that arbitrary limiting of the term is wrong because it must be applied differently in varying situations and places.



Medical specialties are generally defined either according to the group of people they serve or by the type of activity and skills which occupy their time. Community medicine can be separately identified on both scales.

The patient of community medicine is obviously the community. The community is composed of individuals just as a forest is composed of trees but it has its own special characteristics. A woman is either pregnant or not pregnant but most communities are always about 3 per cent pregnant. Similarly the illnesses of a community must be studied within their ecological setting. The gestalt of the whole community brings an understanding that is quite different from seeing separate individuals as patients. The concern for the individual is not lost in the process but he is seen in relation to the group. Health care becomes more than mere manipulation of inner functions of individuals and focuses much more on the conditions which surround him. The fundamental and preventable causes of illness are usually community determinants.

To apply community health care a doctor needs special knowledge, skills and attitudes. Traditional medical education does not provide this understanding and practice. It is no longer reasonable to expect even the mature physician to pick these up spontaneously. The basic sciences of community medicine are largely ignored today. Even more important there are special skills of diagnosis and health care which need to be developed with as much precision and care as present practitioner training in wards and operating theaters. Most critical are a group of ethical standards that can now be defined, which call for basic modifications in the values and attitudes of the doctor who undertakes community responsibilities.

## III. Application of Principles of Community Medicine to Indian Conditions

The following section gives more detail on the knowledge, skills and attitudes which are needed.

The discussion is not intended to be inclusive. It is selective in the sense that an attempt is made to give priority to particular emphasis which seem important in India today.

### *A. Basic Sciences of Community Medicine*

One of the early decisions in curriculum planning for preventive and social medicine was that teaching should extend from the beginning of the medical course through the internship. Now with the progressive maturation of the concept of community medicine it is even more important to restate this principle and to clearly define what it means. The basic sciences of community medicine must be built into the preclinical curriculum along with the basic sciences of clinical medicine. The relative emphasis on the following specific disciplines and their timing and issues to be adjusted to local conditions:

1. The most general term covering the basic orientation that needs to be developed is ecology. Although this discipline had its roots in plant and animal studies the present need is to make it truly relevant to understanding the human conditions in India. As the study of the relationship between man and his environment it provides a good base for understanding the environment.

2. Equally fundamental are the group of disciplines usually included in the social sciences. Selective and relevant contributions to understanding the organization of man in groups and interactions between individuals are fundamental because other people are the dominant component of the environment of most individuals.

3. Statistics provides a quantitative base for community understanding and should make community medicine a more scientific and less intuitive discipline than most kinds of medical practice.

4. Epidemiology is the diagnostic discipline of community medicine. It is ecology applied to health problems. It can be practised at the level of the family just as effectively as with larger communities.

Epidemiological information provides the basis for much of the intuitive approach of the highly skilled clinical diagnostician. Expectations of when to look for particular combinations of health variables and their outcomes derive largely from awareness of probabilities in particular community groundings. Certain types of people come down with particular conditions and clinical ambiguities are often resolved best on the basis of the epidemiological trial of knowing what to expect according to variables of time, place and person.

5. Demography is an increasingly important basic science in medical education. Rapid population growth appears to be the spontaneous factor most directly controlling change and development in India today. All health variables are directly influenced by number of people. The medical profession must perceive its own responsibility for birth rates in addition to its traditional concern with death rates.

6. Genetics, Nutrition and Child Growth and Development provide understanding of the person. Each is controlled by varying environmental determinants. They are worth studying independently because they mediate the more general environmental forces.

*B. Applied Sciences of Community Medicine*

On the foundation of understanding the disciplines of community medicine it is necessary in the clinical years to develop appropriate skills through practice. Many of these should be applied routinely in clinical practice with individual patients. To properly care for people the doctor should incorporate social and preventive measures. He must, however, also learn to deal with the community as a whole because a group approach is often most efficient, economical and humane.

1. Administration of health care has grown rapidly in importance. Partly as a result of demographic change and the increasing complexity of society there is a general insistence on better organization. In fact in some countries health care now ranks as the fourth largest industry both in its requirements for manpower and money. As people insist on better organization doctors must either take leadership or find themselves controlled by administrators and politicians. Of particular interest is the great growth of administrative research exploring areas that were previously left to ad hoc and intuitive decisions. Not only must medical colleges begin to provide opportunities for doctors to learn health administration but they must also take leadership in research in health systems. The field practice area therefore has the potential of becoming equal in importance to the ward and the laboratory as a base for teaching and research.

2. The doctor is the leader of the health team. No other aspect of medical education has been so much left to chance as preparing the doctor to work with health colleagues. In a primary health center he will be responsible for at least 40 co-workers and the number grows every year. This change is even more dramatic than the parallel movement in hospitals for more and more responsibilities to be carried by auxiliaries —a change that is forced by the increasing technocracy of medicine. To be a team leader requires a drastic change from outdated concepts of solo-practice. The new role requires a chance to practice in a field setting where the young doctor begins to understand that there are many tasks including clinical functions of medical care, which auxiliaries can do better than him on a routine basis. He must learn to delegate down so that the complicated judgmental problems can be referred up. Learning to work together with others requires practice.

3. Community control measures can now be applied on a widespread scale for many diseases. This is most true of many basic preventive procedures that remove the causes of disease. In general these include public health functions such as sanitation, vector control, mass education and social and legal measures. Every doctor should be involved in community activities especially those which are applied at the personal level such as immunization and nutrition.

4. Family Planning programs are here mentioned separately because of their vital role in building a better India. Both community and individual approaches must be blended. The fact that in many primary health centers approximately half the total staff effort is going into family planning is an indication of its significance in India's health program already. The pressure is bound to increase because the population problem will not be easily solved. Some family planning experts are saying that one of the greatest obstacles to effective family planning program in India is the medical profession. It is the responsibility of the leadership in the medical colleges to disprove this indictment.



*C. Basic Changes in Attitudes and Values*

No combination of knowledge and skills will by themselves be sufficient preparation for the practice of community medicine. Both must be supplemented by a changed attitude, a modified set of values that goes beyond that usually associated with medical ethics.

When a doctor takes on the responsibility of caring for a community as his patient he has to change his understanding of his primary responsibility. He can no longer think in terms of doing everything possible for a few selected individuals. He must learn to apply an appropriate scale of priorities to the choice of health problems which most require attention. He must also learn to think in terms of cost/benefit ratios in judging what control measures to apply. This requires a judicious amount of apparently ruthless saying 'No' by the doctor to individuals who present themselves for symptomatic care of minor complaints which should normally be treated by auxiliaries. Rather than only treating complaints that spontaneously come to him, he reaches out to the community in continuing appraisal of relevant problems. The community doctor must reserve his facilities and attention for those health problems which he and the community select as having highest priority. There will never be enough resources to care for all health demands and rational allocation requires courage and much skill in public relations.

The community doctor gets his satisfaction less directly and overtly than the clinician. The results of his efforts are often deferred in time. Patient response is not usually direct and openly warm because prevention does not evoke gratitude as readily as relieving pain or fear from existing illness.

Another basic attitude growing out of the ecological view is the recognition that medical care is not always the greatest need of a community. Health benefits may be better achieved by non-health developments. The doctor may therefore promote the greatest health gains by non-medical means.

## IV. Emerging Pattern of Community Medicine in India

Among the dramatic health achievements of the post-independence years one with particular long term benefit is the progressive evolution of a system of regionalized health care. The whole program is built on the comprehensiveness of care in the sense that the old dichotomy between preventive and curative services is being eroded away. The whole system of primary health centers as the peripheral service units linked back through increasing specialization to taluk—district and medical college hospitals provides an anatomical framework which is fairly well developed. The physiology of this system is not yet functioning, however, because the two-way linkage flow is not working. Education and consultation should flow to the periphery and patients and problems should be referred centripetally.

The greatest lack in the system in rural India is an adequate base of subcenters. To really reach the villages there must be a sub-center for about 3000 people. It has been demonstrated in our field research as well as in other places that a new type of 'ambulatory nurse midwife' is needed to provide the needed services at the village level. In the first place they should independently provide the bulk of routine symptomatic medical care. If the doctor is relieved of this burden he can do the tasks which are really important for the health care of the many village communities in a PHC block. This ANM can also carry out the village level preventive and family planning services which will provide the real basis for health improvement in the country. But they can work effectively only with appropriate supportive supervision.

For medical colleges the most exciting future potential of development is in moving actively into community responsibility. In the past, medical educators have spoken of

their responsibilities as being a tripod of teaching, research and clinical service. To this we need now to add the fourth leg of community service.

The climate is now right for some colleges to really pioneer in taking regional responsibility for medical care. Heads of clinical departments should be responsible for service in a whole district. For instance, a department of surgery should assume responsibility for seeing that simple surgery in health centers and small hospitals is properly done. Staff should rotate back and forth from center to periphery. If appropriate linkage is established the patient should be able to get the diagnostic preventive and therapeutic services he needs as close to his home as the sophistication of facilities will permit. The health centers, public health services and small hospitals would be considered part of the medical college just as much as the teaching hospital now is.

The eventual goal is to have a medical college not limited by hospital walls. It must be decentralized, reaching out to incorporate community health care facilities in a whole region.

### V. Co-ordination

No complex organism can survive without a co-ordinating system. Community care admittedly adds to the complexity of medical education. It has been clearly evident from experience thus far that it is not sufficient to merely turn community medicine over to a single department. All departments, especially those with clinical responsibility, must be involved to make a significant impact on medical students.

The needed synchronization of effort will, however, not happen spontaneously. Without stimulation and co-ordination this intricate anatomy of organization will remain inert. The simplest administrative measure would be to expand the role and resources of the department of community medicine to fill the co-ordinating responsibility. A fixed percentage of the medical college budget could be allocated to ensure that the field activities are not eventually crowded out. To really provide the status needed, however, a dean of community extension should be appointed on a par with the academic dean and the superintendent of the teaching hospital.

We have had too many halfway measures and too much frittering away of resources in partial solutions. The need for bold and decisive action is evident. Some colleges should take up the evident challenge of the new community medicine.

# Need-Based Undergraduate Medical Education

BY

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Today medical education has reached a stage in its long history, when a departure from the traditional structure of the past has become almost imperative not only in developing countries, but also in developed countries. In September 1965 it was considered expedient in Great Britian to appoint a Royal Commission to review medical education, under-graduate and post-graduate, in the light of national needs and resources, including technical assistance overseas, to advise Her Majesty's Government on what principles future development, including its planning development, should be based. The Royal Commission which submitted its report in April 1968 made the following important recommendations in so far as the under-graduate medical education was concerned: (*i*) The duration of the under-graduate course should remain five years. (*ii*) The course should be as flexible as possible. Its content should be grouped into compulsory elements, options, and elements in which a choice may be made between a series of limited alternatives. (*iii*) A total period of about nine months should be available for optional courses in which a student could (after advice) broaden his acquaintance with several subjects or study one in greater depth. He should be able to spend this time in clinical subjects as well as the basic medical sciences. (*iv*) The under-graduate course and graduation should be followed by a compulsory year of internship similar to the present one but better controlled by the universities than now. This should preferably be completed by all students, including those from overseas, in the region adjoining their medical school. (*v*) Registration after satisfactory completion of internship, should enable the individual to practise under supervision, but should not entitle him to independent clinical practice in Britain.

In the United States the basic medical qualification of M.D. can be obtained only after a four-year course in high school, a four-year course in college in which a candidate receives his pre-medical training in such subjects as chemistry, physics, biology, and another four-year course in a medical school. In addition to these academic requirements, prospective medical students are expected to take the Medical College Admission Test, which was developed in 1947 by the Association of American Medical Colleges. Generally, two years of medical school would be devoted to the pre-clinical subjects and the remainder to the clinical fields.

Since submission of the Flexner report on medical education in 1910, medical education in the United States of America has undergone several changes. Probably the most important one pertains to the development of speciality training after medical school. According to the National Advisory Commission on Health Manpower, by 1967 less than two per cent of medical school graduates go into general practice. The vast majority continue their education after graduation from medical school with a view to become specialists, teachers or research scientists. Today the completion of medical school and the awarding of the M.D. degree thus represent not the termination but only a midway point in the education of the American physician. The emphasis on specialty training and research has also effected a basic change of the character of the American medical school, which has become a research and post-graduate education centre in addition to its erstwhile function of training under-graduates.

On the other hand, there is a rising tide of feeling in the United States of America that medical education in all its phases is

# Pattern of Internship Training in Community Medicine/Preventive & Social Medicine in India

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**ABSTRACT**

A review of the pattern of internship training in Preventive and Social Medicine/ Community Medicine in various medical colleges of India was made by the Department of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education & Research, Pondicherry. Information obtained from eighty-five medical institutions were analysed and the pattern of training available in them were evaluated in the light of the recommendations of Medical Council of India on this subject.

**Introduction**

Medical Council of India has made several recommendations regarding compulsory rotatory internship training (1983). It has broadly outlined the training to be given during this period. It has emphasised that internship shall include training in Medicine, Surgery and Obstetrices & Gynaecology and in Community Health at Rural Health Training Centre or Upgraded Primary Health Centres. It has further stipulated that the posting in Community Health work should be for a minimum period of six months. Medical Council of India has also recommended that "Each Medical College should be in total charge of three Primary Health Centres and the number of Primary Health Centres should be gradually increased so as to cover the entire district."

In the light of the above recommendations the Department of Preventive and Social Medicine, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry made an attempt to gather certain information from various medical institutions in order to review the pattern of internship training in Preventive and Social Medicine including the physical facilities available for it.

**Material and Methods**

This study was undertaken by the Department of Preventive & Social Medicine, Jawaharlal Institute of Postgraduate Medical Education & Research, Pondicherry during the period March to October, 1985. A self-administered questionnaire (proforma) wos despatched to the Heads of Departments of P & SM in the one hundred and eleven medical colleges in India during April 1985. The proforma gathered information concerning pattern of internship training in P.S.M./ Community Medicine including certain particulars of physical facilities available and financial support obtained. Till the end of October, 1985, filled-in proformas were received from eighty-five medical colleges. The data obtained were analysed.

RESULTS

**Type of Medical Institutions**

Of the eighty-five institutions, sixty-nine (81.2 per cent) were state government colleges whereas seven were private (8.2 per cent), four central government (4.7 per cent), three autonomous (3.5 per cent) and two municipal (2.4 per cent) medical institutions.

**Annual Intake of Undergraduates**

The annual intake of undergraduates ranged between 50 and 210] Seventeen medical colleges (20 per cent) had admissions between 50 and 75, twenty-four colleges (28.2 per cent) between 75 and 100, thirty-two colleges (37.6 per cent) between 100 and 150 and twelve institutions ([4.2 per cent) had more than 150 admissions annually.

**Total Duration of Posting in P.S.M.**

The total duration of posting in Preventive and Social Medicine in various medical colleges was between one month and six and a half month. It was less than three months in twelve institutions (14.1 per cent), three months in forty-five (52.9 per cent) and six months in twenty-seven institutions (31.8 per cent). Only in one college (1.2 per cent) the total duration was more than six months *viz.* six and a half month.

**Availability of Health Centres**

(*i*) *Rural Health Centres/Primary Health Centres (H.C.)*

Four medical colleges (4.7 per cent) did not have an attached rural/primary health centre (H.C.). These four institutions included two municipal, one central government and one private college,

Out of the eighty-one institutions with rural centres, seventy-three (90.1 per cent) had only one centre each whereas only eight (9.9 per cent) had three or more centres attached to each of them.

(*ii*) *Urban Health Centres*

Twenty-one institutions (24.7 per cent) did not have an urban health centre. All these were state government institutions.

**Residential accommodation in Health Centres**

Rural centres of sixty institutions (74.1 per cent) had residential facilities for their interns whereas urban centres of fifteen colleges (23.4 per cent) had such facilities.

**Number of Interns Posted at a Time**

The number of interns posted at a time in the health centres varied between two and thirty-five.

In rural centres of four medical colleges (4.9 per cent) the number of interns posted at a time was more than thirty whereas in those of eight institutions (9.9 per cent) it was between twenty one and thirty and in those of thirty-two institutions (39.6 per cent) it was between eleven and twenty. In rural centres of only thirty-two medical colleges (39.6 per cent) this number was less than ten. Five institutions (6.2 per cent) did not provide this data.

In urban centres of five institutions (7.8 per cent) the number of interns posted at a time was between twenty one and thirty whereas in those of eight (12.5 per cent) it was between eleven and twenty and in those of forty-two college (60.7 per cent) it was below ten. Two institutions (3.1 per cent) did not post any intern to their urban centres. Seven colleges (10.9 per cent) did not furnish this information.

**Administrative Control of Health Centres**

The administrative control of rural centres of thirty five colleges (43.2 per cent) was with the medical colleges themselves whereas that of thirty (37 pes cent) was with the medical colleges and the state governments jointly (Table I).

On the other hand, the administrative control of urban centres of thirty-four medical colleges (53 per cent) belonged to the institutions themselves whereas that of nine (14 per cent) to state governments and that of another nine (14 per cent) to the colleges and state governments jointly.

**Agencies Providing Financial Support**

Financial support to rural centres of forty-four medical institutions (54.3 per cent) came



from the state governments. Eighteen colleges (22.2 per cent) received the funds from the state governments and medical collenes jointly (Table I).

The funds for urban centres of twenty-eight medical colleges (43.6 per cent) were given by the colleges themselves whereas that to sixteen (25 per cent) was from the state governments. Twenty institution (18.6 per cent) obtained financial support for their urban centres from the colleges and the state governments jointly while six (9.4 per cent) received it from the municipality.

**Population Coverage of Health Centres**

The population coverage of rural centres ranged between 5000 and 5 lakhs whereas that of urban centres ranged from 1500 to 10 lakhs.

Rural centres of two colieges (12.3 per cent) served less than 25,000 population each, twelve (14.8 per cent) between 25,00 and 50,000 fifteen (18.5 per cent) between 50,000 and one lakh and twenty-one (25.8 per cent) more than one lakh each. Rural centres of twenty-three institutions (28,5 per cent) did not provide information about their population coverage.

Urban centres of thirty-five colleges (51.6 per cent) catered to less than 25,000 population each, sixteen (25 per cent) between 25,000 and 50,000 and fifteen (23.4 per cent) to more than 50,000 each. Ten medical colleges (15.6 per cent) did not mention the population coverage of their urban centres.

**Break-up of Postings in P.S.M.**

(*i*) *Rural Posting*

The duration of this posting ranged between two and twenty-four weeks. In thirteen colleges (16.4 per cent) it was between sixteen and twenty-four weeks, in forty-five colleges (55.5 per cent) it was between six and twelve weeks and in twenty institutions (24.5 per cent) it was between two and four weeks. Three institutions (3.6 per cent) did not indicate this duration (Table II).

(*ii*) *Urban Postings*

The duration of this posting varied from one to twelve weeks. In five colleges (7.8 per cent) the duration was between eight and twelve weeks, in nine (14.1 per cent) between six and eight weeks and in thirty-seven colleges (57.9 per cent) between one and four weeks. Eleven colleges (17.2 per cent) did not furnish this information (Table II).

(*iii*) *Postings in other departments/agencies*

Though the posting pertains to P.S.M./ Community Medicine 'on paper', eleven medical colleges (12.2 per cent) 'deputed' interns to other departments/agencies during their posting in P.S.M. Hence the actual posting in P.S.M. in these institutions was much less than the duration mentioned (*i.e.*, three months in six colleges and six months in five). The duration of posting to other departments/agencies was between four and

TABLE 1

**Medical Colleges : Administrative Control & Financial Support of Health Centres**

| AGENCY | ADMINISTRATIVE CONTROL | | | | FINANCIAL CONTROL | | | |
|---|---|---|---|---|---|---|---|---|
| | Urban Health Centre | | Rural Health Centre | | Urban Health Centre | | Rural Health Centre | |
| | No. | % | No. | % | No. | % | No. | % |
| Medical Colleges | 34 | 53.1 | 35 | 43.2 | 28 | 43.6 | 18 | 22.2 |
| State Governments | 9 | 14.0 | 30 | 37.0 | 16 | 25.0 | 44 | 54.3 |
| Municipalities | 8 | 12.5 | 1 | 1.3 | 6 | 9.4 | — | — |
| Dual/Joint* | 9 | 14.0 | 15 | 18.5 | 12 | 18.8 | 18 | 22.2 |
| Others | 2 | 3.2 | — | — | 1 | 1.6 | — | — |
| Information not available | 2 | 3.2 | — | — | 1 | 1.6 | 1 | 1.3 |
| TOTAL | 64 | 100 | 81 | 100 | 64 | 100 | 81 | 100 |

*By Medical Colleges and State Governments jointly.



TABLE 2

**Medical Colleges and Break-up of Posting in P.S.M. by duration and placement**

| PLACEMENT : DURATION IN WEEKS | MEDICAL COLLEGES | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Urban Health Centre | | Primary Health Centre | | Other Department/s Agencies | | Not known | |
| | No. | % | No. | % | No. | % | No. | % |
| NIL | 2 | 3.1 | — | — | — | — | — | — |
| 2 | 14 | 21.9 | 3 | 3.6 | 3 | 27.3 | 3 | 13.0 |
| 3—4 | 23 | 36.0 | 17 | 20.9 | 2 | 18.2 | 3 | 13.0 |
| 6—8 | 9 | 14.0 | 21 | 25.9 | 2 | 18.2 | 9 | 39.3 |
| 9—12 | 5 | 7.8 | 24 | 29.6 | 1 | 9.0 | 3 | 13.0 |
| 16—24 | — | — | 13 | 16.4 | — | — | 2 | 8.7 |
| Not Known | 11 | 17.2 | 3 | 3.6 | 3 | 27.3 | 3 | 13.0 |
| TOTAL | 64 | 100 | 81 | 100 | 11 | 100 | 23 | 100 |

eighteen weeks. These departments/agencies included Departments of Paediatrics and Obstetrics & Gynaecology, Family Planning clinics and Post Partum Units, Civil Hospitals and National Social Service.

It was further observed that in eight (66.7 per cent) of the twelve institutions where the P.S.M. posting was less than three months the interns did not have any 'deputations' to other departments/agencies, However, the other four (33.3 per cent) did not provide this information. Among these colleges with a three months' posting in P.S.M., twenty-eight (62.2 per cent) did not have such deputations whereas six (13.3 per cent) had, while eleven (24.5 per cent) did not give this data. Of the seventy-eight colleges with six months' posting or more in P.S.M. fifteen (53.6 per cent) did not have this 'deputation' whereas five (17.9 per cent) had it while eight colleges (28.5 per cent) did not furnish this information.

## Discussion

It was evident from the observations made that many of the medical colleges faced difficulties in implementing the recommendations made by Medical Council of India regarding internship training in Preventive and Social Medicine.

Only one-third of the institutions provided six months' internship training in P.S.M. as suggested by M.C.I. The posting was for only three months or even less in the other two-thirds of the colleges. Many reasons could be identified for this 'reduced' exposure of interns to community health in a majority of the institutions.

Many of the institutions admitted a large number of students annually. Thirty-eight of them had an annual admission of more than one hundred and twenty five students. Five per cent of the institutions did not have rural centres attached to them and twenty-five per cent of them had no urban centres. Only ten per cent of the colleges had three rural centres attached to them as suggested by M.C.I. Twenty-six per cent of the colleges had no residential facilities for interns in their rural field practice areas in spite of the fact that rural internship was essentially a residential training. In sixty per cent of the rural centres with residential facilities, the number of interns posted at a time was between eleven and thirty-five. Many of the institutions lacked sufficient teaching staff in the discipline of P.S.M. The funds provided to various medical institutions under Re-orientation of Medical Education (R.O.M.E.) scheme by Government of India for construction of residential facilities for interns in the rural centres were inadequate.

On account of these reasons many institutions were forced to 'depute' the interns to other departments of the medical colleges or agencies outside these institutions during their posting in P.S.M. Hence the six months' posting in P.S.M. in these institutions was more on 'paper' than in actual practice.

In view of the above situation with regard to internship training in P.S.M. in medical



institutions in the country it is suggested that the entire pattern of this training be critically reviewed at the national level. This review could be initiated by Medical Council of India or Ministry of Health and Family Welfare, Government of India in the context of the National Health Policy outlined by the government. The review committee could also devise different strategies to overcome the difficulties/hurdles faced by various medical institutions in relation to internship training in P.S.M.

**Acknowledgement**

The authors wish to express their sincere thanks to Dr. O.P. Bhargava, Director, Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry for his continuous encouragement and support and to all the Heads of Departments of Preventive & Social Medicine/Community Medicine of the various medical colleges for their active co-operation in promptly providing us the necessary information pertaining to internship training in their departments.

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# Objectives of Training in M.D. Community Medicine


By

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**Introduction :**

The Centre for Community Medicine, All India Institute of Medical Sciences, has prepared a revised list of objectives, both general and intermediate (instructional), for its three year postgraduate training programme leading to the degree of M. D. in Community Medicine. These objectives are presented here not as a final document, but with a view to initiate discussion on the subject. It is also hoped that the sharing of training objectives will lead to greater uniformity between different institutions engaged in post-graduate education in Preventive and Social Medicine or Community Medicine. Comment on what follows will be welcome.

The Centre for Community Medicine shall be concerned with training of specialists who after successful completion of the course have the necessary skills to play the roles of :-

Teachers
Researchers
Administrators
And other service personnel in this discipline

1. **General Objectives :**

1.1 The trainee should possess an in-depth understanding of the Community, including the major determinants of health and disease.

1.2 He should be able to plan and carry out investigations into the health problems of the Community and its special groups (Community diagnosis), with a view to take necessary corrective action.

1.3 He should be able to carry out epidemiological investigations into communicable, non-communicable and nutritional diseases and suggest appropriate solutions to the problems of public health importance.

1.4 He should be able to plan, implement and evaluate primary health care services and other appropriate intervention strategies.

2. **Intermediate Objectives**

2.1 *Basic Sciences :* In order to achieve the overall objectives given above, he shall acquire sufficient knowledge in the following basic sciences as relevant to community health.

2.1.1. **Biostatistics (Including Technical Demography)**
At the end of the Course, the student should be able to ;

2.1.1.1 distinguish between categorical, measurement and count variables as well as nominal, ordinal, interval and ratio scales ;

2.1.1.2. prepare a frequency distribution and cumulative frequency distribution in describing biological and related observations and understand the use of relative frequencies ;

2.1.1.3. define measures of location (mean median, mode, quartiles, percentiles) and measures of dispersion (range, standard deviation, quartile deviation) and make appropriate choices among them for describing a given set of data ;

2.1.1.4 define probability (using the frequency approach) and conditional probability and state and use the addition and multiplication rules of probability, appropriately ;

2.1.1.5 describe the concept of a probability distribution. Describe the properties of Normal, Binomial and Poisson distributions and their simple applications in medical research ;

2.1.1.6 describe the logical basis of statistical inference explaing the concepts of random sampling and sampling distribution. Describe standard error as a measure of precision ;

2.1.1.7 Choose and perform simple tests of significance from among the Z-test, student's 't' test and the Chi-square tests, and also the one way and two way analysis of variance tests. Give evidence of grasp of the assumptions on which these tests are based.

2.1.1.8 describe the terms 'First' and 'Second' kind of errors and level of significance and Confidence interval. Distinguish between 'Statistical Significance' of a result and its 'practical importance' in medical application ;



2.1.1.9 describe the concept of linear regresstion both with reference to a single independent variable and more than one independent variable. Fit a linear regression by the method of 'Least squares' and use it for prediction purposes ;

2.1.1.10 define different measures of morbidity and explain the related concept of units of measurement and choose the appropriate measure in given situations ;

2.1.1.11 define crude and specific mortality and fertility rates. Compute and interpret standardised rates ;

2.1.1.12 describe the columns of life table and the construction of a life table from age-specific death rates. Apply life table analysis to evaluation of effectiveness of contraceptives as well as evaluation of clinical and surgical interventions in chronic diseases.

.1.2 **Epidemiology**

The student, at the end of his training period, should be able to :

2 1.2.1 describe and interpret the distribution of diseases/health related conditions according to time, place and person ;

2.1.2.2. investigate systematically common-source epidemic outbreaks of diseases, computing attack rates and using them to trace vehicle of transmission ;

2.1.2.3. (a) distinguish between rates and ratios describe their uses in Epidemiology ;
(b) Define : i Crude and specific mortality rates including case fatality rate ;
(ii) Incidence and prevalence rates and explain their relationship ;
(iii) Standardised rates and describe their appropriate use ;

2.1.2.4 distinguish between experimental and observational studies as well as between observational association and causation. List and explain the criteria (of consistency, strength, specificity and biological plausibility) that support a causat inference from an epidemiologic study !

2.1.2.5 design the following types of epidemiologic studies :
(a) Descriptive
(b) Case-control
(c) Prospective
(d) Cross-sectional
(e) Randomised clinical (prophylactic) trials ;

2.1 2.6 recognise cohort effect while using and interpreting cross sectional data ;

2.1.2.7 define and interpret relative risk and attributable risk ;

2.1 2.8 (a) describe the appropriateness of a community screening programme based on knowledge of the natural history of the disease and the available intervention technology.

(b) design community screening programmes using the concept of sensitivity and specificity (and the related false positives and false negatives).

2.1.2.9 describe current knowledge on clinical epidemiology of major problems of public health importance in India ;

2.1.2.10 describe the elements of the epidemiologic approach to programme evaluation.

2.1.3 **Behavioural Sciences :**

2.1.3.1 Understand the relevance of behavioural sciences in community medicine ;

2.1.3.2 Understand the structure and function of the family and community, including ways, power structure, social stratification and social change ;

2 1.3.3 Understand the social determinants of health and disease, including social epidemiology ;

2.1.3.4 Able to construct and pretest questionnaires, and carry out and interpret simple sociological surveys including knowledge, attitude and practice (K.A.P.) studies ;

2.1.3.5 Familiarity with the psycho-social aspects of health related behaviour, doctor patient relationship and the sick role ;

2.1.3.6 Familiarity with the concept of social security, and with social welfare agencies and voluntary health agencies ;

2.1.3.7 Understand the importance of medical economics ; costing ; and the relevance of cost-benefit and cost-effectiveness analyses.

2.1.4 **Human Ecology**

2.1.4.1 The student should possess an in-depth knowledge of various ecological factors and their impact on health and disease status of human populations ;

2.1.4.2 He should be able to plan and carry out simple investigations of major environmental hazards and interpret the results.

2 1.4.3 He should be able to plan broad environmental sanitation strategies, and should have the ability to implement simple sanitation programmes ;

2.1.4.4 He should have a working knowledge of public health laboratory practice, including the taking and forwarding of samples for relevant microbiological testing, and the interpretation of results :

2.1.4.5 He should be able to recognise the insects of medical importance and relate their life cycle to disease transmission. He should also be able to implement the common procedures of vector control.

2.2 **Applied Disciplines**

2.2.1 **Applied Epidemiology Including National Health Programmes**

2.2.1.1 The student shall acquire detailed knowledge of the epidemiology of all important communicable and non-communicable diseases and the measures to prevent them at the individual family and community levels.

2.2.1.2 Through their active participation in the National Health Programmes against communicable diseases in their various phases, the student shall be able to plan, implement and evaluate similar programmes independently (for this purpose the students shall undergo special training at the National Institute of Communicable Diseases, Infectious Disease Hospital New Delhi ; Tuberculosis Clinic, Leprosy Hospital etc.).

2.2.1.3 The student shall have the ability to plan and organise general health surveys as well as special morbidity surveys.

2.2.1.4 As a part of their training, the student shall investigate epidemic outbreaks and organize community control measures including health education and immunisation drives. Relevant data collection and preparation of reports will be part of this exercise.

2.2.2 **Maternal and Child Health & Family Welfare :** Student should :

2.2.2.1 be acquainted with the magnitude of health needs and problems of the mothers and children ;

2.2.2.2 be acquainted with the Maternal and Child Health Services at National and International level.,

2.2.2.3 possess organisational and management skills in administering health care services for the mothers and children at community and at the National level.

2.2.2.4 be able to screen to identify and manage high risk mothers and children ;

2.2.2.5 understand the family health needs and problems as the family health physician ;

2.2.2.6 be able to provide comprehensive health care to the families and learn dynamics of family social interaction.

2.2.2.7 possess sufficient knowledge of various aspects of human reproduction, growth and development, population dynamics and family welfare planning, including modern contraceptive techniques :

2.2.2.8 be able to organise and impart training programmes for the paramedicals functioning for Maternal and Child Health and Family Welfare Services :

2.2.2.9 develop knowledge and understanding for evaluation and assessment of the M.C.H. Services provided to the community or at the National Level ;

2.2.3 **Occupational Health :**

The studens have the

(i) knowledge of the major occupational diseases, their diagnosis, management and prevention.

(ii) ability to identify and assess occupational hazards in major representative industries, and suggest suitable preventive measures.

(iii) an understanding of the steps in the organisation of occupational health services.

(iv) knowledge of the existing legal provisions relevant to industry, including social security measures.

2.2.4. **Public Health Nutrition**

The student shall acquire :

(i) Knowledge of the nature and magnitude of the nutritional problem at the world, national and regional levels and their relationship with the overall socio-economic development.



(ii) Knowledge of the nutritional diseases and ability to diagnose and treat those diseases in the individual and the community.

(iii) Ability to plan and carry out nutritional assessment, including dietary surveys, in the community, and the ability to interpret these findings and suggest suitable remedial action at the community level.

(iv) Ability to organise community education programme in nutrition.

2.2.5. **Health Services Administration**

The student shall acquire :

(i) Knowledge of the principles of administration, including personnel management and team concept.

(ii) An understanding of the organisational structure of health services at the various levels : state, national and international etc. and their evaluation.

(iii) Knowledge of the organisational frame work of health services at the state and district levels including job description of various health professionals.

(iv) Knowledge of relevant international and national health legislation.

(v) Skills to organise medical care for the family and the community.

(vi) Ability to organise in service training programmes for various categories of health workers.

(vii) Ability to work as an effective member of health team as well as health team leader.

2.2.6. **Health Education**

2.2.6.1 The students should possess an understanding of the communication process, channels of communication and methods of decision making in the community.

2.2.6.2 He should be skilful in the practical use of the common methods and media of health education, knowing their advantages and disadvantages.

2.2.6.3 He should be able to plan and carry out surveys of local beliefs and practices relevant to health and disease and evaluate the effect of health education programmes.

2.2.6.4 The student should be able to plan, implement and evaluate special health education campaigns.

2.2.7 **Pedagogical Methods** : The student shall

(i) Acquire a basic knowledge of pedagogical methods and educational psychology.

(ii) Know the elements of curriculum planning and instructional objectives.

(iii) Conduct didactic sessions, tutorials, and community field practicals.

2.3 **Clinical Disciplines** : *Primary Health Care*

2.3.1 The student should be able to accept the responsibility for making the initial decision on every problem the patient may present, including treatment and/or referral.

2.3.2 The student should be able to provide adequate primary health care at the individual, family and community levels.

2.3.3 He should be able to carry out initial and in-service training of various categories of medical and paramedical workers.

2.3.4 He should be able to plan, implement, supervise and evaluate primary health care services at the community level.

To achieve these Intermediate objectives the following courses are necessary :—

| | *Course* | *Where Covered* |
|---|---|---|
| 1. | Principles of Preventive Medicine | C.C.M. (Centre for Community Medicine) |
| 2. | Rehabilitation | C.C.M. |
| 3. | Genetics | C.C.M. |
| 4. | Behavioural Sciences | C.C.M. |
| 5. | Radiation Hygiene | C.C.M. |
| 6. | Environmental Health and ecology | C.C.M. |
| 7. | Epidemiology & Epidemiologic Methods | C.C.M. |
| 8. | Research Methodology | C.C.M. |
| 9. | Microbiology & Parasitology | C.C.M. |
| 10. | Entomology | C.C.M. |



| | *Course* | *Where Covered* |
|---|---|---|
| 11. | Public Health Nutrition | Rural Health Centre (R.H.C.) |
| 12. | Occupational Health | R.H.C. |
| 13. | Communicable Diseases | C.C.M. |
| 14. | Non-Communicable Diseases | R.H.C. |
| 15. | Maternal and Child Health | Urban Health Centre (U.H.C.) |
| 16. | Family Welfare & Sex Education | U.H.C. |
| 17. | Growth and Development | U.H.C. |
| 18. | Clinico-social case Reviews | U.H.C. |
| 19. | Demography and Population Dynamics | C.C.M. |
| 20. | Health Statistics | C.C.M. |
| 21. | Statistical Methods | C.C.M. |
| 22. | Health Education and Communication | C.C.M. |
| 23. | Pedagogical Methods | C.C.M. |
| 24. | Primary Health Care and General Practice | Rural Health Centre (R.H.C.) |
| 25. | National Health Programmes | R.H.C. |
| 26. | International Health | C.C.M. |
| 27. | Public Health Law | C.C.M. |
| 28. | Non-governmental organizations | C.C.M. |
| 29. | Public Health Administration | C.C.M. |
| 30. | Mental Health | C.C.M. |

It will be mandatory that all P.G. Students satisfactorily complete all the above mentioned courses.

The residents will spend about 12 months each at the main C.C.M., Urban Health Centre and Rural Health Centre.

The initial four months will be at the Centre itself for orientation to the discipline, basic courses and selection of topics for thesis etc. The next two years would be spent basically in the U.H.C. & R.H.C. (July batch first to Urban Health Centre and then to Rural Health Centre and January batch vice-versa). The last eight months would again be at the C.C.M.

At all three places, the M.D. Students would have pre-defined service responsibilities, research tasks and training.

The Students have also to submit a "Thesis" as a result of original investigative work under a faculty guide.

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# An Approach to Syllabus Analysis and Restructuring In Social and Preventive Medicine

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**ABSTRACT**

The traditional 'syllabi' of subjects in medical curriculum are usually inadequate in many respects and do not permit integration between teaching, learning and evaluation. A traditional syllabus in Social and Preventive Medicine of M.B.B.S. Course and its revised version are analysed with respect to clarity using a method modified from that adopted by Association of Indian Universities. The improvements to make it more comprehensive and purposeful in the light of requirements of a scientific syllabus are suggested.

Syllabus of a subject in any curriculum is a crucial document which permits integration between teaching, learning and evaluation. The traditional syllabus usually "a list or topics with lots of dashes in between," is inadequate in many respects. Restructuring of syllabi is one aspect of the Minimal Reforms Programme suggested with respect to examination system. The syllabus document must include a statement of educational and instructional objectives and the techniques of teaching and evaluation procedures.

The existing syllabi in medical curricalum are often arbitrary, unrealistic and superficial. They are usually formulated in a casual, hurried and ad hoc manner and do not offer clear guidance as to what and how a teacher shall teach and how does he know what he has taught. Sometimes they do not even specify the content areas completely. To make the syllabus comprehensive, dynamic and purposeful, it has to be revised and this revision is best done by a Committee of Teachers who analyse it critically and rewrite it to render it a valid and meaningful guide to the teacher, student, paper setter and examiner.

The existing syllabus can be analysed with syllabus analysis proforma used by the Association of Indian Universities (AIU). This proforma helps us to determine "how clearly the syllabus provides guidance." By using a rating scale of 5 points and total score of 100 it enables computation of overall co-efficient of clarity whose minimum value is 20.

After critical analysis the syllabus can be restructured to include :

1. Objectives and scope of the course.

2. Content outline in terms of units and topics in paper sequence.

3. Suggested teaching/learning methods and activities.

4. Time factor.

5. Suggested evaluation techniques and tools.

6. Essential books and supplementary reading lists.

The syllabus in Social and Preventive Medicine (SPM) prescribed by Sri Venkateswara University in 1975 for the M. B. B. S. Course (Appendix I) was analysed with respect to clarity by using a modified version of AIU, proforma (Appendix II). The proforma was administered to eight teachers in the department of SPM and the average co-efficient of clarity obtained was 40.

The S. V. University in 1981 adopted the syllabus in SPM as formulated by the Andhra Pradesh State Medical Education Conference held in 1980. This revised syllabus has also been analysed similarly and the coefficient is found to be 65. A portion of the revised syllabus dealing with the topic Public Health Administration is given in Appendix III.

The clarity of syllabus could be further improved by incorporating, among other things, specific objectives, teaching-learning methods, time schedules and techniques of evaluation for all sub-topics. To illustrate, such improvements for the sub-topic "Primary Health Centre" are suggested below.

**TOPIC: PUBLIC HEALTH ADMINISTRATION**
**SUB-TOPIC : PRIMARY HEALTH CENTRE (PHC).**

**1. Specific Objectives :**

The student should be able to :

(1) enumerate the functions of the individual members of the health team at a PHC.

(2) understand the distribution of work between the male and female health workers in a sub-centre and to prepare a monthly plan of home visits for those workers ;

(3) understand and appreciate the role of the supervisors and the methods of supervision ;

(4) explain the role of the PHC in implementation of various ongoing national health programmes and

(5) enumerate and describe the registers and records maintained in a PHC and the periodical returns to be prepared.

**2. Teaching Learning Methods :**

2.1. Lectures (2 Hours) :

1. Concept of comprehensive health care.

2. Overall organisation and functions of PHC.

2.2. Tutorials (1 hour) :

Planning of house visits and supervision.



2.3 Field Demonstration (6-8 Hours) :

1. Records, registers and returns.

2. Staff meeting of PHC.

2.4. Game : eg. UNICEF strategy game.*

2.5. Seminar : Paper presentation or Integrated teaching (2 hours) :

National Health Programmes.

**3 Evaluation :**

Written test incorporating the following types of questions.

3.1. long answer questions : e.g. Describe the set-up and functions of a PHC. Give suggestions for improving its effectiveness.

3.2. Short answer questions. e.g. Explain what is a target couple register.

3.3. Multiple choice question :

e.g. Identify the one unrelated or wrong answer :

Duties of the Female Health Worker include :

(a) Antenatal case registration.

(b) Intranatal Care.

(c) Smallpox vaccination of infants.

(d) Helping the doctors during clinics.



## REFERENCES

Monograph on Syllabus Analysis and Restructuring, Association of Indian Universities, New Delhi, 1982.

*A game which provides insight into how UNICEF's strategy for basic services works.

APPENDIX I

## Regulations and Syllabi Relating to M.B.B.S. Degree Examination, Sri Venkateswara University, 1975

### SYLLABUS IN SOCIAL AND PREVENTIVE MEDICINE

1. Social and Preventive Medicine

Philosophy and discipline of Social and Preventive Medicine in relation to epidemiology or communicable and non-communicable diseases.

2. Environmental Sanitation.

An understanding of the main general principles relating to environmental sanita ion, without any details or construction and maintenance of sanitary appliances and works, which form the domain of sanitary engineer and public health officer. This applies to following subjects of study.

(1) Water-supply : Sources of supply-chance of contamination—methods of purification—water borne diseases—mode of spread and their preventien.

(2) Refuse and Exreta disposal : Principles and methods applicable to rural and urban populations—soil pollution and contamination of water supplies conservancy and composing various types of latrines and their suitability to different situations.

(3) Food : Function of foods in relation to health—balanced diets - food-borne diseases ; methods of spread and their control.

(4) Housing and Ventilation : General principles of planning of environments in relation to housing.

(5) Climate in relation to health : Influence of climatic factors in relation to health and diseases—studies of climate in epidemiology of diseases.

3. Epidemiology and Statistics

General principles of epidemiological studies in the understanding of diseases in individuals and among populations—use of statistics as a tool in the analysis of control of the chain of diseases causation and effects.

4. Communicable diseases

General principles of spread of infection—levels of prevention and general lines of control of the following groups of infectious diseases ; viz., Water borne diseases ; enterio



infections ; respiratory (droplet) infections ; communicable diseases of childhood ; chronic endemic diseases—Tuberculosis, Leprosy and Venereal diseases, Insect-borne diseases ; disinfection and disinfestation.

5. Special Health Services

General principles relating to the organisation of special health services, with regard to the health of the individual in so far as it relates to the part played by the medical practitioner.

(1) Maternal and Infant Health ; including family planning. Objectives of prenatal and post-natal care-domiciliary health services—maternal, infant and child health protection, Family Planning.

(2) Child and School Health : Principles and objectives of pre-school and school child-investigations and treatment.

(3) Industrial health : General Principles of occupational hazards in the production of specific and non-specific occupational health problems—prevention and control of high mortality and morbidity among industrial populations.

(4) Malnutrition in relating to Preventive Medicine : the part played by malnutrition in the causation of nutritional syndromes and diseases. Methods of investigation by diet and nutrition surveys—signs and symptoms of deficiency diseases, control of undernutrition and specific nutrition disorders.

6. Public Health Administration

Public Health Organisation—General obligations of medical practitioners and physicians to Health Services—Objectives and organisation of Rural Health Centres.

APPENDIX II

## SYLLABUS ANALYSIS PROFORMA*

| | SCORE | | | | | |
|---|---|---|---|---|---|---|
| | Very Clear | | | | Not at all clear | Maximum |
| 1. What should the teacher teach ? | | | | | | |
| a. All subject matter | 5 | 4 | 3 | 2 | 1 | |
| b. Activity of student | 5 | 4 | 3 | 2 | 1 | |
| c. Link with other subjects | 5 | 4 | 3 | 2 | 1 | |
| d. Depth of treatment | 5 | 4 | 3 | 2 | 1 | 20 |
| 2. Why should the teacher teach ? | | | | | | |
| a. Students' knowledge to be developed | 5 | 4 | 3 | 2 | 1 | |
| b. Students' attitudes to be changed | 5 | 4 | 3 | 2 | 1 | |
| c. Students' skills and abilities to be developed | 5 | 4 | 3 | 2 | 1 | 15 |
| 3. How should the teacher teach ? | | | | | | |
| a. Methods of teaching | 5 | 4 | 3 | 2 | 1 | |
| b. Teaching/learning aids | 5 | 4 | 3 | 2 | 1 | |
| c. Lesson plans and time allocation | 5 | 4 | 3 | 2 | 1 | 15 |
| 4. How does the teacher know what he has taught | | | | | | |
| a. Methods of evaluation | 5 | 4 | 3 | 2 | 1 | |
| b. Type and frequency of tests | 5 | 4 | 3 | 2 | 1 | 10 |
| | | | | | | 60 |

Coefficient of clarity (in percentage) :

*Modified from proforma given by AIU.



APPENDIX III

## TOPIC : PUBLIC HEALTH ADMINISTRATION

**1 Objectives :**

Students should be able to

I. function as a medical officer in charge of health centre.

II. make community diagnosis and draw up a plan of programme to meet the needs of the community based on priority, along with leaders and utilising community resources to the extent possible ;

III. implement a programme in the community, being health and allied staff and village leaders and volunteers ; and

IV. manage patients and perform all skills needed by a community doctor.

**2. SUB-TOPICS (in logical sequence) :**

Basic principles of Health Administration, Planning Cycle, Management Functions, and Evaluation ; Recept concepts in health care delivery, Evolution of health care delivery in India ; Administrative organisation of health services in India at various levels ; Primary Health Centre—staffing and functions—relation to community development, Community Health Volunteers ; National Health Programmes ; Role of International and Voluntary Health Agencies.

# Lesson Plans for Teaching Preventive and Social Medicine in Pre-Clinical Course

By

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*Senior Resident*

S P. Mehta,
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*Department of Preventive & Social Medicine Jawaharlal Institute of Post-graduate Medical Education and Research Pondichery (India).*

**Summary**

Latest recommendations of Medical Council of India regarding the teaching of Preventive and Social Medicine were implemented with some modifications in Jawaharlal Institute of Post-graduate Medical Education and Research, Pondicherry during the academic year, 1980-81 for pre-clinical students. The course consisted of lectures, hospital visit and visits to health institutions engaged in intervention programmes. Lesson plans were prepared for each of these sessions. Lesson plan for one of such sessions has been described. Evaluation was done based on the records submitted by the students. The responses were graded based on the scoring system, using check list. Majority of the students (88.52%) faired as excellent, very good or good. Suggestions to improve the session have also been highlighted.

**Introduction**

The main objective of medical education is to produce a medical graduate in modern scientific medicine capable of functioning independently and effectively both under rural and urban settings. Recommendations of Medical Council of India April 1977 as modified upto April 1978 stress that the teaching of Preventive and Social Medicine/ Community Medicine should have a place throughout the teaching period, and that the mainstay of the training programme should be lecture-demonstrations, group discussions and seminars with a minimum of didactic lectures. It is also prescribed that the detailed curriculum drawn should include at least 30 hours of lectures, demonstrations, seminars etc., together with atleast 15 field visits spread over 18 months of the pre-clinical course. Hospital visits and visits to health establishments in rural and urban areas are also, recommended, to introduce students to the principles of practice of medicine and also to make them familiar with elementary nursing, practies ; practices of sterilization ; injection and dressing techniques ; necessity for record keeping ; art of communications with patients including history-taking ; medico-social work ; immunizations against diseases ; and health check-up.



The universities have not recommended prescribed common programmes in this regard. So there is a scope for the medical colleges to chalk out their own programmes. Certain suitable topics can be chosen and clear guidelines for training laid down. To incorporate this programme in the present set up some amount of adjustment between the fecultiess and better co-ordination by different section of the hospital with the department of Preven tive and Social Medicine, will have to be ensured. This doesn't involve any extra financial burden on the colleges. Efforts should be made to do it methodically, based on specific learning objectives, clear outline of the methods and aids, and evaluation of the activities.

Lesson plans prepared by Directorate of Medical Health and Family Welfare, Uttar Pradesh for the training of community health volunteers have proved useful for the trainers as well as trainees. Similar effort has to be made by the teachers of Preventive and Social Medicine for effective implementation of the recommendations in this regard.

Material and Methods

This paper highlights the activities of the first course conducted between August and October, 1980 for the lst MBBS students who took admission in June, 1980, in Jawaharlal Institute of Post-graduate Medical Education and Research, Pondicherry. The course consisted of a series lecture classes of one hour each followed by hospital visits of two hours each arranged on consecutive Saturdays between 10 AM and 1 PM. The lectures were common for the whole batch, and for the hospital visits the batch was divided into two equal groups of 30-35 students each. The topics for lecture classes were as follows :

1. History of medicine.
2. Introduction of Preventive and Social Medicine.
3. Levels of prevention.
4. Art of communication and history taking.
5. Role of social factors in the causation of the disease.
6. Scope of health education in hospitals.
7. Sources and uses of statistical data in the field of medical sciences.

In all 9 topics were chosen for the hospital visits. The arrangements of the visits was done as shown in appendix-1. The subject matter for the lectures and hospital visits was chosen out of the recommendations of Medical Council of India as revised upto April 1978. Lesson plans for hospital visits were prepared in the department after discussing them in detail over three sessions of 3 hours each. All the 3 domains, namely, cognitive, psychmotor and effective, were kept in mind while preparing the lesson plans. Each topic consisted of learning objectives ; learning experiences including methods and aids and evaluation. Out of nine only one lesson plan about a visit to Rural Health Centre has been described in detail in this paper.

VISIT TO RURAL HEALTH CENTRE

1. Learning Objectives

At the end of the session, students should be able to :

(a) Tell the differences between a Rural Health Centre (RHC) and a hospital.

(b) Enumerate the staffing pattern of the RHC.

(c) List the activities of the RHC.

**2. Learning Experiences including Methods and Aids**

The methods adopted were lectures, lecture-demonstrations and group discussions. Aids used were charts in the RHC; registers and records maintained in the RHC; instruments and equipments used for diagnostic purposes; drugs in the pharmacy; demonstration plot containing models of sanitary well, soakage pit, different types of latrines; and blackboard. Time allotted (minutes) for various activities was as follows:

| | | |
|---|---|---|
| Introductory lecture | ... | 10 |
| Lecture-demonstrations (20 minutes each for medical officer; records room clerk and laboratory in-charge; MCH staff; and sanitary inspector | ... | 80 |
| Group discussion | ... | 30 |

Students were taken to the Rural Health Centre, Ramanathapuram which is a rural field practice area of the department of Preventive and Social Medicine, Jawaharlal Institute of Post-graduate Medical Education and Research (JIPMER) Pondicherry. An introductory lecture was given by the staff member of the department accompanying the students. In introductory lecture description of the RHC; differences between the RHC and hospital; staffing pattern of the RHC were highlighted. Each group of students was divided into four sub-groups. These sub-groups attended in rotation, Medical Officers, Public Health Nurse, Clerk in-charge of medical records and Sanitary Inspector. In lecture-demonstrations by various workers of the RHC, students were told about the various activities carried out by them in simple words avoiding too many technical words and explaining some of the latter wherever their usage was unavoidable. Students were encouraged to ask questions if they were not clear. In group discussion, discussions were guided by the resource persons, one for each group, consisting of staff member of the Department of Preventive and Social Medicine, and medical officers of the RCH. Each group choses its leader to conduct the discussion and one more student was asked to record and report salient features of the discussion. Each sub-group was given the following guidelines for discussion.

Sub-group I: —Staffing pattern of the RHC.
—Care of the minor illnesses.
—Care of tuberculosis, leprosy and Malaria Cases.
—Registration of births and deats.

Sub-group II: —Care of the pregnant and lactating women.
—Servics for women in child-bearing age.
—Growth and development of children.
—School health.
—Training of the indigenous dais.



Sub-group III: —Medical records.
—Pharmacy.
—Laboratory.
—Injection and dressing room.
—Wards.
—Minor operation theatre.

Sub-group IV: —Activities for providing safe water and for disposal of human excreta and other waste products.

**Evaluation**

Ideally, evaluation of all the domains should be done both before and after the session. But the faculty felt that most of the topics selected were almost new to the trainees, and also it was difficult to get some more time allotted for such programme amidst busy schedule in Anatomy and Physiology. Hence pre-sessional evaluation could not be done. Evaluation was done after the session was over.

Students were asked to submit a write up in a record book about the objectives of the visit and the detailed account of the learning experiences of the visit, and were also asked to give suggestions if any about the method, time allocation for different activities and improvement of the whole exercise. These records were evaluated based on the check-list prepared keeping the learning objectives in mind. Marks were assigned for each record. Performance was adjudged as excellent, very good, good, fair or poor if the score was 75-100, 65-74, 50-64, 35-49 and less than 35 respectively.

Combined results of both the groups were as follows:

61 out of 65 students attended these sessions. Almost all participated actively in the lectures, demostrations and group discussion. The results of the evaluation are shown in Table-1. The performance varied from good to excellent among 54 (88.5%) students; and from fair to poor among 7 (11.5%). The students were asked to give suggestions at the end of the session to improve the lessons. Their suggestions were as follows:

Two students expressed that methods and aids were inadequate and suggested that the groups should be divided into still small sub-groups. 5 students expressed that time was inadequate and suggested that the visit should be scheduled still earlier in the morning (around 8.30—9.00 A.M.) and that session should last for minimum of 6 hours, so that adequate time may be given for observation and discussion.

**Conclusions**

A programme consisting of visits to hospital sections and peripheral health institutions as envisaged in the recommendations of the Medical Council of India, April 1977 revised upto April 1978, was introduced with some modifications to pre-clinical students, during the academic year 1980-81. Lesson plans were prepared for each of these visits, keeping cognitive, psychomotor and affective domains in mind. Lesson plan on one of the topics has been described. Lesson plan consisted of learning objectives, learning experiences along with methods and aids and evaluation. More stress was given on lecture-demonstrations and group discussions. Evaluation was done based on the records submitted by the students. The performances were graded based on the scoring system, using check list. Majority of the students (88.5%)

faired as excellent, very good or good. Suggestions to improve the session were useful and were worth incorporating in subsequent sessions.

Acknowledgements

We acknowledge our thanks to Dr. M.N. Ghosh, Director Jawaharlal Institute of Post-graduate Medical Education and Research, Pondicherry, for his encouragement.

Reprints from Dr. S.B. Rotti, M.D., Assistant Professor Department of Social and Preventive Medicine, Kasturba Medical College, Mangalore-575 001.

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Table 1

Details of performance of the students

| Grade | No. Students | |
|---|---|---|
| | *No.* | *Percent* |
| Excellant | 16 | 26.2 |
| Very good | 10 | 16.4 |
| Good | 28 | 45.9 |
| Fair | 5 | 8.2 |
| Poor | 2 | 3.3 |
| Total | 61 | 100.0 |

APPENDIX-I

Schedule of vists to Hospital and Peripheral Health Centres for Pre-Clinical Students

| *Group I* | *Group II* |
|---|---|
| 1. Nursing Practice-I (Bed-making, Pulse, Temperature and Respiratory rate) | Art of Communication |
| 2. Art of Communication | Nursing Practice-I |
| 3. Immunising agents and Oral Rehydration Mixture | Practice of sterilization |
| 4. Practice of strilization | Immunising agents and Oral Rehydration Mixture |
| 5. Injection and dressing | Urban health centre |
| 6. Urban Health Centre | Injection and dressing |
| 7. Rural Health Centre | Record keeping |
| 8. Record keeping | Rural Health Centre |
| 9. Role of Social factors in the causaction of malnutrition. | |

# Scope and Functions of Social and Preventive Medicine Department

BY

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Professor of Social and Preventive Medicine, G. R. Medical College
Gwalior, Madhya Pradesh

## Scope

At the undergraduate level, the teaching programme should not be designed as such to produce ready-made Medical Officers of Health, this is surely the province of postgraduate, but it must include the basic processes and facts upon which any type of future specialisation and knowledge can be added.

Teaching of Preventive Medicine to undergraduate medical students should focus mainly on the principles and practice of protecting health, which are directly applicable to physicians, caring for individual patients. The broad understanding of the patient, including the psychological, social and cultural features as well as the biological, is essential for effective patient care, which is also known as comprehensive medicine. Comprehensive medicine means that the physician should attempt to provide that is necessary and feasible for his patient's health. The patient's environment may be important in influencing his health and therefore may be the concern of his physician. A patient's emotional problem, his reactions to environmental stress such as poverty and ignorance, his personality, habits, his reactions to his disease all are equally important and must be studied. Social and cultural factors influence every patient's adaptation and should be considered as a routine. Even when these environmental factors cannot be manipulated to the patient's advantage, as we are facing today in many cases in our country, but still an appreciation of these and their effects upon the patients is necessary for an appropriate understanding of the individual and his health.

2. To adequate the undergraduates their role as physicians in health services to the community which lay groups are becoming increasingly interested in their problems of health services and are already active with plans of their own. The science and art of advancing health and preven-

ting disease is as broad as medicine itself. It is dependent on many other fields of medicine for advancement of knowledge and application of Preventive Medicine. The goal of health now calls for not only the cure or alleviation of disease, it calls for prevention of disease and even it looks beyond to strive for maximum, physical, mental and social efficiency for the individual for his family and for the community. The physician should be aware of the effect of living, habits, food, clothing, housing, work, recreation and social and family relationships on health directly or indirectly. He should co-operate with health authorities by early reporting of communicable diseases, births and deaths, thus helping in collecting data vital to community health promotion and preservation of health by means of giving advice to mothers during pregnancy, health supervision of children and also maintaining a periodic health inventory of the adult members of the family.

To help the individual, what he can do to improve his own health, when to look for medical guidance and how to follow it. To cut down the line of demarcation between preventive and curative activities. Not to examine a patient only from one angle of organic disorder of any organ but also keeping in mind the psychological, social and cultural background of the occurrence of symptoms and signs of disease.

The undergraduate must know how to work in co-operation with a great variety of members of the team within the hospital and within the community, e.g. Nurses, technicians, sanitary inspectors, Health Visitors, Midwives, Dais, Health Educators, Epidemic Assistants, Social Workers, Village level workers and many others. He must be made aware of the contribution that each can make to an improvement of individual and collective health in the community.

He must also be made aware about the wide range of facilities and resources, which the community provides for the health and welfare of its citizens, e.g. Malaria Eradication Programme, B.C.G. Vaccination against Tuberculosis Leprosy scheme, Filaria, Venereal, Trachoma, Yaws, Smallpox Vaccination, Sickness Insurance Scheme, Family Planning and many others. He should have the broad goals of health always in mind, a spirit of scientific inquiry, a broad understanding of the natural history of disease, a knowledge of people as well as of disease to the environment and the ability to call into play whatever services may be necessary to secure comprehensive health care. He should be made aware when to refer cases to the specialists.

3. It should be the function of Social & Preventive Medicine Department to bring the profession of medicine more close with people it serves and this cannot be achieved without the broad education in the humanities.

4. It should be the function of Social & Preventive Medicine Department to give a wide concept of Medicine than can usually be obtained in their training at the bedside in the operation theatre or in the laboratory.

5. Preventive Medicine must give students basic information and more importantly, excite their curiosity about the kinds of things which may affect people's health, students should learn to consider both the efforts of conditions in the physical environment such as housing or working surroundings and conditions in the social environment such as the effect of family relationship, ethnic, religious and educational influences. The nature and effects of arrangements for providing and paying for medical care and trends in medical practice, should also be studied. The Preventive Medicine should help the students to develop sound attitudes of viewing individuals in their entirety as complex human beings in a complex and changing environment and of seeking ways to promote and maintain patients health, understanding that it is more effective to prevent disease than to care it and also making them realizing that to enjoy life as physician and not to be disturbed at odd hours of the day and night it will be better to keep people from becoming sick. Preventive Medicine requires that students know the community and its resources as they relate directly or indirectly to health. This includes understanding of the role of the Governmental and non-governmental health agencies, social and welfare agencies, International Health Agencies and legal resources. It gives the student an appreciation of his future role as a physician in relation to comprehensive health services.



### Teaching of Epidemiology :

Students need to understand both the epidemiological approach and the kind of knowledge required to determine the epidemiology of a particular disorder. The first comprises the basic principles fo epidemiology. The second encompasses the methods used to explore out the multiple causes of disease. To prevent or modify a disease information such as the following is required.

**Disease agent factors -** biological, nutrient, physical, chemical, mechanical or psychological conditions, which contribute to disease occurrence.

**The characteristics of man in this connetion -** his personality, habits and customs inherent, characteristics of age, race, sex etc. and defence mechanism.

**The character of environment,** its social, economic, biological, and physical aspects.

### Teaching of Biostatistics :

Through the study of biostatistics, medical students develop an attitude toward all scientific data, procedures and observations, trends in morbidity, mortality and natality rates relating to the health and welfare of the community and this arises in the students, responsibility of conveying such information to the health department promptly and correctly.

### Biometry :

It introduces the student to a body of knowledge concerning the concept of variability, range of normal values, appraisal of scientific data, design of experiments, methods of presenting data.

### Specific preventive measure :

It stimulates the students to look for ways to apply the principles and practice of Preventive Medicine in the widest variety of situations for individual patients and also at community levels.

### Teaching of History of medicine :

A view of medicine in its historical setting also helps the students to gain a fuller awareness of the role of physician in society. He should understand the evolution of his profession, how present concepts have evolved. Furthermore appreciation of the evolution of medicine in the past prepares the student to accept change in the future.

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### Research :

Activity stimulates both teaching and learning. Research may be conducted in a wide variety of fields and involve a wide variety of disciplines e. g. epidemiological studies of disease, Control or eradication of any disease prevailing in the area, can guide state Governments in policies of public health.

## COLLOBORATIVE STUDIES WITH OTHER DEPARTMENTS AND AGENCIES.

### Consulting service to other departments and agencies.

Particularly in the case of biostatistics, preventive medicine can aid other departments in the design and planning of laboratory and clinical experiments with particular reference to the selection and size of random samples necessary to attain significant results.

### Domiciliary Medical Service :

The Department of Preventive Medicine may take part in programmes which provide care in the homes of patients or may take responsibility for directing them. In our country this can be initiated by giving domiciliary treatment in cases of tuberculosis.

# The Scope and Functions of Social and Preventive Medicine Department

By

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Professor of Social and Preventive Medicine
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Gwalior, Madhya Pradesh

November 1961

SCOPE AND FUNCTIONS OF

SOCIAL AND PREVENTIVE MEDICINE DEPARTMENT.

Scope

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the cure or alleviation of disease, it calls for prevention of disease and even it looks beyond to strive for maximum, physical, mental and social efficiency for the individual for his family and for the community. The physician should be aware of the effect of living, habits, food, clothing, housing, work, recreation and social and family relationships on health directly or indirectly. He should cooperate with health authorities by early reporting of communicable diseases, births and deaths, thus helping in collecting data vital to community health promotion and preservation of health by means of giving advice to mothers during pregnancy, health supervision of children and also maintaining a periodic health inventory of the adult members of the family.

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Research:

Activity stimulates both teaching and learning. Research may be conducted in a wide variety of fields and involve a wide variety of disciplines e. g. epidemiological studies of disease, Control or eradication of any disease prevailing in the area, can guide state Governments in policies of administration of public health.

Colloborative studies with other departments and agencies.

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The Department of Preventive Medicine may take part in programs which provide care in the homes of patients or may take responsibility for directing them. In our country this can be initiated by giving domiciliary treatment in cases of tuberculosis.

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# The Teaching Programme for Preventive and Social Medicine

BY

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The teaching programme for Preventive and Social Medicine can only be visualised :-

a. Firstly, against the total background of medical training of which Preventive and Social Medicine forms an integral part.

b. Secondly, the aim and scope of medical training which remains dynamic to fit in with :-

i the extent of medical knowledge

ii the changes in the role of medicine in general, and in particular,

iii the background of the country and society in which Preventive and Social Medicine is to be practised.

## Background of the Country

With reference to our country's background, the important features to remember are :-

(a) Indifferent environmental sanitation

(b) widespread condition of ill-health.

(c) low level of health education.

(d) changing conditions of society.

(e) increasing demand for better medical care

(f) progressive population increase.

It is this background of the country which is prejudicial to the nation's endeavours to achieve rapid progress towards National Economy and Industrialisation.

It is a recognised fact that national economy is based on human economy, there is therefore a close and reciprocal relationship between work, production, strength of the country and the 'capital' which is constituted by the health of its people. In this task of protecting and increasing the 'health capital' the primary role is obviously assigned to the medical profession.

## The Physician's Task

The changes in the role of medicine require from the physician that he should not only apply general principles but also assimilate additions to medical knowledge as they arise. In addition, since national economy is based on human economy, the physician's activities need to be

directed towards prevention and handling problems of a social nature with reference to health and disease because of wide recognition of the social character of medicine.

Against this requirement from the physician let us see to what extent the physician is fulfilling the basic requirements.

The general observation is that :-

(a) Most medical practitioners spend most of their time seeing sick persons, to whom their foremost obligation is to establish a clinical diagnosis and institute appropriate therapy.

(b) Medical practitioner's time is taken in treatment of patients whom he rarely sees until they are sick.

(c) He seldom exercises preventive and promotive functions in a direct and immediate sense although within his domain.

This, in short, is the concept of approach to disease. But this approach has to change because :-

(i) Clinical diagnosis is rarely completely adequate and medication is rarely more than an aspect of treatment.

(ii) Concept of medicine which does not relate the patient to environment is incomplete. Protection of health exclusively from the hygiene and sanitation point of view, without reference to living and working conditions or social and economic factors cannot be fully effective unless parallel and adequate measures for the improvement of both physical and mental health are also introduced.

(iii) Chronic ailments of unknown multifactorial etiology are the outstanding unsolved problems, where a stitch in time from the practitioner would be of value e. g. in coronary thrombosis, hypertension, malignant disease, degenerative diseases, chronic disorders of psychogenic origin and psychosis.

(iv) Education of patients, advice on health and family problems, details of infant care, domestic management, translation of dietetic instructions into household terms, control of infections in the home, all these lie, in practice, on the borders of doctor's province but the family practitioner is not usually in a position to undertake this type of education.

(v) Relations within the family, dietetic and smoking habits, proper balance of exercise and rest are matters for personal decision and consequently subject to influence of personal advice which is often within the physician's scope to give.

(vi) Social medicine constitutes a necessary stage in the evolution of medical science as social diagnosis clarifies and completes diagnosis, social treatment supplements medical treatment and social hygiene fortifies individual and collective hygiene.

With reference to these situations my comments are that these situations.

(a) Call for co-operation of the medical practitioner to engage in the preventive social field

simultaneously with the practice of clinical medicine within the family and in the community.

(b) Call for partnership of effort between doctor, health nurse and medical auxiliary which is needed in relation to medical care. But unfortunately the auxiliary medical services are not fully developed and wherever these exist full advantage is not taken.

(c) Given this partnership, the right attitude of mind, and the right conditions of practice, it is beyond doubt that the family doctor could do much to improve health and prevent disease and contribute materially towards protecting and increasing the health capital of the nation.

These are the defects in the doctor–patient relationship today as I see it.

I would like to emphasize that these defects in the doctor-patient relationship are the results of drawbacks in the curriculum of the undergraduate :–

(a) The teaching is concentrated almost entirely on the patient in hospital, and is thus divorced from the realities of the circumstances in which the patient became ill and to which he will return on leaving hospital.

(b) It tends to have an exclusively clinicopathological outlook, and consequently, neglects the relationships between the patient and his environment.

(c) It does not include adequate instructions in matters upon which health largely depends : e.g. nutrition, housing, personal hygiene, socio-economic status, and organised public-health and medical-care services.

(d) The curriculum lacks coherence because the courses in Hygiene and Public Health are usually scheduled towards the end of the last year, as a theoretical course. By that, time the student has already developed his attitudes and preferences and is naturally fully oriented towards the individual care of the sick.

(e) It is too much concerned with factual detail, and too little with method and the development of a critical attitude of mind.

(f) It does not emphasize that–

(i) there are three major features of illness

the physical,

the emotional and

the social.

(ii) and that these are intimately interwoven in the pattern of disease and that they must be considered together rather than as separate entities

In the medical curriculum the essential requirements therefore are :–

(a) Integration and correlation between clinical and preventive aspects to be introduced for better comprehension of medical science.

(b) Functional relationship between the clinical sciences to be emphasized.

(c) Orientation of teaching from the predominantly individual and curative approach to a more family and community minded

and preventive one which is of fundamental importance.

(d) To ensure at the undergraduate stage that the 'basic doctor' has a proper understanding of the basic principles of 'health and disease' to be of maximum use to the community among whom he will practise, to the exclusion of details which form part of specialists courses only.

(e) That the undergraduate is taught to adopt an attitude and spirit of scientific prevention. A preventive habit in medicine can only be cultivated in the practice of clinical medicine which implies a thorough integration of preventive and curative medicine. Further, in medical practice, observation and examination, diagnosis and treatment, are always based on synthesis. This indivisibility in medicine implies indivisibility in training.

Keeping these in mind, I would recommend that the undergraduate be given a plausible and suitable understanding of the following aspects :

Firstly,

What are the goals of Medicine?

Secondly,

What is 'health' ?

How is 'health' maintained ?

How is 'health' measured ?

What are the factors which affect health ?

Thirdly,

What is 'disease' ?

How is it produced ?

What are its effects on the individual, family and community ?

How is it detected and diagnosed as early as possible ?

How is it treated and its ill-effects avoided ?

How is it prevented and controlled in the individual, family and community ?

Fourthly,

How does disease propagate in the community ? How can such propagation be elminated ?

What are the responsibilities of the physician to the individual, family and community ?

Fifthly,

What is comprehensive medical care ? How can it be obtained? Are social agencies available ?

To intelligently understand the answers to these aspects the student will have to undergo training in a number of disciplines, both fundamamental and applied. But the student must be made to appeciate that the individual disciplines are not the end in themselves but are the parts of one whole.

This concept must be ingrained into the student simultaneously during both preclinical and clinical course, from, the very start of his career and not left to be developed in later years as otherwise the picture formed will be distorted and integration of the total picture difficult. To give concrete suggestions, I have summarised the main aspects of integrated teaching of both curative and preventive medicine.

**How to Integrate Teaching Programme**

| Preclinical Department | Preventive & Social Medicine Department | |
|---|---|---|
| A. *To deal with concept of health, e.g.,* | *To complete the picture of health and to deal with* | |
| Normal structure and function. | Criteria of normality and their biological variation. | To complete the picture of health. |
| Internal environment and its maintenance. | External environment affecting the internal environment – physical biological and social. | |
| Normality of internal environment. | Picture of health. | |
| Laboratory studies in relation to the normal. | Field studies to know the normal. | |
| Biological variations. | Methods of comprehension of biological variation (Biostatistics). | |
| Normal stress periods and changes in the body – e. g. childhood. adolescence, puberty, adult life, senescence and death. | Environmental factors and their effect on such periods in the cycle of human life. | |

| Clinical Department | Preventive & Social Medicine Department | |
|---|---|---|
| B. *To deal with concept of disease e. g. study of* | *To complete the picture of disease and to deal with e. g. study of* | |
| 1 Patient in hospital ward or outpatient department. | Patient in his usual environment with the family. | To complete the picture of disease PLUS field surveys and research |
| 2 Diagnosis of his condition - clinical and other investigations. | Study of conditions at home, condition of the family - other early cases. | |
| 3 Laboratory investigations. | Study of epidemiological investigations of the cause of illness -routes by which disease propagates. | |
| 4 Study of course of illness. | Natural history of disease supported by statistical evaluation. Effect on family - production of stress. | |
| 5 Treatment of patient. | Treatment of cause of illness - advice and education of the family. | |
| 6 Rehabilitation of patient. | Rehabilitation of the person and family. Advice on achievement of health. Welfare and further protection, i. e. comprehensive medical care. | |

| Clinical Department | Preventive & Social Medicine Department | |
|---|---|---|
| C. *To deal with concept of disease with reference to subject, the individual a fragment of society.* | *To complete the picture as it affects people as a whole, the subject being the family and community.* | |
| The place of practice, being at outpatient department or hospital ward i.e. away from natural environment of disease. | The place of practice - being at home and the community at large i.e. the environment where disease was produced and to which the patient will return after recovery. | People as a whole. |

With reference to *post examination training of interns*

In my view, at least 3 months in a 1-year internship should be devoted to work in urban and rural health centres where alone the new graduate will get an opportunity to practise preventive and social medicine under supervision. It is essential to wean away the young graduate from the ivory tower mentality which inevitably develops in the highly systematized academic atmosphere of a teaching hospital. This can only be done in a primary health centre where the young doctor will face the problem of dealing with the healthy person seeking to maintain health and the sick as part of a family unit and not merely a member in a hospital ward.

Finally, the curriculum should be periodically reviewed taking into account the changing characters of medical practice and conditions required in medical practice so that preventive and curative medicine could become a reality and medical care an effective team endeavour.

To summarise, our society today calls for a physician whose objectives will always be to conserve and improve health, to interpose barriers to malfunction and disease and to extend the knowledge that makes those possible in the community. In addition to requisite knowledge and ability to diagnose and treat disease, he must have broad goals of health always in mind, and a spirit of scientific enquiry, a broad understanding of natural history of disease, a knowledge of people as well as disease, an insight into the relation of both people and disease to the environment, and lastly, the ability to call into play whatever services may be necessary to secure comprehensive health care and build the 'health capital' of the nation.

(*ii*) In view of the rapid industrialization going on the country, stress needs to be laid on teaching of occupational diseases and industrial health to the medical undergraduates.

(*iii*) Sufficient stress should be laid on teaching some of the personal health services such as maternity and child health and school health, applied nutrition and the control and prevention of the important mass diseases prevalent in the population viz., malaria, filariasis, small-pox, cholera, tuberculosis, trachoma, etc.

## *APPENDIX*

## DEPARTMENT OF SOCIAL AND PREVENTIVE MEDICINE

*K. G. Medical College, Lucknow M.B.B.S. Course of Study*

### Pre-clinical years

35 lectures on medical aspects of human ecology to include meaning and scope of social and preventive medicine, environment, natural history of a disease process and levels of prevention; society, social development and behaviour, population problems, beliefs and customs in relation to health and disease with particular reference to Uttar Pradesh; people's health and economic loss due to ill-health; elements of medical genetics, environment and health, physical environment and psycho-social environment; 15 lectures on elementary biostatistics; 10 lectures on elementary and social psychology (in 2nd year M.B.B.S.); and 10 clinical demonstration conferences (5 in 1st year and 5 in 2nd year) to illustrate the multiple causal aspect and social origin in the disease, the circumstances which led to the disease and the application of various levels of prevention in the disease. Total 70 hours.

### Para-clinical years

Eight lectures on health education with particular stress on doctor-patient relationship and the role of family or community doctor as a health educator; 20 lectures on environmental hygiene to include water in relation to health, collection and disposal of waste, air and ventilation, houses and buildings, lighting and noise, rural sanitation, rodents and arthropods-life cycle and control; 4 lectures on industrial hygiene; 5 lectures on nutrition and food hygiene, and 4 lectures on personal hygiene. Four demonstrations on environmental hygiene and nutrition. Total 45 hours.

### Clinical years

30 lectures on principles of epidemiology and control of infection and prevention and control of common communicable and non-communicable diseases and disabilities especially of the Tropics viz., malaria, filariasis, kala-azar, plague, typhus, cholera, enteric fever and dysenteries, poliomyelitis, infective hepatitis, diphtheria, tuberculosis, small-pox, chicken-pox, measles, mumps, whooping cough, cerebro-spinal fever, influenza, trachoma, leprosy, venereal disease, yaws, rabies, tetanus, anthrax, common helminthic infestations, endemic goitre, epidemic dropsy, lathyrism, cardio-vascular diseases, diabetes, cancer, accidents, blindnes, and occupational diseases. 15 lectures on personal health services (maternity and child welfare, family planning, and school health), community organisation (rural and urban), international health and international health agencies, the role of general practitioner in prevention and control of diseases, and vital statistics. Ten demonstrations on water works, maternity and child welfare centres, family planning, school health, small-pox, vaccination, B.C.G. vaccination, health of workers in factory and primary health centre. Total 55 hours.

In the beginning of the para-clinical years each student is allotted one family with an expectant mother or a new-born infant, for submitting a growth and development socio-medical case study after a year's study in the 3rd year. During the 3rd year each student is given a family with a case of tuberculosis for submitting a socio-medical case study after 4 months study. Each family study is allotted marks out of the marks reserved for day-to-day examinations. Total 30 hours.

APPENDIX 'B'

Mp-8E.

Curriculum on Social and Preventive Medicine
for Undergraduate Teaching

Summary

(a) The teaching of Social & Preventive Medicine should take place throughout the teaching period.

(b) During the pre-clinical period, a minimum of 50 hours be devoted to the teaching of social & Preventive medicine.

(c) In the clinical period, about 250 hours be devoted to the teaching of the subject. The details are included in the report.

(d) During the student's attendance at various departments, which is now required under medicine and surgery, such as infectious diseases, T.B., leprosy, V.D. etc., emphasis should be laid as much on the preventive as on the clinical and therapeutic aspects of these diseases.

(e) In addition to the teaching undertaken by the departments of social & preventive Medicine, a joint programme with other departments is essential in order to give the students a comprehensive picture of man, his health and illness.

(f) Stress be laid on national programmes, including those of control of communicable diseases and family planning and health education.

(g) A separate examination in social & preventive medicine may be undertaken in the 2nd professional examination. Questions on the preventive and social aspects of diseases should also be included in the examination in clinial subjects at the final M.B.B.S.

(h) An epidemiological unit as an integral part of every hospital in order to achieve a comprehensive study of disease by the students should be established.

(i) The objectives of the internship should be clearly defined and that a proper training programme be oriented for this period. Objectives and the methods by which the internship could be made into a much more satisfying and fruitful experience than at present have been laid down. This is one of the weakest links of the teaching programme and there is an urgent need for sharpening and for planning in this phase of education.

(j) As regards the qualifications of the teachers, it is highly important that all teachers in social & preventive medicine should have as far as possible ~~and~~ had adequate administrative experience in addition to the teaching experience.

The following are the recommendations of the council:

UNDERGRADUATE OR M.B.B.S. COURSE CURRICULUM

1. Pre-clinical

(a) The present educational system requires those students intending to undertake medical studies to chose the science group of subjects. In order to prepare the student for professional education, and to foster in him the social concepts which are essential to the professional doctor as a citizen and as a practising physician in the community, the element of humanities which has been omitted, should be added in the pre-clinical years. Hence it is imperative that the social aspects of medicine should be introduced as a separate subject along with other disciplines.

(b) A minimum of 50 hours be devoted for Social & preventive medicine in the pre-clinical period. The following subjects should form a part of the teaching in this discipline:

(i) Personal Hygiene.
(ii) Bia statistics and vital statistics.
(iii) Human Ecology).
(iv) Elementary psychology
(v) Elementary social science.
(vi) Normal growth anddevelopment.
(vii) Nutrition and dietetics.

A number of these items could be undertaken in collaboration with the departments of physiology and bio-chemistry and should form an integral part of their teaching.

(c) The teaching of social & preventive medicine should be undertaken by the department of social and preventive medicine in coordination with other departments.

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2. CLINICAL

(a) A course of systematic instructions in the principles and practices of social and preventive medicine which should extent throughout the whole period of study.
(b) There should be a minimum of 250 hours in total for attendance of lectures, lectures, demonstrations, seminars, conferences, field visits and practicals during the clinical period.

The following subjects should be included in the teaching programme:

(i) Medical statistics, including collection, tabulation, presentation and the interpretation of data, and the use of statistical methods.
(ii) Environmental Hygiene, including man and his environments, occupationsl and industrial hygiene, village and town sanitation, bacteriology of water, milk, food and food hygiene.
(iii) Parasitology, helminthology and entomology in relation to communicable diseases, their prevention and control.
(iv) Principles of epidemiology.
(v) Communicable diseases, their prevention and control.
(vi) Public Health administration, including the requirements of international health, social security, public health law, and the role of international and other health, organizations.
(vii) Advanced courses on nutritional deficiencies.
(viii) Community medicine Teaching should include clinico socio-pathological conferences with other departments, maternal and child health, the care of mothers and infants including family planning and school health supervised field study and visits.

(c) In order that the discipline of social & preventive medicine is presented in its proper perspective, every effort should be made to coordinate the teaching programme of the department with the various departments of medicine, surgery, obstetrics and gynaecology etc. to give the student the correct and integrated approach to the practice of medicine.
(d) To study disease in a comprehensive manner it is essential that an epidemiological unit ~~to~~ be set up in the out-patient department of the teaching hospital. Such an epidemiological unti will enable the students to understand the social, economic and environmental factors in relation to illness ~~&~~during his training period.
(e) During the students attendance at the specialist departments, instruction in the preventive aspects should be emphasised during the study.
(i) Acute infectious diseaseas and other local endemic diseases, for example trachoma goitre, filariasis etc.
(ii) Tuberculosis.
(iii) Preventive aspects of psychological medicine and psychiatry.
(iv) Preventive aspects of leprosy
(v) V.D. Control.
(vi) Preventive aspects of dietetics and Nutrition information on all national health programmes and the role of international health organisation should be given in order thatthe medical-graduate may participate the successful implementation of these schemes during his career after graduation.
(f) In order to make the students practise what is being taught,it is absolutely necessary that the hospital where he works and the hostel where he resides should be involved along with the professors of the various disciplines of the hospital, andother authorities concerned, to take a keen interest in the environmental sanitation.
(g) Principlies of health education including the education of hospital and health staff, patients and their relatives within the hospitals.
(h) The medical students should be given demonstration on family planning at a family planning centre attached to the medical college or at a recognised health centre during the regular course for undergraduate training either under the department of obstetrics and gynaecology or Social & preventive medicine. The concept of family planning and population control should be emphasised by all disciplines.
(i) Every student should be required to submit one satisfactory written history of a community health survey undertaken under the guidance of staff of the social and preventive medicine in a rural area, and one written case history of a patient followed up with the assistance of the epidemiological unit, in coordination with the department concerned and the department of social and preventive medicine.

3. EXAMINATIONS

(a) There should be a separate university examination in social andpreventive medicine which may be held along with other subjects at the 2nd Professional examination.
(b) The case histories, and performance at the field training centre, should also

....3

be taken into account for purposes of assessment on the final examination.

4. COMPULSORY ROTATING INTERNSHIP--RURAL TRAINING

It is essential to outline the objectives that are to be achieved during the 3 months rural stay during internship period. An outline of the objectives to be achieved is suggested.

(a) Adminsitrative aspects.
(b) Preventive aspects.
(c) Clinical aspects.

(A) ADMINISTRATIVE ASPECTS

(1) Under administrative aspects, rural intership should serve to orient the student in the political structure and administration of a rural area, and the actual working of those organisations concerned with local self government namely, zila parishads, the panchayat samities and other facts of community development work.
(2) It should serve to orient the intern with the concept of team work with para-medical health workers, namely, the health visitor, the vaccinator, the sanitary inspector, the social scientist and the health educator, especially in connection with national health programmes.
(3) It should orient the intern in the social dynamics of a community. This has an important bearing in health work. This should include the dynamics of leadership, the motivation of a community and the various important facts of influencing leaders in the promotion of health programmes. This is an integral part of the application of health education principles in the promotion of development work.
(4) It should serve to orient the doctors on the administrative aspects of various national health programmes which are an integral part of work at the primary health centres. These should primarily be such programmes as

(a) the malaria eradication programme.
(b) small pox eradication programme
(c) tuberculosis control.
(d) family planning.
(e) certain specific communical diseases, such as filaria, leprosy, trachoma, V.D. etc.

(5) It would serve to put the health programmes in the perspective of the overall national development programmes, namely, agriculture, education social welfare etc.

(B) Preventive Aspects

(1) It should serve to orient the intern in the organisation and management of a comprehensive health service for a community. This programme should invariably include the environment of the community.
(2) It should serve to orient the doctor on the keeping of adequate statistical records and of the interpretation of health indices.
(3) It should serve to orient the intern in the role of individual members of the health team and of important leaders in a community.
(4) It would serve to orient the doctor towards the effective utilization of all resources in the community for promotion of health programmes.
(5) It would serve to indicate that illness is an episode in the total frame work of an individual's health. The need for adequate contact tracing and follow-up of sick patients after therapeutic treatment should be demonstrated to the maximum in a rural community.
(6) It should give an indication of the priority needed of various facts of health programmes, such as the importance of immunization, importance of school health programmes, importance of nutritional education, care of the pre-school child etc.
(7) The social effects of illness on an individual and family, and the result of socio-economic factors in causing illness should be demonstrated.
(8) The planning and evaluation of a community health service.

(C) Clinical Aspects

(1) It should sharpen an individual's diagnostic capacity, so that he may be able to make use of his individual senses without dependence on expensive aids, such as laboratory, X-ray etc.
(2) It should permit of an individual taking responsibility for minor illness and surgical complications.
(3) It should serve to indicate his limitations and realization of when to call for consultative services of a referral.

.....4

The methods by which this could be achieved:

(1) A planned programme in order that all students should have an opportunity to meet with village representatives and to participate in village meetings, especially those of the health committee. In order to effectively demonstrate the role of community leaders in a health programme, it should be the duty and responsibility of the staff of the rural field centre to form a health committee in every rural field training area.

(2) The role of other officials in the village, namely the teacher, the village level worker etc. should also be demonstrated and the students should be given an opportunity to meet with the block development officers and his staff, and to become familiar with the other development programmes in the village.

(3) Every effort be made to ensure that the hostels and the houses of the staff of the health centre, as well as the surroundings of the centre itself should be such that minimum facilities, such as protected and safe water latrine etc. are provided. Wherever possible the students should be made to live in the village, but under hygienic conditions which are capable of reproduction by the villager.

(4) The students should have an opportunity of visiting and being demonstrated the various national health programmes. For this purpose, the staff of the ~~various~~ field training area should liason with the staff of the various national Health programmes.

(5) It should be ensured that the primary health centre is supplied with adequate vaccines and sera and modern drugs.

(6) The administrative aspects of running a primary health centre should be demonstrated to the students, and they may be allowed to make suggestions in such matters, as the purchase of drugs, the type of basic equipment, the cost of the diet etc. and how the Centre funds could best be utilised.

(7) The students should have every opportunity of working with the health centre staff and visiting the homes. The principles of health education and the approach to a community, and of an individual should also be effectively demonstrated to them and the students be required to practise this under skilled supervision.

(8) To effectively implement the above requirements the staff of the field training area be adequate in number, be properly trained, and have the facilities to undertake the teaching and training that are required.

Schedule of Teaching Social & Preventive Medicine for Under Graduate Studies in Medical Collage

Preclinical Period Hours available - 50

| Subject | Didatic Lectures (Hours) | Visits | Practical/ Discussion Classes Seminars |
|---|---|---|---|
| A. Orientation Courses: | | | |
| 1. Introductory Lectures --History of growth of understanding of disease causation. --Concepts of Community Medicine. --Graded concepts of health and diseases | 6 | | |
| 2. Genetics. --Heredity and Health Concepts of Heredity-- Mechanism of Heredity --Transmission of normal characteristics in man --Public Health implication of Heredity and Preventive of Heredity diseases. | 4 | | |
| 3. Normal Growth and Development --Concepts of normality deviation from normal | 3 | | |

| Subject | Didactic Lectures (hours) | Visits | Practical/ discussion classes Seminars |
|---|---|---|---|
| --Dimentions of growth-- physical, intellectual, emotional and sexual.<br>--Life cycle of man-infact, toddler, school going, adolescent, adult and normal aging. | | | |
| B. Applied Courses: | | | |
| 1. Bio-Statistics<br>--Introduction to Bio-statistics<br>--Collection, tabulation and presentation of data.<br>--Variation, frequency, normal and skewed curves.<br>--Single figures to represent mass data-mean mode and median.<br>-- Measures of dispersion from mean<br>--Range, standard variation and standard error.<br>--Variability of observations.<br>--Tests of significance. | 8 | | 4 |
| 2. Introduction psychology<br>--Definitions, scope, methods and branches of psychology.<br>--Consciousness, mental development, intelligence, personality.<br>--Abnormal mind.<br>--Disintegration and diseases of personality, insanity etc.<br>--Social psychology, socialisation, inter-personal influences, role and role conflict, inter-group tension and prejudices. | 6 | Child Guidance clinics--4hrs. | |
| 3, Introduction to Sociology<br>--Definitions-society, community, family etc.<br>--Social organization.<br>--Social institutions-courtship, marriage, divorces etc.<br>--Culture-variability.<br>--Culture and health<br>--Practices.<br>--Social change. | | | |
| 4. Personal Hygiene through different periods of life. | | | Discussions-- 5 hrs. |

C_l_i_n_i_c_a_l P_e_r_i_o_d

| Subject | Didactic lectures (hours) | Visits | | Practicals (Hours) |
|---|---|---|---|---|
| | | Place of visit | hours | |
| 1. Man and Environment | 20 | | | |
| --Concept of ecology. | | | | |
| --Climate and health | | | | |
| --Air, ventilation and atmospheric pollution. | | | | |
| --Water supply-rural and urban | | Water works | 2 | |
| --Excreta disposal-rural and urban | | Sewage disposal works | 2 | |
| --Housing and health. | | Field surveys in rural and urban areas | 5 | |
| --Village and town planning | | | | |
| --Occupation and health industrial hygiene, diseases and accidents | | Visit to factory. Visit to village and town Planning Organisation. | 4 | |
| --Rat and inspect control. | | | | |
| 2. Nutrition | 15 | | | |
| --Nutritive value or some commonly used food stuffs in India | | | | |
| --Diets according to various physiological needs-diets in certain diseases. | | | | 1(F) |
| --Diets-balanced and ill-balanced | | | | 4(E) |
| --Deficiency diseases | | | | |
| --Diseases transmitted by --food and food poisoning | | | | |
| 3. Medical Statistics | 10 | | | 4(E) |
| --Need for vital and health statistics vital health statistics in India. | | | | |
| --Registration of birth and deaths and notification of communicable diseases in India. | | | | |
| --Rates and ratios relating to nationality, mortality and morbidity. | | | | |
| --Standardised death rates. | | | | |
| --Life tables | | | | |
| 4. Integrated teaching. | | | | 10(S) 5(D) |
| 5. Introduction to epidemiology. | | | | |
| --Definicion and purpose. | | | | |
| 6. Epidemiology. | 6 | | | |
| --Natural history of disease and levels of prevention | | | | |
| --Illustration in relation to a few simple diseases. | | | | |

.....7

| | Didactic Lectures (hours) | Visits Place of visit | Visits hours | Practical (Hours) |
|---|---|---|---|---|
| 7. Communicable diseases-prevention and control.<br>--Investigation of an epidemic.<br>--Mechanism of transmission<br>--Immunity and resistance<br>--Prevention of Small pox-chickenpox-measles-diptheria-leprosy-tuberculosis. Malaria-filaria-intestinal parasites-cholera-typhoid-dysenteries-plague-tetanus-treponemal diseases-ricketsiasis and typhus arthropod-borne and other viral diseases. | 25 | | | |
| 8. Preventive aspects of non-communicable diseases | 4 | | | |
| 9. Demography and family planning. | 6 | | | |
| 10. Preventive medicine<br>--Periodical health examination.<br>--Immunisation programmes.<br>--Prevention of long term illnesses.<br>--Geriatric-rehabilitation | 6 | | | |
| 11. Integrated teaching. | | | | 10(S)<br>9(D) |
| 12. Social medicine<br>--Definition<br>--Social aetiology.<br>--Social Pathology.<br>--Social therapy and rehabilitation. | 6 | Visit to rehabilitation centres and aftercare homes for women. | | |
| 13. Applied aspects of genetics. | 3 | | | |
| (14) Medical care<br>--Hospital.<br>--Polyclinics and health centres--health team.<br>--The role of general practitioner medical practioner records.<br>--Comprehensive medical care<br>--Voluntary health organisation<br>--Medico-social work. | 12 | | | |
| (15) Public Health Administration<br>--International Central and State Health Administration.<br>--Local Health Services | 12 | Municipal Corporation.<br>Primary Health Centre | 4<br>4 | |

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| Subject | Didactic Lectures (hours) | Visit: Place of visit | Visit: hours | Practicals (hours) |
|---|---|---|---|---|
| --Community Development and National Extension service programme--health centre. --Personal health services. --Health legislation in India. | | | | 12(S) |
| 16. Health Education | 2 | | | |
| 17. Integrated Teaching. | | | | 10(S) 6(D) 9 |
| 18. Revision. | | | | |

Practical include the following: (D) - Discussion classes.
(E) - Exercises.
(F) - Film show.
(S) - Seminars.

| Breakdown of hours | Lectures | Visits | Practicals Seminars | Total |
|---|---|---|---|---|
| I Professional | 37 | 4 | 9 | 50 |
| II Professional Period. | 129 | 29 | 92 | 250 |
| Total: | 166 | 33 | 101 | 300 |

!!!!!!!!!

S E M I N A R

on

# TEACHING OF SOCIAL & PREVENTIVE MEDICINE

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4th to 8th May 66

TRIVANDRUM:

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## "SOME THOUGHTS ON TEACHING OF SOCIAL AND PREVENTIVE MEDICINE"

:::

K.A. Pisharoti

Principal, Sanitation Faculty
Gandhigram Rural Institute

GANDHIGRAM

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# SOME THOUGHTS ON TEACHING OF ENVIRONMENTAL SANITATION TO MEDICAL UNDERGRADUATES

K.A. Pisharoti

## I. INTRODUCTION:

"Why should I learn about Latrines and Water Supply? What relevance has a study of soakpits or ventilation of a Cinema Theatre to my profession as a Medical Officer? ..These are the comments often heard from a medical undergraduate or a doctor e of a Primary Health Centre who attends an orientation course in Public Health. Teachers in Environmental Hygiene are getting increasingly concerned over the development of this negative - attitude on the part of the young undergraduate towards an important subject, which probably contributes to the maximum morbidity to-day in India. It is the responsibility of the teacher to help the students develop correct attitudes and adopt teaching methods aimed at promotion of these attitudes. Learning is related to one's own needs and perceptions and throughout the five years of his career in the Medical College, the students are exposed to patients as patients alone, who received treatment for their immediate pathological condition only. It is but rare, if not totally absent, that he is made to think about the environment which has contributed to this illness. This being the case, it is now time for us to consider as to whether improvement in teaching could alter the situation and help the undergraduate to appreciate the need to study Environmental - Sanitation and use the knowledge in his day-to-day profession as Medical Officer.

## II. THE NEED TO STUDY ENVIRONMENTAL SANITATION

Before we deal with the subject of teaching environmental sanitation, let us, for a moment, think about the need for a study of this subject, as related to Indian conditions. In India, the Primary Health Centres have been recognized as the peripheral unit for providing an integrated medical care-cum-health services programme to the community at large. While a few thousand of these centres have already been established, more are contemplated in the future. The Medical Officer functions as the leader of the health team in providing this integrated health care programme to the community and is assisted

in his task by a numer of other paramedical staff. Apart from providing medical relief, the medical officer, as the leader of the team, has also to look forand identify these factors in the community, either actual or potential, that has contributed to the morbidity and mortality among the population entrusted to his care. An analysis of these factors and planning for programmes to meet these and evaluate their effectiveness should thus essentially occupy a major portion of his time. In most of the countries, the statutory responsibility for the directim of health programmes including envirohmental sanitation, is laid on the medical officer, while the Sanitarian helps him in discharging this function and also carry out the day-to-day and village level activities in sanitation. For this reason and also because of the fact that no supervisor can effectively discharge his functions unless he recognizes clearly the role of his supervisee and his duties, it is necessary that the Medical Officer should be equipped by training and experience in performing these roles.

Now that Malaria has been almost eradicated, faecal-borne diseases account for the largest amount of morbidity and mortality in India. It has been estimated that in the decade between 1940 and 1950, 27,438,000 persons died in India from enteric-diseases. The morbidity should be at least 20 to 25 times more than that. Helminthic surveys conducted in Uttar Pradesh and Madras recently, have shown an overall infection rate of 50 to 60%. The famous saying that in some of the tropical and semi-tropical countries, "the worms infesting the people metabolise more of the produce of that country than do the inhabitants", is quite relevant to our country. Also the medical officer of a Primary Health Centre who is a practicising community physician and not merely a therapist for certain individual pathologies, must have a clear knowledge and understanding of how it is cheaper to treat the environment and control disease rather than individually treat every case and wait for it occur again. Modern medicine is concerned not only with treatment, but promotion of positive health, of which Environmental Sanitation is a major part.

It may still be argued that a majority of the medical graduates take to private practice and are not saddled with - direct responsibility for Environmental Sanitation work and why should they take to a study of the subject of sanitation? Ultimate improvement in envrionmental sanitation depends upon

the adoption of hygienic practices by the population at large, -which calls for radical habit changes. Sanitation is presently defined as "A Way of Life. It is the quality of living that is expressed in the clean home, the clean farm, the clean business and industry, the clean neighbourhood, the clean community. - Being a way of life, it must come from within the people; it is nourished by knowledge and grows as an obligation and an ideal in human relations." An individual health worker like the Health Inspector on the auxiliary nurse-midwife cannot bring this change by their efforts alone. A patient who goes to the general practitioner for treatment of worm infestation or amoebiasis or filaria, gets a prescription for treatment and he gets cured also within a reasonable time. But soon after treatment, he reverts to his age-old practices and environment and gets reinfected. Under the circumstances, would it not help if the - practitioner, apart from prescribing a treatment also prescribes a few hygienic practices for his patient, just like the use of latrine or drinking of boiled water or avoid mosquito-bite etc. And coming from a person in whom the patient has developed a trust, the advice will have better chances of being followed. Often, it has been stated that in improving the sanitary practices of the people, "Many voices talking about Sanitation are better than one voice." If the attempts to remove the ignorance of the people could therefore be on a wider front, the results too would be quicker. Thus even the General Practitioner has an effective role to play in improving the sanitary practices.

While these basic facts are well understood, still there is a big gap when it comes to the question of practice

III. Why this Gap?

In the writer's opinion, a medical undergraduate will begin to understand the role of environmental sanitation only if, during his own clinical study of cases, he is taught to see the patient in relation to the patient's own environment, i.e. physical, social and mental. At present he studies the pathology of the patient but never, till he comes to the fag-end of the course realises that there is what is called a pathology of the patient's own immediate home surrounding and the pathology of the community in which he lives. And by the time he learns about it, not in relation to his patient but in fragmented compartments, it is too late for him to appreciate its significance. Hence, even from the first clinical

cases the undergraduate should be trained to see the patient in relation to his environment. Thus the teaching of environmental sanitation as another aspect of Social and Preventive Medicine should be related to the patient and should be field-oriented so as to reduce the gap.

IV. HOW TO OVERCOME THIS GAP?

IV.1. Stress the role of environment in the transmission of disease:

It is now generally recognized that the man's health - status is a function of his heridity and the accumulated effects of his environment as they act upon his mind and body. Even though a genetic man is man determined by his hereditary characteristics alone, such a person cannot actually exist, because even at birth, the infant will reflect the balance of the genetic characteristics acquired at conception and the influence of the intra-uterine environment.

Dr.alfred Grotjahn wrote early in this century, "The - Social basis of disease may be considered under the following heads: Social conditions that (a) may create or favour a predisposition for a disease, (b) may themselves cause disease directly; (c) may transmitthe causes of disease; and (d) may influence the course of a disease." It is a simple matter to illustrate each of these tenets with quite common and generally accepted examples: (a) there is good evidence that malnutrition, extreme fatigue and exposure to cold and dampness areamong the conditions that may create or favour a predisposition for - disease such as tuberculosis; (b) occupational diseases and accidents are/among some a large group of illnesses that may be traced quite directly to the causative force, wholly or in part, of social conditions; (c) the socalled crowding and filth diseases (such as typhus fever and dysentery) are clear examples of diseases in which "social conditions may serve to transmit the causes of disease; (d) lack of education or of income that may result in delayed or inadequate medical care, or possibily a failure to get it altogether, is an example of a situation where "social conditions may influence the course of a disease."

It will thus be seen that the social conditions envisaged by Dr.Grotjahn, embraced man's total environment, and in addition to the pathology of the disease, the students should be stimmulated to think and analyse the social basis for the -

disease, whenever applicable.

Since Environmental Sanitation is a major component of the total environment thus envisaged by Dr.Grotjahn, the - teaching of Environmental Sanitation also should be against this background.

IV.2. Help the Medical man to see his patient in relation to his environment.

It is not enough if the undergraduate gets an idea of the factors of the total environment that embraces a man and which affects his body and mind. To get these ideas fixed in his mind and make him automatically see any patient in relation to his environment, the medical man should be trained to see his own patients in the Medical College hospitals in relation to their environment. To achieve this goal, facilities should be made available for the Social and Preventive Medicine Department to give separate clinics for special cases. This should be done right from the beginning and not as part of his Public Health internship towards the end. The tutoring thus should include not only pathological symptoms, but social and environmental conditions too.

IV.3. Organization of a field service-cum-demonstration area for teaching Environmental Sanitation.

In addition to this tutoring in the hospital wards, the medical undergraduate should have facilities to follow up the patient to his home and community environment. To facilitate this, a field service-cum-demonstration area should be organized as part of the Department of Social and Preventive Medicine.This area should include the corporation or municipality where the Medical College is located and also 5 or 6 panchayat unions or Community Development Blocks, adjacent to the same. Since it is expected that a large percentage of the patients who come to the hospital for treatment will be from 10 miles radius, the field service-cum-demonstration area shall also be located within this distance of the Medical College. This should not preclude us from taking the students to areas beyond this distance for studies on special diseases like guinea-worm, and demonstrate the curative factors at spot.

The field service-cum-demonstration area should be well-staffed and should provide facilities for investigation, survey and development of a minimum Public Health programme based on the needs of the community. Since it is expected that certain

facilities that may not be normally undertaken by the health - agency may have to be developed in the field demonstration area as part of the student training, a contingent amount should be made available to the Department of Social and Preventive Medicine for expenditure on programmes developed for teaching purposes. The organization of the field demonstration area will - also involve additional workload on the Social and Preventive Medicine Department by way of giving technical guidance (routine administrative set-up will vest with the public health agency of the district or corporation) to the students, and/the staff of the Social and Preventive Medicine Department has to be augmented proportionately to take the extra workload, and, transport provided. To make the field area reflect the realities of the Indian situation, maximum efforts should be made to get the work carried out using medical auxiliaries in the field under the direction of qualified medical officers. A suggested set-up of the field area is annexed. (Annexure I ). The learning opportunities of the medical undergraduate in Environmental Sanitation in this field area will generally fall under three or four phases:

IV.4. Phase I: Planned field visits over a period of time of 3 years or less.

Questioning a patient on his physical and social environment in a hospital ward is only a first step in the teaching process. This has to be followed up further. To make a specific suggestion in relation to Environmental Sanitation, let us suppose that a group of medical students are shown a case of typhoid in a hospital ward; or they come across a number of people in the out-patient who have sought treatment for hookworm. Apart from treating the patient, the students should follow up their patients to their home to study about their immediate home environment. The patients shosen could be those who come from the field demonstration area and it will not be difficult to do this. When once the student goes to the village, they could in addition to the patients' homes, choose a few neighbouring houses also for study and a group of 2 students could take 50 houses for study purposes. During the first phase of their field visit which should coincide with the first year of clinical stdues and the starting of the training in Environmental Sanitation, the students will thus make a study of the immediate environment of the families assigned to them, viz., type of house, living conditions, hygienic practices, attitudes towards disease, knowledge, water supply, latrine etc. The student will maintain a family folder for each of the families chosen

and record their observations and also record all cases of sickness in that family for the rest of the year and arrange for treatment. They will also make helminthic or other studies - among the households as indicated and prepare spot maps on morbidity (with special reference to those due to poor sanitation) in the houses allotted to them. At the end of this period they should be helped to analyse and interpret the data gathered and make further searching enquiries, to continue - their work.

Phase II: During the second phase of their field study which should follow closely after the first, students will continue to make observations of the families allotted to them. In addition, they should now go farther into the community and study the prevailing conditions in the area, actual or potential, which has exerted a favourable or unfavourable influence on the health of these families and of the inhabitants as a whole. This survey will be a total Public Health Survey including all aspects of Environmental Sanitation like Water Supply, Defaecation habits, Food Sanitation etc. Since all the houses in the village or a ward of a municipality would have been allotted to groups students, they can pool their family data record and also village survey record to draw conclusions. They should be helped to correlate their morbidity data with those elements of environmental sanitation in the village which have contributed to this morbidity. Thus, by a self-study and analysis under supervision and guidance, the students will try to see the patients of the families allotted to them in relation to their environment.

In the survey that he now makes, the student should select and involve local leaders. The opinion of the leaders - are respected by the people and they can help the students to gather accurate data on some of the particulars they want. Further, if the local leaders are involved in survey and planning phases of the health programme, their cooperation in the acceptance phase will be easily forthcoming. Ultimately, it is the people who should take responsibility for improving of their own individual and community health needs and as such, the involvement of leaders at this stage will be most useful.

Phase III: The third phase of the planned programme of teaching/Environmental Sanitation will be to help them to plan and implement programmes in environmental sanitation based

on the health needs as gathered by factual data. The student at this stage should be helped to set out priorities, how to plan for implementation of programmes involving other health personnel and local leaders, how to implement the same and evaluate their work. They should be clearly made to see the roles of the different members of the health team carrying out specific responsibilities for action. For example, it is not necessary for the doctor to do all aspects of latrine construction work, but he should definitely see the relationship between non-use of the latrine and faecal-borne diseases in the village and be able to plan for a latrine promotion programme, utilising the paramedical staff.

It is also important that the field work will relate not only to environmental sanitation work, but cover the total Public Health needs of the population under study. Experience of the RcA Project at Poonamalee has revealed that where scabies is a problem in the village, it is difficult to get people's cooperation for any other health programme, unless a control programme for scabies is initiated. The Gandhigram experience has further proved that to get maximum participation from the people, it is better to approach the people with a health programme, rather than adopt a piecemeal approach. As such, it is better that, for maximum benefits, a total Public Health programme including Environmental Sanitation is developed in the village rather than an environmental sanitation programme alone.

IV.5. School health

Among the various programmes developed at the village level, high priority should be given to school health. Children have got pliable mind and attitudes and catching them at a young age will help in promoting the correct attitude among the students towards sanitation. As teaching of environmental sanitation in primary schools should start with development of opprotunities for students to practise sanitary practices, the provision of the most essential elements of school sanitation should find a place in the programme. Further details of this are available in the article "Minimum Programme of Environmental Sanitation in the Field Demonstration Area." (Annexure II).

IV.6. Minimum Programme of Environmental Sanitation in the Field Demonstration area.

A minimum programme of Environmental Sanitation should be developed in the area chosen for field study and demonstration by the by the Social and Preventive Medicine Department. The programmes being continuously developed should include:

P.T.O.

1. Provision of adequate and safe water supply in all villages of the Block;

2. A phased programme to cover as many of the households as possible in the Block with sanitary latrines;

3. A comprehensive school sanitation programme to cover

   (a) provision of safe water supply to schools,

   (b) provision of at least a two-seated sanitary latrine and

   (c) a hygienic kitchen-cum-store for safe storage of food articles and sanitary cooking.

4. Provision for the disposal of sullage.

5. Provision for a community compost-yard for every village and hamlet of the village.

6. Improvement of sanitation in food-handling establishments

7. Sanitation of the dairy and cattle-sheds.

( Details about these are given in Annexure II)

IV.7. Final Report by the Student:

The students should be asked to keep record of their field study and observations in the villages allotted to them for work. It is to be understood that the choice of the village was not arbitrarily done but was a result of the follow up of the first clinical patient, a victim of the insanitary conditions, allotted to him. The student will thus prepare a project report which should involve an environmental diagnosis of his patient and of many similar ones that he came across in the area over the two to three years' period and an environmental treatment. The preparation of this Report should be obligatory and form part of the final assessment.

(See Annexure III)

V. Coordination of activities in field service area with that of the Social and Preventive Medicine Department

There is a great need for coordinating the training activities with that of regular service functions in the field demonstration area. To achieve this, a committee consisting of the staff of the Social and Preventive Medicine Department and those in charge of the Primary Health Centres, Municipa-

lities and the District should be formed and this committee should be in charge of the entire field programme.

The medical officers of the Primary Health Centres, should, in addition to their duties, act as field guides for the students of the Medical College and some of them, after some experience, could also function as part time - staff of the Social and Preventive Medicine Department.

VI. Teaching Staff in Environmental Sanitation:

The teaching in Environmental Sanitation should be made effective and interesting. The subject of Environmental Sanitation should be taught to medical students by persons who possess a high degree of competence in the subject. It may not be right to think that any Civil Engineer could - handle classes in Environmental Sanitation for medical students. The teacher himself should have had training and and experience in Public Health.

The teaching itself should be so directed as to make the student understand the role of collaborative function in Environmental Sanitation, its role in relation to disease and interpret conditions and plans for effective programmes; he should also be helped to see the contribution that other personnel like the Sanitary Engineer, Sanitarian etc. can make. The undergraduate should also receive experience in team approach to solve problems in Environmental Sanitation.

VIII. Laboratory Work:

The teaching of Environmental Sanitation could also be made interesting by giving a practical bias to the whole subject. Every Department of Social and Preventive Medicine should have ample facilities for laboratory work in Environmental Sanitation and also for making epidemiological investigations.

IX. Observation Visits:

A programme of planned visits to environmental sanitation works like Water Works, Sewage Works, Pasteurization Plants etc. should be organized. This makes the lectures and readings far

more intelligible to the students. This will also help his future executive functions as Health Officer and also add to the general education of the undergraduate.

X. Teaching Environmental Sanitation along with concerned Disease.

Still another way by which the undergraduate can be made to appreciate the relationship between the disease and the environment is to teach Environmental Sanitation appropriate to the disease along with the disease itself. This could be done by adjustment of classes and time-tables between the Department of Medicine and the Department of Social and Preventive Medicine.

XI. Industrial Health

Both the General Practitioner and the executive Health Officer are brought face to face with illnesses of occupational origin. Occupational health will assume problems of high magnitude in view of the rapid industrialisation in India. The teaching of Environmental Hygiene in the special circumstances of the Workshop and the Factory is thus important. The Department of Social and Preventive Medicine should have facilities to study problems of occupational health and utilise them for teaching purposes.

C o n c l u s i o n:

An attempt has been made to diagnose the causes for the unfavourable attitude among the medical undergraduates towards a study of the subject of Environmental Sanitation. It is felt that the role of the teacher in sanitation is to help the students develop correct and favourable attitudes towards the subject taught. One way of doing this is to orient the teaching of the subject in such a way that the students learn to look at the patient in relation to the factors of his physical and social environment. In addition to bedside teaching, an effective way of doing this is by developing a field service-cum-demonstration area attached to the Social and Preventive Medicine Department of the Medical College. In this area, the students will follow the patient to his home and study his home and community environment especially relating to sanitation. Helping him

to carry out proper surveys, analyse his records, identify those factors of Environmental Sanitation which are contributing to the morbidity in the village and develop programmes aimed at finding solution to the problems might help him to appreciate the value of Environmental factors in transmission of disease. The student will know that ultimately it is better and cheaper to treat the environment and prevent diseases, rather than treat the sick alone, forgetting the environment.

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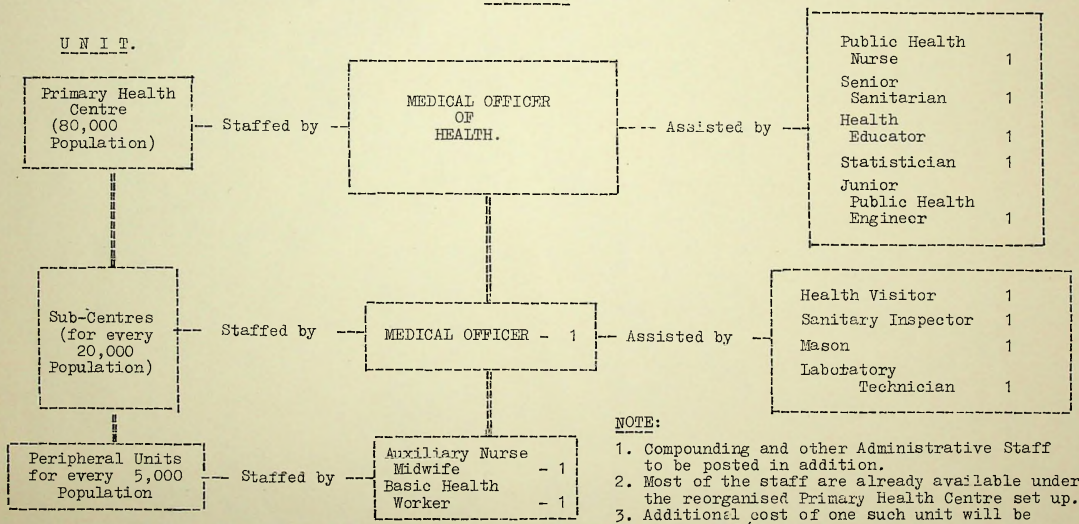
FIELD SERVICE - CUM - DEMONSTRATION AREA.

Annexure I

STAFF




NOTE:

1. Compounding and other Administrative Staff to be posted in addition.
2. Most of the staff are already available under the reorganised Primary Health Centre set up.
3. Additional cost of one such unit will be Rs. 80,000/- per year.

Annexure II

COMPONENTS OF AN ENVIRONMENTAL SANITATION PROGRAMME THAT REQUIRE ATTENTION IN THE FIELD SERVICE-cum-DEMONSTRATION AREA

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While environmental sanitation covers many aspects, a comprehensive programme consisting of the following components may be considered for execution in the field area:-

1) Provision of adequate and safe water supply in all the villages of the Block;

2) A phased programme to cover as many of the households holds as possible in the block with sanitary latrines;

3) A comprehensive school sanitation programme to cover---

   (a) provision of safe water supply to schools,

   (b) provision of at least a two-seated sanitary latrine and

   (c) a hygienic kitchen-cum-store for safe storage of food articles and sanitary cooking.

4) Provision for the disposal of sullage;

5) Provision for a community compost yard for every village and hamlet of the village;

6) Improvement of sanitation in food handling establishments; and

7) Sanitation of the dairy and cattle sheds.

I. Provision of safe and adequate water supply

The need to ~~rpe~~ provide safe and adequate water supply to every village is so well-recognized that it needs no explanation. The present programme in Community Development Blocks aim at (i) Sinking new wells in those villages where adequate water supply is not available and (ii) Providing overhead tank supply system for villages where the people come forward. But the execution of these programmes is not done in a systematic manner and there is need to put it on a scientific basis. To meet this, a survey should be first conducted of all the villages in the Block area to find out (a) the existing sources of water supply, (b) their adequacy, (c) safety, and (d) possibilities of development of additional sources. When once the survey is completed and data processed

a master plan for the whole Block area, based on the following, can be drawn--

1) Villages for which overhead tank supply could be developed from local sources;
2) Groups of villages for which water has to be tapped from a common source and supplied through a common distribution system;
3) Villages, which by nature of their small size, have to depend on dispersed sources like wells for a long time to come.

Once the villages are grouped and rough estimates of cost worked out, the whole scheme should be discussed with the members of the panchayat union and ways of financing the same thought about. It will be quite evident that the resources of available from the Government will have to be supplemented by local efforts mostly by raising of water-tax by the local panchayats. The Panchayat Union members should decide on the priorities and phasing of the programme and raising of local resources, so that they will have a sense of participation in the preparation of schemes and their execution.

Pending the execution of the Master Plan, a sanitary survey of all the drinking water wells in the block area - should be carried out by the health staff. It is common observation that many of the wells require improvements by way of protective platform, proper casing, waste water disposal facilities, etc. The estimate for carrying out the repairs should then be prepared and the works carried out expeditiously in 2-3 years. The local Panchayat and Union Funds should be utilised for this.

In view of the depletion of ground water tables due to to heavy pumping for irrigation and other purposes, it is now found that most of the shallow wells get dried up in summer . It may therefore be necessary to take the supply from the deeper layers in future. It is therefore suggested that each community development block in the proposed service area be provided with at least a good hand-boring set which could be utilised to put up bore wells up to 120 feet. It will also be preferable to provide the additional sources of water supply through bore wells.

The villages under Group (3) above which have to

depend upon dispersed wells for many more years to come, - should receive attention and the wells in these areas be - covered and fitted with hand pumps. The new sources can be - bore wells. To look after the maintenance of these hand pumps the Panchayat Union should appoint mechanics and store adequate spare parts and charge the cost of maintenance, pro-rata to the village panchayats.

As an immediate measure, the maternity centres in the villages, the Balwadies, the Panchayat and Village schools should be provided with a protected drinking water source.

II. Excreta Disposal

Experience has shown that while the water supply programme is accepted readily by the people, continued and prolonged ~~and~~ educational efforts are needed to motivate the rural population towards acceptance and use of latrines. It is also found that in every village, there is a section of population which is more ready to accept latrines than the others. In view of the need for sustenance of efforts over a period of time in the same village and the inadequacy of workers, it is also better to initiate the programme in a few selected responsive villages at first, work there for some time, before moving to new areas. It will also be not possible to cover the entire village by a latrine programme in the first round itself.

In spite of their demonstrated failure to meet the - excreta disposal needs of the rural population many a time, - voices are heard from responsible people in favour of provision of public latrines in villages. The argument most commonly raised in favour of public latrines is that all the houses in rural areas do not have space for household latrines, and, as such, something should be done for these houses too. But it is often forgotten that not more than 2 to 3% of the households in villages do possess or use latrines and more than 50% of the houses have space for household latrines. Since the concentration in initial stages of the latrine programme should be to create a social acceptance of the programme and to see that the latrines constructed are well-maintained and used, it is better to concentrate on the programme for the individual households initially. After a few years, when the programme

gains acceptance, it will be easier to solve the problem for - others. At present, very few of the panchayats have either the money or the skill to maintain public latrines properly and efficiently.

In the Athoor Union area (Madurai District) the construction of household latrines are subsidised to an extent. The subsidy for each latrine comes to Rs.16/- and is meant to meet 75% of the cost of pan, trap, pipes and pit cover. In two of the villages, based on a suggestion made by the people, a revolving fund scheme has been tried. Under this scheme, the - Health Committee is given an interest-free loan of Rs.500/- and the Committee gives Rs.50/ to each household who wants to construct the latrine, to meet the cost of lining pits, brick enclosure etc. The money is collected back in 10 monthly instalments and the loan amount recovered every month is again ploughed back. At a recent meeting of the Panchayat Union members and other selected leaders from the Block, it was unanimously agreed that this scheme is good and should be introduced in all the villages. To meet the demand for supply of materials, it is also necessary to set up a workshop for a group of blocks for manufacture of latrine materials.

Based on the execution of the latrine programme in five contiguous blocks in Madurai District over the last few years, the following suggestions are given for a latrine promotion programme in the proposed service area:

1. To set up a latrine parts manufacturing workshop in each block or for a group of 2 to 3 blocks, for manufacture of cement pans and traps, pipes and pit covers.
2. To select about 8 to 10 responsive villages initially for the development of the programme, These villages to be selected at the Panchayat Union Council meeting. After the programme develops, momentum in these villages could be added on in a phased manner.
3. To subsidize the construction of every household latrine to the extent of 75% of cost of pan and trap, connective pipes and pit cover.
4. To give an interest-free loan of Rs.1000/- ( or -at the rate of Re.1/ per head of population) for setting up a revolving fund for construction

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## TEACHING OF COMMUNITY HEALTH IN HOSPITAL AND HEALTH CENTRE COMPLEX AT THE K.G. MEDICAL COLLEGE, LUCKNOW

B.G. PRASAD and J.K. BHATNAGAR - LUCKNOW

The teaching of community health aims to accomplish the object of medical education, which is to train doctors in the concept and practice of comprehensive health care to raise the level of the health of the people, the ultimate goal of medicine.

Community health teaching should not only be carried out throughout the medical curriculum but also continue in the internship stage to demonstrate and involve them in the practice of community health in the urban and rural practice areas.

Community health can best be taught through inter-disciplinary method both at the hospital and the health centre complex to train the doctors in totality of medicine and the concept and practice of comprehensive health care.

In collaboration with the three departments of Social and Preventive Medicine, Paediatrics, and Obstetrics & Gynaecology at K.G. Medical College, Lucknow, interdisciplinary teaching of community health in Social Obstetrics and Social paediatrics is being carried out at the weekly neonatal and children's clinic held at the respective departments, for the senior (sixth to eighth semester) medical students. This enables the students to observe and learn the importance of social and clinical factors in health and disease and realise that health care cannot be compartmentalised and for completeness and continuity extends beyond the hospital.

The interdisciplinary teaching of community health, its demonstration and practice by actual participation is given to the interns during their posting for three months in the Department of Social and Preventive Medicine for working at the health centre complex comprising of Urban Health Centre Alambagh, and the various components of Rural Health Training Centre, Sarojini Nagar -- Primary Health Centre and the Experimental Teaching Health Sub-centres at Banthra and Mati. This enables the interns to acquire skill and attitudes appropriate to the practice of community health in live situations and above all to appreciate, understand and accept the concept and practice of comprehensive health care and of team approach.

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## THE COMMUNITY ORIENTED PHYSICIAN EDUCATOR AND THE FUTURE PHYSICIAN

C.N. SOWMINI - MADRAS

Major historical high lights concerning the evolutionary concept of community health.

Consideration is given to the three dimensional approach to community health; namely the community from which the patient comes, the hospital community and the community to which the patient returns. Attention is given to the causative factors which underlie the failure for the implementation of this approach.

Emphasis is placed on the role of the community oriented physician educator and his responsibilities relative to the future physicians.

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## MOTIVATING THE HOUSE PHYSICIANS IN COMMUNITY HEALTH IN HOSPITAL SETTING

M.S. NARAYANAN - MADRAS

In Tamil Nadu, Royapettah Hospital in Madras City caters to the needs of the medical students of Kilpauk Medical College.

Like any other general hospital it consists of various outpatient clinics.

The outpatient departments are divided into Units for purposes of teaching the students.

The Unit taken for this discussion consists of Tuberculosis, Paediatric and Family Planning Clinic.

The various problems arising from one discipline but inter linking the other disciplines are enumerated and the teacher plans a detailed program for the student. In implementing the interdisciplinary approach, the community-oriented teacher selects a few patients for study from all the three clinics and guides the students in the relationship of one discipline to the other and its impact on society. This gives the students, the plans, elevations, sectioned views and an overall perspective of the subject regarding the patient as well as the Community from where he comes.

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## FAMILY CARE - AN INTERDISCIPLINARY TRAINING PROGRAMME

A. RAHMAN - CALCUTTA

The All India Institute of Hygiene and Public Health undertakes field training of different categories of public health students (DPH., DMCW., M.S.(PH), DHE., Dip. Diet etc.) at the Urban Health Centre, Chetla the urban practice field of the Institute. The various departments of the Institute (Preventive & Social) Medicine, P.H., Administration, Environmental Sanitation, Health Education, Maternity & Child Health etc.) participate in organising and implementing the training programme with the following objectives:

1. To enable the students to understand the different Medico-social problems in the families and their relationship with the environment.

2. To find out the consequences of ill health and its effects on the family and the community.

3. To help the students to find out the reaction of the individuals, families and the community towards the disease and the existing service facilities.

4. To enable the students to find out the resources of the community for the solution of the problems.

Routine health services through the health centre are provided to the families located at Chetla, an area under the jurisdiction of the Calcutta Corporation.

Two families are allotted to each team of students and six visits are given by the students to each of the families. During the visit each team records in the family folder the

family composition, socio-economic and environmental conditions of the families, the important events and the state of health of the individual members of the families.

The interdisciplinary nature of the programme becomes operative in dealing with health problems encountered by the students. These need services of various members of the health team -- Physicians, nurses, laboratory and X-ray personnel, health educators, sanitarians etc. available at the health centre. The student is exposed to the integrated programme by personal participation.

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INTER-DISCIPLINARY TEACHING OF COMMUNITY HEALTH IN HOSPITAL

B.K. MAHAJAN - JAMNAGAR

Interdisciplinary teaching of community health in teaching hospitals and health centres is a useful technique in medical education to prepare 'basic doctors', oriented tomeet the needs of developing society, particularly so in India.

A good number of attempts and experiments made in this direction, at the instance of teachers in Preventive and Social Medicine in different medical colleges, in the last 15 years in India and abroad, have been reviewed. The response given by teachers of other disciplines is varied and not found to be lasting except in rare cases. No evaluation has been made but it is worthwhile taking the stock of achievements made thus far. Objectives and advantages of such teaching are outlined and hurdles are discussed in the light of the separate development of curative and preventive branches of medicine.

Integrated teaching of community health has been done through clinico-social case of conferences on cases from wards and health centres. Another rich field is the outpatient departments of hospital for interdisciplinary teaching. The present paediatric or children clinics giving only curative services and well baby clinic giving mainly preventive services should be integrated into one 'children health clinic' for teaching and demonstration of integrated community health services. Antenatal clinics should be likewise reorganised so that they draw normal and abnormal cases both and render total preventive, promotive and restorative services. Specialised clinics such as T.B., V.D., diabetes, filaria, etc., and infectious diseases wards are other glaring fields for interdisciplinary teaching.

Responsibility for implementation of such teaching should not be that of teacher in Preventive and Social Medicine but that of College Council for lasting results. Integrated teaching requires integration of disciplines, time, staff and philosophy which can be done at Council level only.

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INTERDISCIPLINARY TEACHING OF COMMUNITY HEALTH AND FAMILY PLANNING

D. ANAND, SHRINIVASA and CHAKRAVORTY - PONDICHERRY

During recent years considerable emphasis has been laid on integrated teaching. One of the most productive areas for work relates to integration of teaching related to MCH and Family Planning. The paper deals with an experiment in such an integrated approach carried out by the departments of Obstetrics and Gynaecology and Preventive and Social Medicine at JIPMER.

Broadly stated, the paper will deal with the methodology followed in planning the block teaching for medical interns which will be carried out with the technical resources available in the community.

An attempt will also be made to carry out before and after survey based on the use of tools designed to study attitudes and skills of medical interns in the cognitive psycho-motor and effective domain.

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## FIELD TRAINING IN OBSTETRICS AND GYNAECOLOGY FOR THE UNDERGRADUATES

ROHIT V. BHATT - BARODA

A student gets used to the methods for diagnosis and treatment of diseases he sees in the hospital practice. He is rarely aware of the situations prevailing in the home set up. The knowledge about the socio-economic background of the people, the social customs, the way of life etc. is a must for every medical man before he can do full justice to his patients. This is true for all branches of medicine and specially so for Obstetrics and Gynaecology. A medical student is used to see the confinements within the four walls of the labour room. It is necessary for the medical student to see how obstetric complications during pregnancy and labour are managed in the home set up.

We have planned the field visits by our undergraduate and Internees students to the small peripheral centres round about (21 miles) the city of Baroda where the Medical College is situated. Our aim is to take the medical student during his clinical term to these centres but the batch of students being very large we are not able to take them for Obstetric training at present. The staff of the Obstetrics dept. visits the seven peripheral centres (Chhani, Karjan, Per, Waghodia, Savali, P Padra and Dabhoi) once a week or as necessary. One resident doctor and an intern accompanies the consultant. The intern is given all the opportunities to witness and observe the conditions prevailing in the village. He is encouraged to visit the homes of the patients and see for himself how they live. He observes how deliveries are conducted in small centres as well as at home. He gets an idea how obstetric complications like placenta praevia, eclampsia etc., are managed before sending to the general hospital.

This first hand information on the field gives him confidence to manage similar situations when he would be incharge of the centres. He learns from the mistakes made by others in these centres.

We feel that the student is better armed with knowledge if his hospital training is supplemented by field training in different subjects. We work in close cooperation with Preventive Medicine Dept. and the Paediatric Dept. Our method of field training is on from 1967 and we feel that it has served useful purpose.

We propose to discuss the problems involved in arranging the field training.

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## SURVEY OF CURRENTLY USED COOKWARES AND COOKING METHODS USED BY COMMUNITIES

K.N. AGARWAL, M. GUPTA and D. AGARWAL - VARNASI

Five hundred and eighty seven families of low and middle income groups were interviewed to find out the currently used utensils for cooking. It was found that all families were using iron knives and iron tawas for cutting vegetables and making chapatis, respectively. However, the use of iron vessels for the preparation of dal and vegetables was negligible. It was also found that there was loss of dietary minerals in vegetables by preliminary washing prior to cooking.

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ROLE OF CALORIE AND PROTEIN INTAKE ON PHYSICAL GROWTH

M. GUPTA and K.N. AGARWAL - VARNASI

The weaning and introduction of semi-solids were earlier in children of educated parents especially those of educated mothers. The nutrient intake was decreased with increasing birth order. Better anthropometric indices were found for children taking calories >1200, total protein over 35g. and animal protein over 20 g. per day.

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NUTRITION REHABILITATION CENTRE

Teaching through student participation.

A.S. CHIKERMANE, A.K. NIYOGI - BARODA

INTRODUCTION:

In a preliminary study done with the help of the Dept. of Preventive Medicine it was seen that about 66% of cases of Protein Calorie Malnutrition discharged after very adequate hospital treatment died in less than one year. The main shortcoming of the hospital treatment was its high cost and the children relapsed when they returned to their home environment and diet which had caused the disease.

The Nutrition Rehabilitation Centre was therefore started in 1969 to manage severe cases of malnutrition by offering an inexpensive diet consisting of locally available and culturally acceptable ingredients, cooked by the mothers under the supervision of the P.H.N. and the doctor, so that the mothers realise the significance of proper diet in the prevention and management of malnutrition.

Method of Treatment of Malnutrition:

Phase I: Acute stage, with anorexia, infection, diarrhoea, and high katabolism, managed in the main ward with antibiotics, milk drip, etc. This generally lasts one week.

Phase II: Correction and Rehabilitation: 2-3 weeks.

In addition to nutrition rehabilitation the mothers are also instructed about the importance of hygiene, immunisations and other preventive and promotive measures.

Phase III: Follow up at home.

Results:

The rate of improvement during the hospital stay was better than in the earlier cases, and there were no complications.

The post-discharge mortality came down from 66% to a mere 5%. The survivors were steadily improving in health. Other children in the family were also given better diet. The nutrition education spread in the community in some measure; some of the neighbours were also giving similar diet to their children.

The students, interns and the postgraduate students are actively involved inthe nutrition rehabilitation centre activity.

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TEACHING OF INFECTIVE DISEASES IN MEDICAL WARDS

P.S. SHANKAR - GULBARGA

The health of a community is affected adversely by the infective diseases. The incidence is related to the reservoir of infection, facilities for its spread, living environment dietary habits and social conditions. Such cases are to be studied at the home atmosphere by the medico-social worker, health inspector and medical student. The data so obtained gives an insight into the problem in the community. The discussion of such a case in the medical ward of the hospital is done as combined clinics by the teachers of Department of Medicine and Preventive Medicine. The curative and preventive aspects of the disease is stressed.

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POSSIBLE AETIOLOGY OF BRAIN DAMAGE AND ITS PREVENTION

G. SUBRAMANIAM and K.N. AGARWAL - VARANASI

In a preliminary study children having brain damage were subjected to clinical and extensive bio-chemical investigations. These investigations were aimed to exclude:

1. Aminoacid metabolic defects.
2. Mucopolysaccharide defects.
3. Carbohydrate metabolic defects.
4. Metachromatic leukodystrophy.

The absence of any bio-chemical defect and detailed clinical history have suggested that the brain damage was mainly due to asphyxia neonatorum which is preventable. The role of obstetrecian, paediatrician and community health doctors will be discussed.

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MP-8E.

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# Report on Visits to

# Departments of Preventive and Social Medicine

by

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July - August, 1959

## I. INTRODUCTION

This return to my second homeland after an absence of 3½ years has brought more gratification than I can possible express. My overwhelming impression is amazement at the tremendous achievements and progress, which are especially evident to me because of having been away. Far more significant than the magnificent new medical buildings in the cities are the changes in villages I have known intimately in past. And again more important than any building is the continued working of an exciting ferment of new ideas and bold planning. When we used to discuss in meetings of the Health Panel of the Second Five Year Plan what seemed to me challenging but too optimistic goals I did not believe that achievement would be this real. The adaptation of scientific medicine to the needs of the country is a tangibly developing process.

My visits in six weeks have included Departments of Preventive & Social Medicine in 19 Medical Colleges in nine States and well over two dozen rural and urban health centres. In addition to numerous lectures and discussions I have had opportunity to informally question groups of medical students and interns in most of these Medical Colleges. Their frank and illuminating observations have proved to be one of the most instructive features of my visits

Throughout this strenuous trip the generosity and thoughtfulness of my hosts have left me so profoundly grateful to so many that I cannot begin to list them. The welcomes from administrators, colleagues, medical students and especially village folk have been typical of Indian cordiality. Particular appreciation should be expressed however, to Shri Karmarkar, Central Minister of Health, Shri V. K. B. Pillai, Secretary of Health Ministry and Colonel Jaswant Singh - Director General of Health Services for making arrangements for my visits and clearing my way of administrative difficulties. This trip was paid for by ICA funds and to the staff of the TCM and Rockefeller Foundation would also like to express my thanks for help with travel plans and the detailed program.

## II. PURPOSE OF VISITS

A. The primary justification for this travel to India, Thailand and Japan during the summer of 1959 was a desire to further improve the Program for Teachers of Preventive Medicine at Harvard School of Public Health. During the three years since this Program opened steady evolution in our planning has occurred. With two groups now graduated it was felt that visits to the men on their home ground would provide further insight into the relative usefulness of various parts of the Program. Forty four teachers from eighteen countries have spent one - two years in our inter-university program (Eight Departments of Preventive Medicine in the Eastern US cooperate with us by providing teaching residencies). Since fourteen of these teachers have come from India it was logical to concentrate travel in this area.

B. On arrival in Delhi, the Central Health Ministry requested an evaluation of present developments and recommendations for future planning for Departments of Preventive and Social Medicine. The time for this is particularly opportune because in the Five Years since the 1955 All India Conference on Medical Education, major decisions have been made by the Indian Medical Council and University Faculties.

C. In the course of visits to each Medical College it has been possible to provide some assistance in local planning. A deliberate attempt has been made, however, to do this unostentatiously through the conviction that stimulation of local iniative and ingenuity leads to maximum enthusiasm and long-term development. I find too that specific and detailed advice by foreign "experts" often conflicts with that of previous "experts" and thus leads mainly to confusion.

## III. BACKGROUND OF PRESENT DEVELOPMENT.

Preventive & Social Medicine is a comparative newcomer to the academic disciplines of Medical Education. The transition from teaching Hygiene to the relatively wide orientation implied in the new title has gain rapid acceptance in the past five years. All too often, however, a new cloak has been assumed without actually changing subject matter or methods. While Western medical educators continue their semantic wrangling about the relative merits of various ways of presenting the components of what Americans call Preventive and Europeans call Social Medicine, India has wisely accepted the WHO recommendation to combine the terms.

Two specific conditions make it possible for India to assume world leadership in developing this discipline. First, is the historical tradition of the Ayurvedic emphasis on prevention. This is important not for sentimental reasons but because these concepts are deeply engrained in the cultural orientation of common people. They expect every doctor to be interested in and assume responsibility for preventing illness and complications. The culturally accepted dietary and personal hygiene practices of course require reinterpretation. Strong popular pressure ensuresthat these responsibilities will not be completely delegated to auxillary Public Health workers as they were in Western medicine before the present awakening of interest.

A second influence comes from the patern of National Health Services being developed under the Five Year Plans. The provision of integrated preventive and curative services in Primary Health Centers makes it imperative that doctors be taught appropriately. In adopting Western medical education to the needs of India two of the major emphasis are the particular responsibility of Departments of Preventive & Social Medicine.

1) Developing in students the attitude and ability to apply preventive measures routinely while caring for individuals and families.

2) Creating an understanding of rural sociology and village community organization so that a medical graduate can assume the responsibility for a Primary Health Center with some assurance that he has been trained for the job.

The present gap between the wards of teaching hospitals and condtions under which most doctors work is too great. Transitional steps are needed so that doctors learn not only how to practice high quality comprehensive medicine but also how to adapt and apply it under all conditions.

## IV. GENERALIZATIONS FROM OBSERVATIONS

A. Dangers of Inadequate Implementation of Teaching Programs:

1) Faculty Reaction - A new discipline struggling for acceptance must not antagonize professional colleagues. Healthy scepticism challenges the new-comer to demonstrate practical contributions in teaching and research If hasty and inadequate implementation of a complex and difficult endeavor is attempted there is danger that early problems may lead to a negative pre-judgement by colleagues. This is happening in some places I have been. Faculty suspicion is aroused by much talk and little action. Some clinicians are strongly of the opinion "We can do all the teaching needed in prevention and do not need so called specialists."

Even more common is the continuing misunderstanding expressed to me by several Professors of Medicine and others in thinly veiled comments which mean in essence: "This social medicine stuff is a luxury which you can afford in the West. Why do not you go back to America and let us get on with the real job of treating our sick people". These reactions can be met not by words but by demonstrations by competent people that there is a contribution to be made.

2) Student Frustration - Even more significant is a type of negative reation in medical students for which I was unprepared. In approximately half of the new departments visited students and interns expressed deep frustration about the difficulties encountered in trying to help poor families. This was shown most dramatically in a medical college where I had been asked to lecture to a 5th year class which had been working for 2 years on a Family

Advisor program. Because of limited staff, supervision had been mainly through a "family book". Students were expected to fill out a detailed family record schedule printed in the book, keep a record of their home visits and then were graded on this book as part of their professional examinations. After half an hour of lecturing I asked for comments from the class. I touched off an explosion. They seemed to have been waiting for such a chance. With great unanimity they said "the only thing we have learned is that there is nothing you can do to help poor people". As I probed I got the response. "If the government will give free drugs, doctors may be able to treat the poor, but there is no use trying to teach them anything about prevention. Our families were too poor and too ignorant to follow the advice we tried to give them. We have decided that until their general socio-economic conditions improve there is nothing that poor families can do to improve their health". When I asked about the student's attitudes at the start of the experience they convinced me they had gone to their families full of idealistic desire to serve. Then some illustrative anecdotes came out, the most flagrant being a student who told about a rickshaw driver's family with severe nutritional lack. When I asked what nutritional advice he had given, he said "Why, I told them to eat fruit such as apples and papayas". No one had told him about the experiments in Madras showing that a few leaves from plants growing as weeds in most courtyards will also meet the need for vitamins and minerals.

The obvious lesson is that it is even worse to send students into a family experience unsupervised than it would be to turn them loose on a clinical ward without supervision. The problems are even more complex. Students need support in the emotional involvements they develop, to learn scientific objectivity without becoming cynical. They need to be shown how to help families within the limits of their own professional obligations. Until these field activities can be set up as appropriate teaching experience it is better not to start. Students particularly asked for seminar discussions, even in large groups of 50 plus, where they could present their cases and then discuss with classmates and teachers what could be done to help their families.

We are today particularly conscious of the need for developing initiative in villagers. Medical students are all too easily caught up in the general attitude of waiting for the government to come in with help. The need for getting across to doctors the concept of "helping the people to help themselves" was never more clearly defined than after recent observations in

community development work. Doctors with the proper orientation also will be more active in sponsoring community services to provide assistance for families unable to help themselves.

B. Staff Shortage

It is not surprising that the most critical need is for appropriately prepared staff. My primary objective was to visit departments to which graduates of our program at Harvard had returned. They are facing two problems:

1) Their own appointments are being complicated by legalistic interpretations of rules about teaching experience. A policy statement is needed since in a subject this new it will be some time before anyone has the necessary teaching experience. I believe that the Indian Medical Council has wisely, though unofficially, agreed to some relaxation of requirements about years of teaching experience in preventive and social medicine and psychiatry. Newly trained men will be able to work more effectively if they are given administrative control and appropriate status rather than being subjected to some maneuver such as being placed under traditionally oriented public health people who have themselves had no teaching experience in modern preventive and social medicine.

2) Subsidiary staff will have to be found. At this stage it is my opinion that if the department head has appropriate orientation his subordinates can be recruited less on the basis of their qualifications and more with attention to their interests. We need to "beat the bushes" of other specialities such as medicine, microbiology and public health to locate latent interest and put it to work. Specialized training can come later. Particular attention needs to be paid to obtaining auxilliary staff such as social workers, public health nurses, statisticians and health educators, especially in health centers.

The need for staff with special training in this field will continue for some time. It is hoped that the new program at Calcutta will help to meet this need. The principle of giving public health specialists orientation in clinical medicine and vice versa seems to be substantiated.

C. Dangers of Regimentation of Curriculum

Since this is a new discipline we still have much to learn about how it can best be taught. The several model curricula which have been prepared in the last 5 years should be considered only as a tentative patterns. Increasingly I am convinced that it will be wrong

to rigidly standardize curricula, even for the several medical colleges within one university.

This is an integrating discipline. The local ecology of a medical school and the particular skills of the departmental staff determine where and by what means integration can be best achieved. In one school the Departments of Medicine and psychiatry may be cooperative and the hospital facilities appropriate for developing a coordinated outpatient teaching program with follow-up visits to homes. In another cooperation with Pediatrics and a children's clinic may achieve the same function by being adapted to a Family Clinic. Again local resistance may make it logical for Preventive and Social Medicine to have its own clinical facility in a rural health center, infectious disease wards or some specialized clinical activity. Similar local conditions may apply to the preclinical period. The selection of the areas in which integrated teaching can be developed should be left open, but the ultimate objective of getting all departments to teach prevention should be clearly defined.

Similarly the timing of the various parts of the curriculum should be left to local decisions. There may be good reasons in particular schools for concentrating teaching at certain times.

It is necessary, of course, to list general material to be covered. To conduct fair examinations all students should have an opportunity to learn the basic subject matter. The examiners should be concerned with general principles and the approach of the student rather than detailed knowledge of facts.

This approach is well stated in the last report of the British Medical Council. They have changed their previous policy of setting up detailed and rigid curricula. They now encourage experimentation and the trial of new approaches in medical education.

D. Course Content of Preventive and Social Medicine

It is useful to distinguish between teaching which is a cooperative function with other departments and that which is a specific responsibility of this department. The subject matter can again be divided according to the general period in curriculum in which it can logically be placed. A tentative list of these component parts is given in Table I as a suggested pattern permitting local flexibility.

It will be noted that the same division of functions by time periods has been attempted as is found in the general curriculum. The preclinical period is devoted to learning basic knowledge, mainly about the normal. The clinical period is devoted to learning how to apply this knowledge to the problems of health and disease. The internship is to give opportunity for assuming responsibility under supervision in selected duties; there should be no attempt to cover the whole range of preventive activities any more than a clinical internship is designed to give experience with all clinical conditions.

TABLE I

Cours Content of Preventive and Social Medicine Curruculum

| | Cooperative Functions | Specific Functions | Field Work |
|---|---|---|---|
| Preclinical Period (Basic knowledge) | Human growth and development, Nutrition, Psychosocial maturation | Ecologic awareness of environment of individuals and families. Medical Sociology, especially rural Demography Biostatistics. | Family studies (laboratory course in medical sociology). |
| Clinical period (application of basic knowledge to health problems) | Preventive measures for specific diseases, especially communicable | Environmental Hygiene. Epidemiologic method. Community Organization for Health (public health with sub-specialities). | Follow-up of patients to home to observe effect of environment on illness and of illness on family. Observation of Public Health activities. |
| Rural Internship (responsibility under supervision) | | | Research projects Responsibility for all health functions in group of families or part of village. |

E. Rural Sociology and Village Development

Perhaps the greatest lack in the preparation of teachers of preventive and social medicine is in experience and knowledge of village conditions. I have found faculty members who are teaching the somewhat pessimistic attitude which has disturbed me in students, that there is little that can be done for poor people until their socio-economic conditions spontaneously improve. The realization that doctors do have contributions to make in raising living standards tends to be ignored.

Much has been learned about rural sociology and village development in India in the past 10 years. At least one member of each department should keep up with this area. This can be done through

association with centers such as Gandhigram, Allahabad Agricultural Institute, Gokhale Institute of Social Sciences at Poona and the Community Development Schools in each area - particularly those for Block Development Officers and Social Education Organizers. The importance of intensive research in this area by the departments themselves is particularly apparent.

F. Rural Internships

Recently passed requirements for the immediate setting up of internships in rural health centers have caused more agonizing effort on the part of medical college departments than any other single activity. The whole process is so new and complex that it is only by trial and error that progress will be made.

A fundamental concept which must be accepted is that a teaching health center should be just as different from a service health center as a teaching hospital differs from a service hospital. The major requirement is for staff who know how and have time to teach. In addition special facilities will have to be provided.

Perhaps the commonest error I have observed in organizing teaching health centers is to set up a "merry-go-round" type of activity. In an attempt to be comprehensive short experiences are provided in all sorts of health center and public health activities. Very little opportunity results for the "responsibility under supervision" characteristic that should distinguish internships. The group of interns told of a houschol survey in the course of which they had encountered a case of acute appendicitis obviously requiring surgery. They were terribly frustrated when because of local red tape and the fact that they were now supposed to be doing preventive work, they were unable to arrange to get the patient to a hospital for surgery.

At Nagpur I found an excellent program which resulted from a suggestion made by the interns themselves. A pair of them assume responsibility for a hamlet of 30-50 houses. They run a dispensary in a room contributed by the people; they do household surveys, vaccinations, health education, preschool and school age exams, and all types of sanitation work. Both interns and village people were enthusiastic. The supervision was excellent. At Ludhiana and other places attempts are being made to have interns undertake limited research projects.

The other major problem observed is administrative. All too often the effort is made to merely use a primary health center under the usual administrative control of the State Health Services. If this is recognized as an important teaching arm of the Medical College it should be under some sort of control by the Department of Preventive and Social Medicine. There is no advantage in trying to have separate service and teaching staff in the center with divided administrative control because if interns are going to be given responsibility they should be taught by the service staff. Teaching

staff coming in from outside might be useful for observation but not when the emphasis is on participation. A separate "teaching officer" tends to think he is above service, while if one is appointed he should realize he can teach best through the service activities.

G. Attracting Physicians to Work in Primary Health Centers

Few issues in medical planning in India are as immediately important as getting a better rural-urban distribution of doctors. There can be no doubt but that it is better to attract doctors to the villages rather than having to force them to go against their will. Many of my discussions with medical students and interns focussed on this problem and it was obviously a favorite "bull-session" subject among them. Great emotional resistance is being created against village service by the very tone of compulsion being used in official pronouncements on the subject. The political realities of the present crisis have created a situation where, unless the medical profession can come up with imaginative proposals, popular pressure is going to aggravate the developing misunderstandings and resentments. The people in the villages are impatient about the health center buildings standing idle for lack of staff and they have many votes.

As I have talked with dozens of groups of students and interns a fairly consistent and clear definition of their problem areas has emerged. As I asked how many students originally come from villages I obtained ratios ranging from 1/10 to 1/3. When I asked what proportion would be willing to go to villages the ratios ranged from 1/3 to about 2/3. But they want certain changes to be made.

1) Remuneration - West Bengal has all its health centers staffed by starting doctors at Rs. 450.00 plus per month and giving security. Until political demand forces up salaries there is no point in criticizing the doctor's service motivation.

2) Of great interest to me was the high degree of importance attached to professional stimulation. Repeatedly I heard objections to "getting stuck in the villages and indefinitely". There were many who said that an open door of professional advancement at the end of a period of village service would attract them greatly. This applies especially to our best young doctors who are often highly idealistic and would welcome three years in a village to satisfy their service motivation. They are afraid that if they once get out of the scramble up the academic ladders they will never get back on. In many places it would be held against a candidate for M.S. or M.D. if he had been "wasting his time" in a village. Added to this is the undeniable truth that if obtaining professional advancement depends on being in a place where one's work is noticed then it seems logical to work in teaching wards under the professional leaders who count.

The only sort of compulsion for village service which I would personally consider at this time would be to require candidates for post graduate degrees to have served two or three years in a village. It would be more democratic, instead of such compulsion, to give priority and credit in selection to those with rural service. I believe they would be infinitely better consulting physicians and surgeons and better teachers for having had an opportunity of coping with health center problems and developing their own ingenuity and initiative. Getting the best graduates to village service would add prestige to the whole activity.

3) Repeatedly concern is expressed that routine work in a health center is dull and lacks challenge. This is merely an indication of the need for presenting a clearer image of what the work is. One good young doctor in a health center told of how much time he spent writing prescriptions for iron mixture for anemic cases. When he was stimulated to check stools a large number of cases of hookworm came to light and he was faced with a challenging problem in prevention.

4) Amenities are important to most doctors. Such facilities as housing, safe water, transportation, opportunities for recreation and social contact are desirable. If the service is for only 2-3 years these problems do not loom as large as among doctors considering the possibility of lifetime service. For the latter questions such as educational opportunities for children became important.

5) Adequate working facilities are essential if good doctors are going to be attracted. Although some ability to adapt and be creative is vitally important the doctor must be provided with basic drugs and equipment. The budgets now allotted are scaring off many good persons.

6) Opportunity for association with other doctors makes up for many other deficiencies. Chances to talk over problems with colleagues are needed to clarify thinking and relieve emotional involvement. Particularly desirable is some arrangement for periodic association with speciality consultants.

7) An incidental observation is the fact that the proportion of girls in a good many medical colleges is climbing rapidly. A ratio of 50 - 70% is no longer unusual. As more girls appear for qualifying exams and with their sexual superiority in getting high grades in the theoretical questions asked, the trend will increase unless selection methods change. It is understandably harder for girls to go into village service and the proportion of rural doctors available will therefore decrease.

8) The question of family pressure on doctors to go into lucrative practice I consider soluble only as it becomes evident that one can no longer immediately walk into a lucrative city practice.

H. Need for Research

To gain solid recognition as an academic discipline there is need for sound research contributions. Ranging alongside of the clinical and laboratory approaches to research is the epidemiologic approach. In a medical faculty the Department of Preventive and Social Medicine should be in a position to provide field research skills to many different types of problems with the great advantage of being able to work in close association with preclinical and clinical specialists. The immediate questions to be tackled should concentrate on the major health problems of the geographical area and the more definition of such problems is in itself a great contribution. Increasingly, as medicine evolves in India, it is probable that research interest will shift to the application of the methods of behavioral sciences to health. An annual meeting of persons interested in epidemiologic research at the ICMR meetings would be an important stimulus to encourage such effort in medical college departments.

I. Examinations

Great variation has developed from one university to the next on the question of separate examinations in preventive and social medicine. Those who have included this examination under the general medical examination have done this as part of the very desirable longterm objective of de-emphasizing examinations generally. It is also thought that this will help to integrate preventive and curative learning. One or more questions in this subject are supposed to be included in medicine but specialists in the field have little or no say in setting questions or grading. My observations convince me that this is the wrong means to a desirable end.

In the minds of Indian Medical students the prestige attached to particular specialities is largely conditioned by the points assigned in professional examinations. There are, in addition, certain departments which have an intrinsic prestige based on tradition, with surgery and medicine being good examples. Struggling new specialities, which we all agree should be encouraged, for the present need to rely on artificial stimuli to their prestige such as is provided by examination points. If we are going to start de-emphasizing examinations the disciplines which should take the lead are medicine and surgery. Such procedures as increasing the marks for practical ward work are logical steps. The analogy comes to mind of the story the prophet Nathan told King David in the Bible. A wealthy man had large flocks; a poor man had a single lamb which he nurtured as a member of his family. When a guest came the wealthy man took the poor man's lamb for his feast. Medicine can afford to give up its examination prestige and should not be swallowing up the small lambs of preventive and social medicine and pediatrics. On the matter of whether integration is ....

achieved it seems evident that if this is desired the place to start is in teaching and not in examining.

J. Transportation.

A final observation is that preventive and social medicine relies on good transportation as the life blood of its field program. Without transport which can be used in a fairly uninhibited way regular staff supervision becomes impossible. Students too need facilities to get them quickly into contact with their families. International agencies have and should continue to help with this need.

## V. RECOMMENDATIONS

A. Poorly organized teaching programs in preventive and social medicine lead to faculty resentment and student frustration. Activities should be developed in sequence as soon as appropriate conditions prevail rather than attempting to start everything at once. The following specific prerequisites are essential:

1) Adequate staff both in numbers and in preparation
2) Field facilities such as properly developed health centers.
3) Transportation.

B. The most important teaching job in preventive and social medicine is developing right attitudes which requires getting student's participation. Field experience, especially with families, should not be started until adequate supervision can be provided to prevent student frustration and uncontrolled emotional involvement.

C. Rigid curricula are undersirable. Each college should be permitted flexibility in developing a teaching program to fit local needs. This applies especially to the priority accorded to the sequence in which special field programs will be developed.

D. To meet examination standardization requirements, a general listing of basic subject matter is sufficient. A separate examination in preventive and social medicine is still necessary. It should deal primarily with principles and observation of the student's approach to problems.

E. The staff shortage requires continuing full scale use of the programs for Teachers both at Calcutta and Harvard. In addition, attention will have to be given increasingly to auxilliary staff.

F. More adequate preparation in rural sociology and village development needs to be provided for staff members.

G. Programs in rural health centers require immediate attention:

1) A teaching health center should have staff selected as carefully as any other medical college teaching staff and

with the same relationship to the medical college in terms of permanence and encouragement to do research.

2) Facilities should be designed specifically for teaching with appropriate hostel accommodation.

3) The service staff of the center should all participate in teaching but their service load should be adjusted to make good teaching possible. This requires limiting the population served to 20,000 - 40,000 for the usual center with three doctors.

4) The teaching responsibility for and, if possible, the administrative control of the health center should be in the Department of Preventive & Social Medicine.

5) Interns activities should be concentrated in limited areas, to provide real responsibility under supervision.

H. In selecting candidates for M.D., M.S. and other specialty training priority should be given to those who have served in village health centers and possibly this should be a prerequisite for specialization.

I. An annual meeting on epidemiologic research as part of the ICMR meetings would be an important stimulus to preventive and social medicine departments to undertake cooperative field research with other specialists.