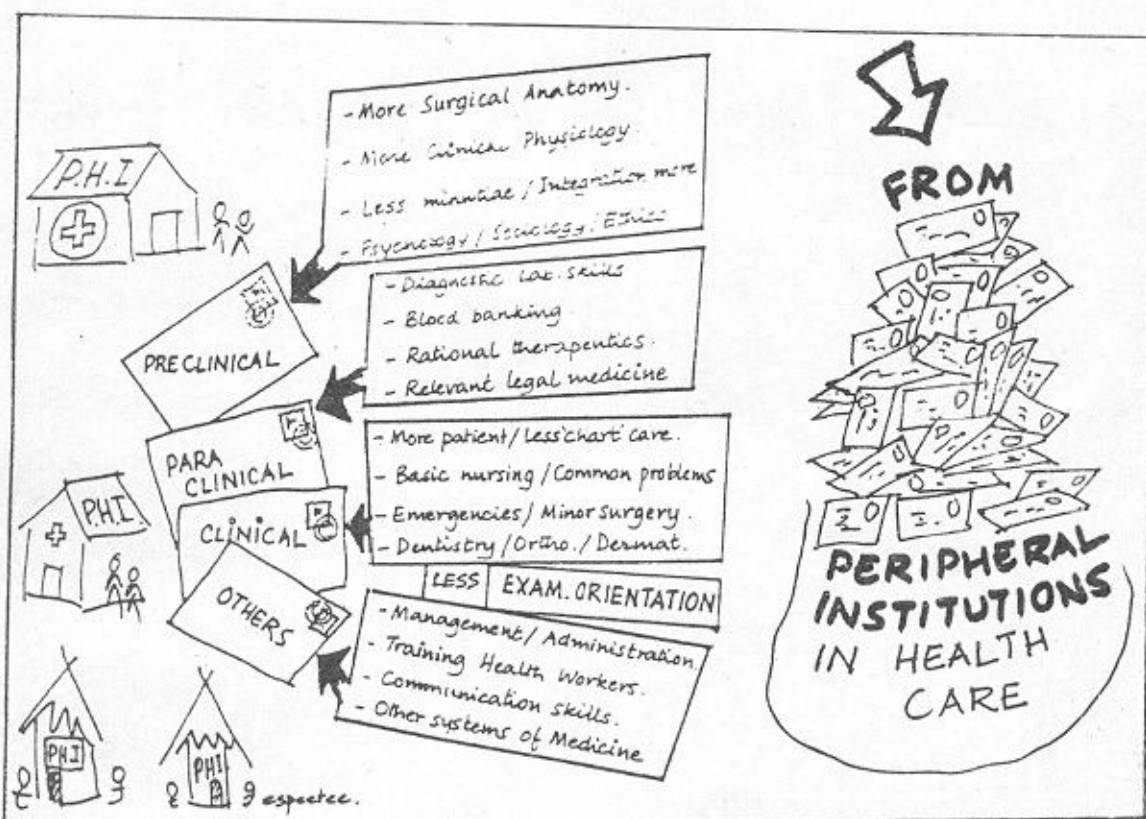


EVOLVING MEDICAL CURRICULUM THROUGH GRADUATE DOCTOR'S FEEDBACK



- a C.H.C. - C.M.A.I. - C.H.A.I. project
march 1993

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It is released in a spirit of solidarity with the ongoing search and commitment towards social relevance and community orientation in health action and training.

The Society would be glad to be kept informed about the ways and means by which this publication supports initiatives by different institutions and groups and the outcome of such efforts.

March 1993.
Bangalore.

Community Health Cell

FOREWORD

**GRADUATE FEEDBACK ON MEDICAL EDUCATION
- BASED ON EXPERIENCE IN PERIPHERAL
HEALTH INSTITUTIONS**

**Thelma Narayan, Ravi Narayan
Community Health Cell (CHC),
Society for Community Health Awareness,
Research and Action,**

March 1993

**[This Exploratory Study is a Sub-unit of a larger study entitled
*Strategies for Social Relevance and Community Orientation in
Medical Education - Building from the Indian Experience*]**

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FOREWORD

22nd February 1993

Medical education in our country is in a flux. Much concern has been expressed over its state as well as trends.

The first concern is about the goals of medical education and the expectation from medical graduates. While the National Health Policy exhorts that the entire basis and approach to medical education is to be reviewed in terms of national needs and priorities and medical colleges assure that the young graduates are to be socially motivated towards community health service, the personal goals of medical graduates are however towards acquisition of post-graduate degrees and specialisation.

The second concern is about the maintenance of adequate standards in the context of rapid increase in the number of medical colleges specially those that are 'mushrooming' in the form of capitation fee colleges. Neither the teaching staff position nor the facilities have kept pace with the increase in the number and the demands thereof. The Government colleges are languishing with shortage of funds also.

The third concern is about the existing reliance on traditional methods of teaching and evaluation as well as the lack of innovation and experimentation in medical education.

What do young graduate doctors feel about these issues? What do medical educators feel? What innovations have taken place within the constraints and what are their successes and failures?

These have been extensively studied by the Society for Community Health Awareness, Research and Action, in their project entitled 'Strategies for Social Relevance and Community Orientation in Medical Education : Building on the Indian Experience'. The study included reflection, critical analysis of reports of various committees on health development and medical education, questionnaires and also visits to medical colleges. In addition, views from medical graduates who had worked in peripheral health institutions have also been obtained.

This report, part of the whole project focusses on the feedback from medical graduates and covers a wide range of topics in medical education.

This study is intended for medical educators. It is hoped that they take note of the findings and mould their thinking to the specific needs, expectations and innovations.

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SECTION A

1. PREAMBLE

Eversince the freedom movement in India and the attainment of national independence in 1947, it has been the stated intention of national level professional bodies, expert committees and several medical colleges to mould medical education to suit the specific needs and circumstances of the majority of the population in India.

A study undertaken by the Community Health Cell of Bangalore in 1990-92, reviewed the past four decades of Indian experience in evolving and implementing strategies to make Medical Education socially relevant and community oriented. As an integral part of this exercise, feedback from medical graduates who had work experience in peripheral health institutions (PHIs) in the country was obtained. This was to elicit their opinion regarding the adequacy of the undergraduate medical curriculum, as preparation for the professional work that they had to carry out at the PHIs.

This aspect was undertaken as an exploratory study and therefore used an open-ended approach. The goal was to identify broad areas that could be studied later in greater detail, possibly by each of the different disciplines as part of a process of evolving relevant curricular change based on a method of enquiry and on data collection. Thus it was done with the hope that medical educators would take note of the findings and develop them further. It is an effort to link up experience in the health services and feedback arising from involvement in health/medical care, with the system of medical education, so that in the natural process of growth and evolution they could be mutually supportive in the common search to be relevant to the health needs of people.

2. OBJECTIVES

The objectives of the exploratory study were as follows:

In the context of medical practice in peripheral health care institutions in India:

- a. To elicit feedback on all the major aspects of the undergraduate medical course;
- b. To identify in the undergraduate medical curriculum,
 - i) areas that were useful, relevant and adequate;
 - ii) areas that needed further strengthening;
 - iii) areas of lacunae;
 - iv) areas that could be reduced or deleted.

3. METHODOLOGY

3.1 Questionnaire

3.1.1 As an instrument of study a questionnaire was developed. *The different aspects of medical education on which it elicited feedback were:*

- a. all the preclinical, paraclinical and clinical subjects, including medical ethics;
- b. additional skills in patient care and hospital work like nursing, management, communication and training;
- c. internship;
- d. other related aspects like selection or admission procedures, teaching methodology or pedagogy, curriculum structure, examination system, base of teaching, etc.

A total of thirty seven (37) different aspects were covered through open ended questions.

3.1.2 *Information was also collected about the respondents work experience viz., location of the peripheral health institution, nature of medical/health activities, type of facilities available, distance from nearest referral centre, etc. This was to build up a profile of the background of work experience based on which the feedback was being given.*

3.1.3 The design of the questionnaire, including choice of aspects to be studied, was based on previous experience of a workshop on Medical Education held in 1984 for medical graduates working in PHIs. We also held a group discussion at the onset of the study for this purpose with a group of ten medical college teachers who had all worked in PHIs earlier. Several other personal interactions and experiences were also useful.

3.1.4 The questionnaire was pilot tested on 10 respondents. Modifications were made based on this, as well as on comments by the advisory committee.

3.2 Sample

3.2.1 *The criteria for the respondents were as follows:*

- a. That they had graduated from any Indian medical college during the decade of the 1980s. This was to ensure that feedback received related to contemporary medical education. This was considered important, as over the decades several modifications have been made.
- b. That they should have completed a minimum of two years working experience as a doctor in any peripheral health institution in India. This included work in Government Primary Health Centres or in community health programmes/ small peripheral hospitals run by Voluntary Organisations. This was to ensure that they had first hand experience of understanding and responding to the

health needs of people in rural areas and urban slums and had worked for a sufficiently long time to put their knowledge and skills to use in these circumstances.

- 3.2.2 The sample was not statistically chosen to represent any particular region or college. Finding respondents who fitted into the criteria given above was not easy and building a sampling framework was much less so. This was also at this stage only an exploratory qualitative subunit of a larger study. However we did try and get a mix of graduates from several different colleges. Eligible respondents were identified from applicants to postgraduate medical entrance exams where rural service was given special recognition, and from a meeting of a national group called the Medico Friends Circle (mfc).
- 3.2.3 Anonymity of the individual respondent as well as the medical college was maintained as we were wanting to study issues in the different disciplines along with other aspects of the undergraduate medical curriculum, and were not studying or evaluating any particular college.
- 3.2.4 The questionnaire was given/sent out to 120 eligible respondents. Of these, 78 were given out by the researchers and the remaining through contact people. The latter attempt was not very successful. One reminder was sent after a period of a month to the 78.

4. FINDINGS

The number of responses received were 53 out of a total of 120 questionnaires given out i.e., the response rate was 44.16%.

In Part A of the report a summary of findings is presented under the following headings :

- Profile of work experience of respondents,*
- Feedback on each of the following viz.,*
 - pre-clinical disciplines,*
 - para-clinical disciplines,*
 - primary clinical disciplines,*
 - preventive and social medicine/community medicine,*
 - other clinical disciplines,*
 - possible additional subjects and*
 - other aspects of the curriculum.*

Part B of the report gives detailed feedback according to each subject/aspect of the curriculum. This is being made available so that it can be considered by staff of the various disciplines as they work towards continuously evolving curricula in their respective subjects.

4.1 PROFILE OF THE RESPONDENTS WORK EXPERIENCE IN PHIs IN INDIA

A summarised collation of different aspects of the work experience of the graduates is given, as it forms the context based on which the feedback is given.

4.1.1 Year of Graduation

The following table shows that the majority of respondents are recent graduates. The feedback therefore relates to current practices in medical education.

Table No. 1 : Year of graduation

Sl.No.	Year	No of respondents
1.	1970s	2 (3%)
2.	1980-84	21 (40%)
3.	1985-88	30 (57%)

4.1.2 Geographical location of the PHIs

The graduates have worked in a total of 80 peripheral health institutions. These were located in 10 different States of India and 1 Union Territory.

Table No. 2: Geographical Distribution of PHIs

Sl. No.	Southern States	No. of PHIs	Sl. No.	Northern States	No of PHIs
1.	Kerala	26(32.5%)	1.	Gujarat	6(7.5%)
2.	Tamilnadu	13(16%)	2.	Maharashtra	4(5%)
3.	Andhra Pradesh	12(15%)	3.	Uttar Pradesh	4(5%)
4.	Karnataka	8(10%)	4.	Madhya Pradesh	2(2.5%)
			5.	West Bengal	2(2.5%)
			6.	Bihar	1(1%)
TOTAL:		59(73.5%)			19(23.5%)

NB: There were 2 in the Andaman and Nicobar Islands. Thus the feedback arises from work in PHIs in different parts of the country, though there is a predominance of experience in the four Southern States.

The majority of the PHIs (> 90%) were located in rural areas.

4.1.3 Years of work experience in PHIs

The respondents together represent a total of 152.4 person years of work experience. The average duration of work experience per respondent was 2 years and 10 months. However there was a range, with most of them having worked for 24-28 months, some for 36-42 months and one respondent for a

maximum of 132 months. Several graduates had worked in more than one PHI.

Sl. No.	No of PHIs/graduate	No of respondents
1.	Single PHI	28 (55%)
2.	Two PHIs	20 (38%)
3.	Three PHIs	4 (7%)

4.1.4 Size and nature of PHIs in which the graduates worked

According to the information provided, most of the experience of the respondents has been at the level of providing the secondary level of medical care. However, they have often been linked - sometimes in the same institution - to the primary level of health care as well. The table below gives the bedstrength of the institutions.

Table No.4 : Bedstrength of PHIs

Sl. No.	Bed Strength	No. of PHIs
1.	Less than 50 beds	52 (65%)
2.	51-100 beds	16 (20%)
3.	More than 101 beds	12 (15%)

4.1.5 Departments in the PHIs

The following two tables show the number of Departments per PHI and the frequency of the different types of Departments.

Table No. 5 : Number of Departments per PHI

Sl. No.	No of Departments	No. of PHIs	Comments
1.	No Department	2(3%)	Community Health Project
2.	1 Department	41(51%)	Mainly general
3.	2 Departments	11(14%)	} (These were various combinations of GeneralMedicine, Obstetrics & Gynaecology, Surgery and Paediatrics)
4.	3 Departments	11(14%)	
5.	4 Department	6(7.5%)	
6.	5 Departments	1(1%)	
7.	6-10 Departments	7(8.7%)	
8.	More than 11 Departments	1(1%)	

65% of the respondents were functioning in PHIs with 1 or 2 Departments (mainly general and Obg/Gyn) and therefore had to take care of problems of ill health relating to all the different medical subjects/disciplines. PHIs with more

than 3 Departments had additional doctors working who were more experienced/had post graduate qualifications.

Table No. 6 : Departments present in PHIs

Sl. No.	Departments	No. of PHIs
1.	General admission ward only	38 (47.5%)
2.	General admission Department + additional Departments	10 (12.5%)
3.	Obstetrics & Gynaecology	29 (36%)
4.	Surgery	25 (31%)
5.	Medicine	24 (30%)
6.	Paediatrics	20 (25%)
7.	Ophthalmology	7 (8.9%)
8.	Leprosy	4 (5%)

NB:

- a. General admission wards admit a variety of cases.
- b. Other Departments were uncommon viz.,
ENT - 3(4%), Orthopaedics - 2(2.5%) Psychiatry - 2 (2.5%), Dermatology - 2(2.5%), Community Health Department - 2 (2.5%), Epidemiology - 2(2.5%).
The last Department was present in institutions also involved with research in leprosy and TB.

Thus it can be seen that approximately 25% of PHIs have the four primary clinical specialities, most often with post graduate doctors. For the rest the young graduates have to handle these cases on their own.

4.1.6 Number of doctors available in the PHIs

The following table indicates the availability of doctors (inclusive of the respondents) in the PHIs.

Table No. 7 : Number of doctors per PHI

Sl. No	No. of doctors per PHI	No of PHIs
1.	One/PHI	23 (29%)*
2.	Two/PHI	16 (20%)
3.	Three/PHI	15 (19%)
4.	4-6/PHI	11 (14%)
5.	More than 6/PHI	15 (19%)

NB: *The respondents functioned as a single doctor.

4.1.7 Diagnostic facilities available in PHIs

The following table indicates the type and frequency of investigative facilities in the 80 PHIs.

Table No. 8 : Type of Diagnostic facilities in PHIs

Sl. No	Diagnostic facility	No. of PHIs
1.	Nil	3 (4%)
2.	Simple labs (for routine investigations)	24 (30%)
3.	Simple labs + X-ray machines*	35 (44%)
4.	More sophisticated labs + X-ray machines	3 (4%)
5.	Simple labs + X-ray machines + ECG equipment	10 (12.5%)
6.	all 3 above + ultrasounds	2 (2.5%)
7.	all 4 above + endoscopy	3 (4%)

NB: * Two of these had screening facilities only.

Majority of the graduates had to carryout/supervise and interpret simple laboratory investigations and plain X-rays at the minimum.

Categories 2 and 3 which account for 74% of the PHIs may not have specially trained staff to handle the diagnostic facilities. Doctors are required to provide some technical support to their functioning.

4.1.8 Average work load in the PHIs

The next two tables give the average number of out patients/day and inpatient admissions/day according to the size of the PHIs.

Table No. 9 : Out patients seen per day in PHIs

Sl. No.	Bed Strength	No. of PHIs	Average No. of outpatients/day
1.	Less than 30 beds	35	49/day
2.	31-50 beds	17	85/day
3.	51-100 beds	16	115/day
4.	More than 100 beds	12	207/day

The larger institutions had a proportionately larger number of doctors. On a rough average each doctor sees about 25 patients/day.

Table No.10 : Inpatient admissions/day in PHIs

Sl. No.	Bed Strength	Average No. of admissions per day
1.	Less than 30 beds	3/day
2.	31-50 beds	12/day
3.	51-100 beds	17/day
4.	More than 100 beds	25/day

NB: This question was asked to 43 respondents only.

The next table shows the number and nature of community level programmes in the PHIs.

Table No. 11 : Community level programmes in PHIs.

Sl. No	Type of programme	No. of PHIs
1.	Community Health Programmes*	48 (60%)
2.	TB control programmes	24 (30%)
3.	Leprosy control programmes	19 (24%)
4.	Programmes for the disabled	7 (11%)
5.	Did not have any of the above	23 (27%)

* Most of these included Mother and Child Health Programmes. Some also mentioned Health Education and Nutrition programmes and the running of clinics at outposts.

The three preceding tables indicate that the respondents have gained a fair degree of experience of hospital/health centre based medical work as well as of involvement in community level health work.

4.1.9 Nearest Referral Facility

The following table indicates the distance in kilometres to the nearest referral facility.

Table No 12 : Nearest referral facility to the PHIs

Sl. No	Distance in Kms	No. of PHIs
1.	Less than 12 kms	24 (30%)
2.	13-25 kms	15 (19%)
3.	26-50 kms	21 (36%)
4.	51-100 kms	11 (14%)
5.	More than 100 kms	4 (5%)

NB: 5 respondents did not answer this question. Forty five percent had the nearest referral centre more than 25 kms away.

In conclusion, the profile reveals that the feedback given by the respondents arises from a wide range of experience in peripheral health care. Some of the important characteristics of the feedback are :

- it relates to medical education of the 1980s;
- the work experience was largely in South India;
- it was predominantly rural based;
- it was at the level of provision of a secondary level of medical care in institutions of varied size. They were most often linked to community health programmes and to the primary level of health care as well.

Thus the respondents have lived out for a minimum of 2 years, the larger goal of medical education as enunciated by various expert committees, namely of being basic doctors catering to the health problems of the majority rural Indian population. The feedback on medical education given by them according to the different subjects/phases is therefore based on this first hand, recent work experience. This is probably the most important qualifying aspect of the respondent group. Given this, we are sure the findings will be considered seriously by medical educators.

4.2 SUMMARY OF FEEDBACK ON DIFFERENT ASPECTS OF THE UNDERGRADUATE MEDICAL COURSE

4.2.1 FEEDBACK ON THE PRECLINICAL DISCIPLINES

The main points that have emerged pertaining to this phase are :

- i) There is a need to have a strong clinical orientation throughout this phase - to relate and compare the normal to the abnormal, with the areas of clinical importance to be chosen according to the commonly prevalent problems in this country, particularly those seen in PHIs.
- ii) The need to develop practical skills even at this stage.
- iii) The need to integrate teaching between the different pre-clinical subjects and also with the clinical subjects. The focus of the teaching to be the clinical problems that occur commonly.
- iv) To reduce the time period allotted to this phase of the undergraduate medical course from 1 1/2 year to 1 year, by deleting unnecessary detail in all 3 subjects and specifically reducing the time spent in Anatomy.
- v) The need to introduce/strengthen the teaching of psychology during this phase was almost unanimously expressed.
- vi) The need to introduce/strengthen the teaching of sociology, was also expressed. This should be to enhance the understanding of the situation in India, particularly in rural areas.

- vii) The need to introduce the students to patient care in the wards particularly for the learning of skills in basic nursing procedures at this stage of the course. This could be done during the extra time gained by pruning some of the 3 basic preclinical subjects.
- viii) Biostatistics in general does not seem to have made an impact on the students and perhaps needs a review and building on the positive experience of colleges like CMC-Vellore, that had been mentioned by respondents.
- ix) The need to reinforce the teaching of some of the preclinical subjects during the clinical years.
- x) The need to develop healthy attitudes, life styles, and values including medical ethics during this stage of the students life.

4.2.2 FEEDBACK ON THE PARA CLINICAL DISCIPLINES

A summary of the main responses to the 3 major subjects covered in this phase viz., Pathology including Microbiology, Pharmacology and Forensic Medicine are as follows:

- i) The need to focus on clinical and practical application was again stressed, viz., to place greater emphasis on clinical pathology and clinical pharmacology.
- ii) In Pathology, and Microbiology there is a need to be proficient in carrying out and interpreting routine investigations, since diagnostic laboratory facilities and trained personnel are not available in rural areas.
- iii) The need to be skilled in blood banking procedures.
- iv) The ability to support and supervise technical staff in laboratories.
- v) In Pharmacology, to focus on commonly and currently used drugs; on drug use in pregnancy, lactation, and in the paediatric age group; drug interactions; rational therapeutics; cost effectiveness of drugs; knowledge of trade names and drug companies; along with the need for frequent continuing education because of the rapid developments in this field.
- vi) Both these subjects to be taught also in the wards and along with clinical teachers around the medical problems of patients.
- vii) The need to reduce unnecessary detail in both subjects e.g., detailed histopathology of uncommon disease in systematic pathology, and in pharmacology to delete drugs not currently in use, making of mixtures, experimental pharmacology etc.
- viii) Need to introduce postings in the hospital pathology lab and blood bank, particularly participation in blood donation camps, in final year and internship, analysis and prescriptions.
- ix) The need to know how to organise and run a simple pharmacy was mentioned in a later section.
- x) The need to enhance the teaching of Forensic Medicine was strongly expressed by respondents as many aspects were particularly relevant to practice in PHIs.

Important areas were medico legal aspects of consumption of poisons, snake bites, accidents, injuries. The ability to certify wounds, certify deaths and the cause of death, and to conduct medico legal autopsies was also considered necessary. It was felt that this aspect of medical practice was becoming increasingly important, in which students need a better grounding so that they can function more responsibly and securely.

4.2.3 FEEDBACK ON PRIMARY CLINICAL DISCIPLINES

A summary of the feedback on Medicine, Surgery, Paediatrics and Obstetrics & Gynaecology is presented here. All four subjects were considered to be of crucial importance to work in PHIs, particularly Obstetrics & Gynaecology.

- i) There is a need to be able to diagnose and manage emergencies that present relating to the four areas/disciplines.
- ii) There is a need for greater development of skills relating to all the four disciplines e.g., intubation, venesection, lumbar puncture, minor surgical procedures, episiotomies, application of forceps, vacuum extractions etc.
- iii) The need to develop good clinical skills and not rely on high tech diagnostics.
- iv) The need to focus on the common problems in India in all the four disciplines, especially on how to diagnose and manage these cases in peripheral/primary health centres and when to refer cases.
- v) Need to increase the involvement and responsibility of students in patient care.
- vi) The teaching should not be exam oriented but should focus on clinical management of common problems.
- vii) There is a need to integrate the preventive and curative aspects of medicine and to develop a community orientation especially in Paediatrics and Obstetrics and Gynaecology.
- viii) Peripheral institutions could be made use of for the teaching of clinical subjects.
- ix) There is a need to enhance the study of Paediatrics since a large proportion of patients seen in PHIs belong to this age group. This could be done by giving it more time in the curriculum, making it a separate paper, and allotting more marks to the subject.
- x) Theory lectures could be reduced, so also the focus on the "unusual", interesting, and exotic cases. Small group teaching to be used with senior students working with junior students. The teachers to be coordinators/facilitators in the process. Greater teaching in OPDs, along with carrying out simple investigations. Follow up of patients in the wards and in the community to be done.

4.2.4 FEEDBACK ON COMMUNITY MEDICINE / PREVENTIVE AND SOCIAL MEDICINE / COMMUNITY HEALTH

The feedback regarding this subject has been considered separately as in many colleges it is taught right from the first year till final year. Besides this it is given 25% of the time of the entire internship period. The formation/introduction of the Department in India in the late 1950s was

also one of the major strategies towards making medical education more community oriented and relevant.

- i) There was a widely expressed need for better training in the subject with more careful teacher selection, use of more community based teaching, more fieldwork, use of newer teaching methodologies, and being based in smaller health centres during the undergraduate course/during internship.
- ii) There is a need to have experience of working in situations where feasible programmes are functioning in the field.
- iii) There is a need to integrate the curative aspects with PSM/CM. Time during internship could be used to also develop good clinical skills in PHI situations.
- iv) There is a need for enhancing practical training in health education, school health, nutrition, occupational health, and in the training of health workers/health guides.
- v) There is also a need for training in management, epidemiology and statistics - to learn to assess local health problems and economic needs through surveys and to evolve strategies of intervention.
- vi) There is a need to establish special cells in the Department to maintain a link with doctors working in PHIs/those doing rural service, and to respond to their needs.
- vii) Many of the present methods of teaching/approach need to be rethought/dropped.
- viii) The Department could provide a lead in the community orientation of medical education, however this can be done only by committed staff.

4.2.5 FEEDBACK ON OTHER CLINICAL DISCIPLINES

A summary of responses to Psychiatry, Dermatology, Ophthalmology, ENT, Radiology, Anaesthesiology, Orthopaedics and Dentistry follows:

- i) It was generally felt that the concept of these subjects being considered "short postings" and relatively unimportant should be changed. Medical problems relating to all the above areas are fairly commonly seen in PHI practice.
- ii) The majority felt that Psychiatry needs to be given greater importance with more working hours, a 3 month posting and a separate paper. Doctors need to be able to identify and manage common psychiatric problems, to have a definite knowledge about serious disorders, to understand associated psychological factors in psychosomatic and somatic illness and to receive some training in counselling.
- iii) Dermatology was also considered to be important, requiring longer and more adequate training. Focus should be on proper management of common skin disorders and Hansen's Disease.
- iv) While several felt that the training in Ophthalmology was sufficient for practice in PHIs, the suggestions were that focus could be on management of common conditions eg, infections like conjunctivitis and trachoma, Vit A deficiency, trauma to the eye including removal of foreign bodies, cataract and evaluation of vision.

- v) Several respondents felt that the training in ENT was adequate. Important areas commonly encountered were problems in children viz., rhinitis, tonsillitis and otitis media; management of epistaxis; removal of foreign bodies from the ear and nose; and removal of ear wax.
- vi) In Radiology, it was felt necessary to be proficient in the reading of plain X-rays of the chest, abdomen and of different types of fractures and also in screening. In some PHIs it was necessary to take and develop films and to handle X-ray equipment.
- vii) In Anaesthesiology it was considered important to be trained in giving local anaesthesia, regional nerve blocks and spinal anaesthesia so that minor and emergency surgical procedures could be performed. It is also necessary to develop skills in intubation, ventilation and resuscitation.
- viii) Orthopaedics was found to be very important in PHI practice. There is a need to be trained in first aid and trauma care, in closed reduction of fractures and application of plaster of paris casts.
- ix) Due to the lack of dentists/trained dental paramedics it was often necessary for doctors to attend to dental problems. Therefore it was felt that training in management of common dental conditions was necessary eg., simple tooth extractions, dental caries, pyorrhoea and abscesses.

4.2.6 FEEDBACK ON OTHER POSSIBLE SUBJECTS/AREAS IN WHICH TRAINING IS REQUIRED

Several interesting suggestions came up in this section.

- i) Practice and training in medical ethics needs to be improved. It should be a lived experience in daily life, where students learn by seeing what their teachers practice. It is particularly important now since there is a general decline of values in society. Areas suggested for inclusion in addition to the usual ones were: treating the poor, rational therapeutics, choice of investigations and drugs, not exploiting the ignorance of people, having a human approach, right to information etc.
- ii) The following areas were again emphasised:
ability to provide first aid and emergency medical care; need to focus on common health problems.
- iii) There is a need to have an orientation/introduction to other systems of medicine practiced in India eg., Ayurveda, Homeopathy, Unani, Siddha and local health practices, since a large section of the population use them.
- iv) To have a few sessions on the different religious scriptures and their positive features regarding health eg., the Gita and Koran on health etc.
- v) There is a need to impart the concept of 'Holistic Health' to students.
- vi) A majority of respondents felt that there was a need to develop skills in basic nursing procedures during wardwork in the preclinical and clinical years with perhaps a 3-6 month posting for this.

- vii) The need to develop adequate communication skills for interaction with patients, relatives, the community, and also with nurses and other colleagues/team members.
- viii) For work in PHIs it was considered necessary to have knowledge and ability in various aspects of management/administration.
- ix) A need was expressed for sessions on personality development and leadership skills.
- x) There was also a need expressed by a majority to develop some skills in training other health personnel as it was often necessary for them to provide inputs/support in training and continuing education of nurses, lab technicians, multipurpose health workers, village health workers etc.

4.2.7 FEEDBACK ON OTHER ASPECTS OF THE MEDICAL COURSE

This section includes comments on selection process, teaching methodology, curriculum structure, examination system, internship period, methods to enhance the social and emotional preparedness of graduates for community work, comments on the base of teaching, and on the educational process and environment. A summary is given here :

- i) Among the several attributes to be considered during the selection process, it was felt that for work in PHIs students should be older and more mature. Besides academic merit and involvement in extra curricular activities, one should look for aptitude, service orientation, commitment, dedication, ability to work hard, ability to undergo hardships, ability to sacrifice social life, and preparedness to work with the rural poor.
- ii) Regarding teaching methodology, along with a reduction of lectures it was suggested that teaching should be problem oriented with focus on the patient, the community and the common problems of India. The need for an increased use of demonstrations and practicals; greater use of audio-visual aids; and more clinics and ward work was expressed by many. There is a need for integrated teaching which should not be exam oriented. The need to have good teachers was also considered very important.
- iii) An integrated course in human biology for a period of one year could replace the present compartmentalised/departmentalised one and a half year first MBBS course. The semester system was found useful.
- iv) Several respondents felt that the present examination system was subjective, unrealistic, biased, outdated, irrelevant to actual practice, corrupt and unethical. Suggestions included the need to have a continuous system of assessment, and to use multiple choice questions and short objective questions for theory exams. In the practical or clinical exams the focus should be problem oriented, on the approach to diagnosis and management regarding common diseases, how one would respond in emergencies etc. Use could be made of 10-15 short cases with an attempt during the case discussion to assess whether the student has acquired the necessary basic knowledge and skill.
- v) The internship period was considered to be very important. There is a need to enhance

decision making capacity, skill acquisition, patient care responsibility and ability to manage emergencies.

Compulsory postings could be introduced in casualty, orthopaedics, radiology and dermatology as part of the major surgery and medicine postings. Rural posting could be in small hospitals/health centres.

Discussions on problems of medical ethics to be also introduced here.

- vi) It would be useful to have talks during the undergraduate course by doctors who have worked in/are presently working in rural areas/areas of need.

5. LIMITATIONS OF THE STUDY

The limitations of the study that must be kept in mind are:

- a. the small number of respondents
- b. because of the variations in different universities and medical colleges and the absence of a statistical sample, generalisations cannot be made from the findings. However areas have been identified which can be further studied;
- c. there was little literature available on a study of this type;
- d. the study was wide ranging with open ended questions. Based on these findings however follow up studies could have more structured questions which can elicit responses from all respondents on specific areas, with greater detail.
- e. Most of the respondents had worked in mission/voluntary hospitals. Only 2 were from Government PHCs, and 2 from community health projects. There were no general practitioners. These other sectors also need to be considered in later studies.

6. DISCUSSION

6.1 Literature Review

There have been a few studies done previously in India, where feedback has been elicited from medical students and interns on the curriculum structure and design (4, 5, 7, 9, 10). Some have looked at the career options of students/graduates. Others have studied aspects that are different but useful in the context of community orientation of Medical Education. A brief summary of the key findings of these studies is now given.

6.1.1 Goals

In a study by Swain (1978) of final year medical students in Orissa, "more than 75 percent of the respondents suggested that the curriculum be designed to produce a basic doctor, only 11.4 percent for a specialist and 10.6 percent for a scientist". The study also quoted the 1971 Conference on Medical Education in Delhi, which recommended that every medical college should have a standing curriculum committee. This committee should be active and incorporate changes from time to time depending on national and community needs.

6.1.2 Teaching Methodology

A study (Clausen, 1970) of 375 medical students in Karnataka, conducted by a medical student, revealed that only 0.5 percent favoured "large lecture classes" as a learning technique. Another study of 820 medical students by Gupta and Patel (1973) in Gujarat found that learning through small tutorials was preferred to didactic lectures. Three-fourth of the students wanted provision for elective studies. In a study by Varma and Varma (1970) in Uttar Pradesh, 95 percent of students felt that teachers must know their subject well and also use interesting teaching methods. Several felt that they should maintain friendly relations with students. In a study by Rajanna, Shivaram et al (1984) in Karnataka, students preferred clinics and practical demonstration to lectures and seminars. They suggested that increased use of teaching aids, particularly films and slides would be good. They also preferred the use of more than one method of teaching. Thus all studies over a period of two decades are consistent about student preference for clinics, demonstrations, tutorials, discussions etc., and on the need for greater and more creative use of audiovisual aids. The need for reduction of lectures to the minimum has also been a repeated suggestion.

6.1.3 Examinations and other aspects

The study by Clausen indicated the need for correlation and integration of teaching between the pre-clinical subjects and also the need to link this knowledge to patient management. Students felt that Community Health should be incorporated as a subject during the entire training and that the examination system needed to be revised.

The study by Gupta and Patel showed that the present system of examinations was disliked by nearly three-fourth of the students and almost 90 percent preferred multiple choice questions to essay type questions. About 80 percent preferred the semester system to annual assessment.

The Varma study found that 47.5 percent of faculty members were unwilling to participate in rural programmes. These were mostly senior members with postgraduate qualifications.

Several aspects of feedback regarding teaching methodology and the examination system are similar to that given by respondents in our study.

6.1.4 Subject Preference

The study by Rajanna, Shivaram et al, found that "Medicine was the subject liked most by students, irrespective of the year of study, followed by Surgery. Forensic Medicine, Bio-chemistry, Preventive and Social Medicine and Anatomy were the subjects disliked by the students".

6.1.5 Career Options

Regarding future career options, in the study by Swain, 80 percent of students wanted to proceed for postgraduate training in India or abroad immediately after internship. However as their ultimate goal, 33 percent wanted to work in the government health service, 34 percent (particularly ladies) preferred to work in a medical college, and 24 percent wanted to start private practice. The study by Varma and Varma quotes a

study by Singh in 1968 in which 89.8 percent of interns were willing to work in rural areas provided certain facilities were available to them. Gupta and Patel found that about half the students desired to join government service and nearly 40 percent planned to work in private hospitals. Very few thought of taking research or teaching as a career. Even though nearly 80 percent wished to go abroad, only 1.04 percent desired to settle permanently in a foreign country. In case of need, about 80 percent were willing to volunteer to serve in rural areas. They gave various suggestions as incentives to attract doctors to rural areas, namely increased salary, facilities for education of children, satisfactory housing and sanitary conditions and communication with cities.

6.1.6 Knowledge about PHC

A different but relevant study by Prabha Ramalingaswami et al (1980) looked at the perception of students from four medical colleges regarding concepts relating to the team approach to primary health care (PHC). The findings indicated that the medical students had not really understood the concept and were not aware of who were the persons who constituted the health team. The responses to questions about development and an understanding of poverty also showed an "inadequate awareness of the medical students to live Indian problems".

6.1.7 The only **retrospective study** of medical graduates was conducted at the time of the Silver Jubilee of Baroda Medical College. This study of 1553 alumni, by Bhatt et al (1976) revealed that 15 percent of the alumni had settled in rural areas, 46 percent in urban areas of India and 39 percent were abroad. Analysis of nature of occupation showed that 50 percent were in private practice, 40 percent in service (other than teaching) and 10 percent in teaching. An analysis of the specialities chosen by the first ten (in merit) of each batch showed that 7.7 percent voluntarily chose general practice and 67.6 percent chose one of the four primary clinical specialities.

When planning curriculum content and structure it is important to keep in mind what the graduates would be expected to do at the end of the course. The above studies give some idea about options and actuals. However each college would probably need to go through these exercises in the context of their own institutional goals.

As can be seen from the account just given, the respondent group and the objectives of enquiry in all these studies were different to that attempted in our study.

However a previous study by Mohapatra (1988) in Andhra Pradesh has pointed out the need to develop a link between the health services and the system of medical education. This was a study of the level of knowledge of nutrition among 80 Government Primary Health Centre (PHC) doctors. It revealed a rather gross lacuna in this area. A more recent study by Rangan and Uplekar (1992) has looked at the level of knowledge and practice in the treatment of common symptoms and diseases among a large sample of interns in Bombay. Here too several areas of lacunae have been identified. These include gross variations in the treatment of tuberculosis for instance, which is a major public health problem and for which there is a

national control programme. These findings need the serious consideration of all medical educators.

During a workshop organised in 1984 (Mohan A. et al) for graduates who had worked in rural areas, the nineteen participants stated "we feel strongly that the process leading to graduation should be so modified that at the end of our five and a half years course, we are specifically equipped to work meaningfully in rural areas". The main suggestions regarding the undergraduate course were:

- a. During rural postings in studentship, they should actively assist interns during their work, for example helping with dressings, procedures, dispensing medicines.
- b. During their clinical years they should be entrusted with graded responsibilities in patient management and "should not remain mere spectators of the daily ward/OPD routine as at present". They should be given twenty-four hours postings in the ward etc., during which they can be exempted from lectures and classes.
- c. Internship should be a "procedure and competence based programme" and more importantly should "promote the capacity for independent decision making".

Appendix I lists out the suggestions made regarding training during the clinical years and internship.

In summary, the literature review revealed that only the Mohapatra study and the workshop mentioned above had respondents who had actually experienced the realities of working in a PHI. This we felt was an important criteria to be considered. The second aspect that we were interested was to get concrete suggestions regarding curricular content and curriculum development. We felt it was time now in the nineties to move beyond generalisations, hypothesis, subjective impressions and macroanalysis alone. Therefore the study was exploratory in nature - to see if the methodology being used was useful, and also to identify its limitations.

6.2 Points arising from the study

- i) *Respondent group:* This respondent group of medical graduates who have worked sufficiently long in rural or underserved areas as basic doctors, have lived out the implicit goals of medical education as it developed in post-Independent India. We feel now at the end of the study that they are an important group from whom active, systematic and ongoing efforts must be made to get feedback in the process of curricular development. However, this particular group has worked primarily in small-medium size hospitals of the mission/voluntary sector. It would be equally important to get feedback from doctors in Primary Health Centres of the Government (we had only two) and from general practitioners in urban and rural areas.
- ii) It is not possible to look at the data from the point of view of identifying *regional needs and differences*, for example according to the North, South, Central, Eastern or Western regions of the country. To be done on an all India level, this would need a larger number of respondents. The majority of respondents in our study were from Southern Indian colleges.

- iii) It is obvious from the findings of the study that there are *differences between colleges* which possibly also reflect differences between requirements of different *Universities*, for example, some subjects like psychology, sociology and even psychiatry, dentistry, etc., are not taught in some colleges. On the other hand, others have not found the MCI guidelines or the University a hindrance in introducing additional areas like medical ethics or altering the approach to teaching.
- iv) *Several of the ideas that have emerged are not entirely new* - some have been spoken of by expert committees and by various conferences concerning Medical Education. Some, as mentioned in Part A of the discussion, have been identified by students and interns. This is especially true of the more general suggestions like need for greater clinical orientation and skill development, need for integrated teaching, need for examination reform etc. *One can now say that these changes need to be implemented urgently, effectively and creatively.*
- v) However one of the advantages of a more comprehensive enquiry of all subjects/aspects is that in the context of the total course or total experience there are probably *some key changes that seem to be necessary*. For example, given the time framework and competing demands by different disciplines, priorities for curriculum time and content need to be developed. It would seem logical to base this on the goals/objectives of medical education in the country and the particular institution, as well as on what the graduates are expected to do on completion of the course.
- vi) If rural service/work in peripheral health institutions/government PHCs or general practice is considered to be an important option then feedback from these graduates needs to be looked at seriously. It would probably also be useful to have people with such experience teaching on the staff of medical colleges and on curriculum committees/medical education cells.

There is no need to restate the important findings again here. However, *some key new areas/ideas important for PHI practice*, that have emerged from this study are:

- a. Practical expertise in first aid and nursing procedures;
- b. The importance of all the so called "short postings" that are generally undervalued, for example, Orthopaedics, Dermatology, Radiology, ENT etc.
- c. The need for some training in Dentistry;
- d. Ability to run a small laboratory, pharmacy and in the taking of X-ray films/handling equipment etc.;
- e. Forensic medicine;
- f. Psychology and counselling;
- g. Sociology.

Another positive output is the identification of a certain amount of detail under each subject heading, regarding areas that are adequate, those that need strengthening and those which can be reduced. This could be developed further by detailed studies eliciting responses using rating scales regarding each topic, issue, skill etc.

vii) Over the past four decades *there seems to be a gradual change taking place in what is expected of a medical graduate after completion of the undergraduate course.* Upto the seventies, it may not be incorrect to say that most graduates expected to and were expected to practise medicine after the undergraduate course. There was a still a shortage of doctors then, even in urban areas. At that time the teaching hospitals offered adequate opportunities for a medical student/intern to pick up adequate basic clinical acumen/skills.

During the eighties the trend towards specialisation has increased. A variety of reasons has made the course more theoretical. It has been recorded that the need to prepare for postgraduate entrance exams has resulted in even the internship period being eroded. This period in fact has been considered very important by the respondents of this study for the acquisition of skills, the ability to take responsibility for patient management and for decision making, without exams in the horizon. The presence of post graduates in the teaching hospitals also removes the students and interns a further step away from the patient. They now do more of clerking and running around.

We need to take cognisance of these changes that have taken place in the studentship and internship and decide whether that is what is needed/desired.

viii) Information regarding morbidity and the general situation in majority rural and poor India seem to indicate that the *old problems of ill-health continue and in fact are complicated by the emergence of new ones.* It seems that the gap between these needs and overall direction, quality and nature of medical education has widened.

ix) Many of the suggestions of the graduates would demand greater time and commitment on the part of the faculty, along with requiring the students to be more responsible adult learners. Besides being doctors, clinicians, etc., *the staff are called to be primarily teachers, nurturing the growth of students.* Whether adequate time and interest will be given to this aspect in the growing climate of private practice and pursuance of personal careers will need serious thought.

x) The primary use of tertiary care level teaching hospitals as the base for training doctors who are expected to function at the secondary level is not the most suitable. *Active efforts to move at least part of the clinical teaching to District/Taluk and PHC levels or in voluntary/mission hospitals should be made.* The present postings of students and interns to these centres is not always effective, and rather than making any positive contribution to learning it may permanently put off students from such work.

xi) The findings of this or similar studies could be made part of an *orientation handbook for senior medical students/interns who have decided that they will be opting for rural/government service.* It may help them to identify which areas to concentrate on during final year and internship to prepare themselves for the job ahead.

xii) As we went through the process of the study and its analysis it seems that for good medical practice in a PHI, especially in small to medium size hospitals, doctors need to have skills that are wide-ranging and multi-speciality in nature. Therefore rather

than a postgraduation in any one of the specialities *it may be useful to develop a postgraduate course in Rural Medical Practice which could span the four primary clinical subjects and community health*, along with additional aspects. This would need to differ from the postgraduate courses in general practice in the United Kingdom, for instance, which has developed in the context of their National Health Service. The Fellowship of the Christian Academy of Medical Sciences in India is probably a forerunner of this.

- xiii) **In conclusion we would like to restate that attempting to build curriculum using feedback from the field through systematic study is useful and also enriching.** Identifying respondents with relevant and adequate work experience is a key characteristic as they can contextualise the course to the requirements of the outside working environment. This is a major advantage over the alternative of involving students and interns, who have experience primarily in the teaching hospital. This is also necessary as most present faculty of medical colleges have not had such an experience themselves.

"The aim of medical education is to produce doctors who will promote the health of all people, and that aim is not being realised in many places, despite the enormous progress that has made during this century in the biomedical sciences. The individual patient should be able to expect a doctor trained as an attentive listener, a careful observer, a sensitive communicator and an effective clinician; but it is no longer enough only to treat some of the sick. Thousands suffer and die every day from diseases which are preventable, curable or self-inflicted, and millions have no ready access to health care of any kind.....

Scientific research continues to bring rich rewards; but man needs more than science alone, and it is the health needs of the human race as a whole, and of the whole person, that medical educators must affirm"

The Edinburgh Declaration

The World Conference on Medical Education 1988

BIBLIOGRAPHY

1. Mohan. A., Menezes L., Ravindran G.D., Narayan R., Narayan.T., 1984. *Report of a workshop for pioneers of the rural placement scheme of St. John's Medical College, Bangalore*, Mimeograph, Catholic Hospital Association of India, Secunderabad.
2. Mohapatra E., Ramdasmurthy V., Ramnath T., and Mohanram M., 1988, *Better education for better health care*, World Health Forum, Vol. 9., pp 612-614.
3. Narayan T., and Narayan R., 1992, *Curriculum change : Building on graduate doctor feedback of peripheral health care experience - an exploratory survey*. Mimeo, Community Health Cell, Bangalore.
(Preliminary communication of this study presented at the XXXI Conference of the Indian Association for the Advancement of Medical Education held in January 1992).
4. Varma S.P. and Varma A.L., 1970 *Curriculum Structure - The Student and Teacher*, IJME, Vol. IX, October 1970, pp 482-487.
5. Rajanna M.S., Shivaram C, Vastard S.A. 1984 *Evaluation of Medical Education from the Students point of view*; IJME, Vol. XXIII, No. 1, Jan-April 1984, pp 2-15.
6. Ramalingaswami Prabha, Shukla S.K., and Jha D.G., 1980, *Team approach to Primary Care - Views of some student physicians*, IJME, Vol. XIX, No. 2, July-Dec, pp 78-81.
7. Swain.S., 1978. *Students percpetion of present day medical education - their goal objectives and views on curriculum desig*, IJME, Vol. XVII, No. 2, Jan-June 1978, pp 106-112.
8. Bhatt R.V., Soni., J.M., Patel N.F., 1976, *These twenty five years - Study of Medical graduates from Medical College, Baroda*, IJME, Vol. XV, No. 1, Jan-June 1976, pp 33-46.
9. Clausen R.W., 1973, *Medical Education relevant to society's needs*, IJME, Vol. XII, No. 1 & 2, pp 62-64.
10. Gupta O.P., and Patel D.D., 1973 *A study of the socio-economic survey of medical students with special reference to motivation in the choice of Medicine as a career in India*, IJME, Vol. XII, No 3 & 4, July-Dec 1973, pp 285-295.
11. Rangan S., and Uplekar.M. 1992, *Community Health Awareness among fresh medical graduates of Bombay*, Paper presented at XXXI IAAME Conference, Bombay, January 1992.

APPENDIX - I

TRAINING DURING CLINICAL YEARS (MBBS COURSE) — A SCHEDULE OF GRADED RESPONSIBILITIES

(Taken from a "Report of a workshop for pioneers of the Rural Placement Scheme, Mohan A. et al., 1984, Mimeo)

- a. 0-6 months : Maintaining daily vital signs record, diabetic urine chart, urine albumin chart, nephritic chart etc. Administering IM injections, simple dressings.
- b. 6-12 months : Passing Ryle's tube, giving enemas, mouth and eye care, maintenance of intake/output record, monitoring of post-operative patients, special dressings, simple physiotherapy like active-passive exercises, ambulation of bed-ridden patients, assisting at medical and surgical procedures, assisting at normal deliveries etc., and compulsory casualty postings.
- c. 12-18 months : giving IV injections, starting IV drips, drawing of blood for investigations, conducting deliveries, assisting at forceps extractions, assisting at minor surgery, recording EKGs, assisting at complicated dressings, therapeutic procedures like condys compresses, ECTs, out-patient surgical procedures.
- d. 18-24 months : Assisting major surgical procedures, doing simple post-operative dressings, doing O.P. dressings, suture removals, assisting house staff in side-lab work, helping the CMO in casualty procedures, physiotherapeutic procedures like postural drainage, gait training etc., assisting at caesarian sections;
During this time students may also be sent to other/Government institutions for training in the fields of traumatology and trauma management, obstetrics, etc., where the availability of clinical material at St. John's would be found insufficient or inadequate.
- e. 24-36 months : These 12 months shall be spent in completely equipping the student to independently function as a full-fledged doctor. In short he shall be carrying out all the functions interns are at present carrying out, except not being involved in decision making independently. During this period too, arrangements may be made in other institutions to have our students trained in fields where St. John's is yet to develop adequate potential.

SECTION B

Introduction

1. This section of the report gives the details of the feedback offered by the respondents to each of the 37 units that they were asked to comment on.
2. We have tried to avoid repetition. However we have included comments on a point already mentioned if it has a different nuance or slant.
3. The number and percentage of respondents who have all independently raised the same issue has been given when it exceeds a certain number. These probably need greater consideration since several people have raised it in response to an open ended question.
4. However we feel that quantity is not the only factor indicating the importance or priority of any item. An idea raised by just one person may be very important. This is a matter requiring the judgement of the medical educators.
5. All the responses to each of the subjects studied have also been coded according to certain criteria. This has been presented in a tabular form (See Table 1) through which an overview picture emerges of the usefulness, relevance and adequacy of the subjects and their teaching to work in PHIs.

TABLE 1

USEFULNESS, RELEVANCE AND ADEQUACY OF SUBJECTS IN THE UNDERGRADUATE MEDICAL COURSE IN THE CONTEXT OF WORK IN PHIs

Sl.	Subject	Not Taught a	No Comment b	Not Useful/ Relevant c	Useful/ Relevant as it is d	Useful/ Relevant with suggestions e	Ade- quate f	Other Comments g
01.	Anatomy	-	2	4	3	36	8	
02.	Physiology	-	6	4	5	26	12	
03.	Bio-Chemistry & Bio-Physics	-	5	10	-	25	13	
04.	Bio-statistics	-	12	12	5	14	8	Excellent-2
05.	Psychology	5	9	1	7	25	6	
06.	Sociology	8	12	3	5	19	6	
07.	Pathology	-	8	5	6	19	15	
08.	Microbiology	-	6	1	5	27	14	
09.	Pharmacology	-	5	-	5	30	13	
10.	Forensic Medicine	-	3	4	3	33	10	
11.	Medicine	-	2	-	1	37	13	
12.	Surgery	-	2	-	3	41	7	
13.	Obstetrics & Gynaecology	-	-	-	5	43	5	
14.	PSM/Community Medicine	-	1	1	5	36	10	
15.	Paediatrics	1	2	-	5	29	14	Excellent-2
16.	Orthopaedics	-	3	-	3	22	10	Inadequate-5
17.	Ophthalmology	-	5	3	3	25	16	Inadequate -1
18.	Anaesthesia	4	8	2	1	25	9	Inadequate-4
19.	Radiology	1	5	1	5	24	11	Inadequate-6
20.	ENT	-	8	3	5	22	13	Inadequate-2
21.	Dermatology	-	5	-	8	27	11	Inadequate-2
22.	Psychiatry	1	7	2	7	26	8	Inadequate-2
23.	Dentistry	3	11	7	1	19	9	Inadequate-3

Comments

1.	<p>In the questionnaire respondents were requested to give their comments regarding the <i>usefulness, relevance and adequacy of each subject</i>. Though this was a rather rough and ready method in which a rating scale was not used, the overall response does provide an overview regarding these aspects of the respondents views.</p>
2.	<p>As seen from the table, the <i>subjects not taught in some colleges are</i>: Sociology, Psychology, Anaesthesia, Dentistry, Paediatrics, Psychiatry and Radiology.</p>
3.	<p>Column 'C' shows that <i>subjects found not useful/relevant to work in PHIs were</i> : Biostatistics (23%), Biochemistry and Biophysics (19%), Dentistry (13%). When going through the detailed comments also it appears the relevance of the first two subjects has not been appreciated by several respondents. This could be a reflection of the teaching. In Biostatistics, two respondents have mentioned that the teaching was excellent and being integrated with the pre and clinical subjects helped make its relevance better understood.</p>
4.	<p>Obstetrics & Gynaecology elicited the <i>most wholehearted response</i> with nil 'no comments'. Close behind were PSM/Community Medicine (2%), Medicine (4%), Surgery (4%), Paediatrics (4%).</p> <p>Subjects which had the <i>largest number of no comments</i> were -</p> <p>Biostatistics (23%), Sociology (23%), and Dentistry (21%). On an average for all subjects there were no comments by 10% of respondents.</p>
5.	<p>There was an <i>active process of giving detailed suggestions/comments</i>. The largest number was to the following subjects - Obstetrics & Gynaecology (81%), Surgery (77%), Medicine (75%), PSM (68%), Anatomy (68%).</p> <p>At the lower end were Biostatistics (26%), Sociology (36%), Dentistry (36%), Pathology (36%). On an average for all subjects active detailed suggestions and comments were given by 52% of the respondents.</p>

6. Combining columns 'd' and 'e' to indicate *usefulness and relevance to work in PHIs*, a grouping of subjects can be done as follows.
- i. Most useful/relevant : More than 75%
Obstetrics & Gynaecology, PSM/Community Medicine, Surgery, Medicine.
 - ii. Very useful/relevant 60-74%
Dermatology, Paediatrics, Psychiatry, Pharmacology, Forensic Medicine, Microbiology, Psychology, Anatomy.
 - iii. Useful/Relevant : 45-59%
Radiology, Ophthalmology, ENT, Anaesthesia, Orthopaedics, Pathology, Sociology, Physiology.
7. A *word of caution* - too much should not be drawn from this grouping since 'adequacy' which reflects the teaching and 'usefulness and relevance' were not considered as being mutually exclusive items. However there is a basic consistency when one looks at the responses in different ways.
8. What strikes us is that unlike the general pessimism and negativism about the *role of the Department of PSM/Community Medicine*, feedback from practitioners in the field indicates that they prioritise the subject in the same category as the primary clinical subjects, which are considered the most important.
9. Similarly, *the para and pre clinical subjects* of Pharmacology, Forensic Medicine, Microbiology, Anatomy, Pathology, and Physiology are also recognised as being useful to work in PHIs.
10. The "*short postings*" too were considered as being very useful or useful.

1. PRECLINICAL PHASE

1.1 ANATOMY

- i. 15 respondents (28%) opined that *a greater emphasis needs to be given to clinical or applied anatomy* eg., surgical anatomy relevant for minor or major surgery and orthopaedics. Specific areas mentioned were :
 - a. hand and foot anatomy as these are frequent sites of injuries, especially resulting from rural occupational hazards;
 - b. upper and lower limbs where fractures occur commonly;
 - c. anatomy of important nerves and arteries necessary for management of injuries and surgical cases.
- ii. It was suggested that anatomy could be taught along with clinical postings, with the involvement of clinical teachers using clinical cases eg., the relevant anatomy of the heart to be taught in relation to a patient with Rheumatic Heart Disease with valvular lesions.
- iii. Comparisons between normal and abnormal anatomy with clinical demonstrations were suggested. Viewing of operations on video or live if possible, on relevant parts of the body according to the topic being taught was also suggested.
- iv. 18 respondents (33.96%) felt that the *course was too exhaustive and theoretical*, often going into unnecessary detail eg., the names of all the muscles of the face, which were difficult to remember. They felt that the course should be reduced and made more concise, comprehensive and clinically oriented.
- v. Areas like embryology, detailed neuro anatomy, histology and osteology, which may not have much practical importance for a basic doctor, could be reduced.
- vi. It was suggested that 2 semesters or one year should be adequate to cover Anatomy. It was also mentioned that instead of being allotted 40% of the duration of the first MBBS course, the time allotted to Anatomy could be reduced to 20% i.e., the duration could be halved.
- vii. Several mentioned that Gray's Anatomy should be 'banned' or used for reference purposes only. The textbook by R.J.Last was suggested as an alternative, in addition to other clinically oriented textbooks.

In summary, the teaching which is exam oriented should be made more clinically oriented.

1.2 PHYSIOLOGY

The importance of Physiology in understanding the functioning of the human body and the basis of medicine was mentioned by many respondents.

- i. Several expressed the *need for more clinically oriented teaching*. Suggestions regarding areas to be covered in this regard included:

- a. respiratory rate/heart rate in different ages especially in the newborn;
- b. demonstrate patients with disease of the system being taught, as the contrast between the normal and diseased will be more striking;
- c. physiology of pregnancy, with some teaching in the wards;
- d. greater emphasis to be given to nutrition;
- e. greater emphasis on physiology of the gastrointestinal tract - since a large number of cases are G.I. related;
- f. circadian rhythm - with detailed study of rural lifestyles and their day to day schedules;
- g. limited introduction to pathophysiology;
- h. the pathophysiological aspects of shock;
- i. spirometry - lung function tests in asthmatics;
- j. occupation related medical problems.

Other suggestions regarding the teaching were:

- i. need to teach physiology of the different systems along with other preclinical and paraclinical subjects (especially Anatomy).
- ii. several respondents felt that clinical demonstrations in the wards should be introduced/increased eg., spirometry, heart rate, respiratory rate in different physiological/pathological conditions. Clinical teachers to also be involved.
- iii. symposia could be conducted on various clinically related topics by physiologists, physicians, clinical pathologists, etc.
- iv. need for improvement of tutorials with more time given to explanation/discussion.
- v. need for follow up sessions in physiology later during clinical years.
- vi. Several felt that the coverage is too exhaustive/elaborate/detailed.
- vii. reduction of obsolete experiments eg., kymographs, amphibian experiments, and experiments on other animals.
- viii. non-clinical topics could be deleted.
- ix. coverage of the subject to be completed within the first year.

1.3 BIOCHEMISTRY AND BIOPHYSICS

- i. As in the previous two subjects several respondents gave the general suggestion that the *clinical/practical application should be strengthened*.
- ii. *In the context of rural hospitals*, where doctors frequently have to take charge of labs it was felt that *it was important to:*
 - a. be able to conduct simple biochemical tests;
 - b. be able to standardise tests;

- c. be aware of the need for quality control;
 - d. be conversant with the use of laboratory equipment;
 - e. be able to start a small lab. for routine investigations in a peripheral institution.
- iii. *Regarding the teaching the respondents felt:*
- a. skills in carrying out tests need to be developed;
 - b. details should not be emphasised - "one can always refer to books";
 - c. the need for better teaching methods - tutorials need to be improved;
 - d. the subject also needs to be taught along with the clinical subjects and during the clinical postings;
 - e. the need to have postings in the hospital clinical laboratory.
- iv. *Regarding content of course they suggested:*
- a. focus could be on community problems eg., nutrition;
 - b. there is a need to understand the relevance of biochemical reactions in the body in normal and abnormal conditions;
 - c. it is important to understand electrolytes and acid base balance, urea cycle etc.
- v. There was a need expressed by a few to increase the students understanding of Biophysics.

1.4 BIostatISTICS

- i. Biostatistics was considered by a fair number of respondents as not useful to work in a PHI. They felt that it was useful only for entrance exams, final exams, to do research and publish papers, for projects, for further studies and thesis work and probably for health care administrators.
- ii. Other respondents were of the opinion that the subject is:
 - a. helpful in understanding many aspects of medicine;
 - b. a help in making an effective assessment of various field situations;
 - c. useful in designing of studies, data collection and in the conduct of field studies;
 - d. in understanding the significance of studies;
 - e. useful for epidemiological work, for projects etc.
- iii. *Suggestions regarding the teaching were :*
 - a. to relate theoretical concepts to clinical situations;
 - b. to emphasise the practical aspects and develop students skills in its application;
 - c. during the undergraduate course itself, to put it to use through projects in neighbouring villages.

1.5.A. SOCIOLOGY

- i. The majority (30) or 56.6% felt that the subject was useful and that it should be included in the curriculum. Several felt that it should be strengthened and given greater importance and greater coverage. It should "not be considered a lecture where you can go to sleep!"
- ii. *The suggestions were that the subject should:*
 - a. introduce students to thinking of the sociology of the population they are going to deal with;
 - b. help in understanding structures in society
 - c. a few sessions on health politics and economics to be included eg., village politics, State politics;
 - d. help to "make the rigid British prototype system more socially relevant" ;
 - e. help in understanding medical sociology / sociological factors relating to clinical situations
 - f. help in understanding and dealing with patients in a peripheral centre;
 - g. "help the students who are mainly middle and upper class to understand and experience what it is to be poor and illiterate".
 - h. it "should help remove any superiority feeling and instill kindness" - it "should help students to be more humane";
- iii. *Regarding the teaching, the following points were suggested:*
 - a. it should be introduced in the first year as a separate subject or through the Department of PSM/Community Medicine'
 - b. the subject needs to be given greater importance during PSM postings in rural areas;
 - c. it should have greater practical field orientation;
 - d. discussions on sociological factors to be held during internship as well.

NB : There was a comment by one that the subject can be volatile!

1.5.B. PSYCHOLOGY

- i. There was a strongly expressed statement made by 17 doctors (32.1% that an understanding of psychology was extremely important to medical practice. It was felt that a greater emphasis and a greater coverage of the subject was necessary during the undergraduate course.
- ii. *The subject was necessary for medical work for the following reasons:*
 - a. with advances in psychology, there is a better understanding of the inter-relationship of the mind and body which is important for medical practice;
 - b. because medicine is a profession with so much of person to person interaction;

- c. to understand the psychology of sick persons viz., how a patient feels, and what it is to be seriously ill and weak;
- d. to understand and know how to deal with the common psychological problems encountered;
- e. to build a rapport with patients and people in a village/ in a peripheral centre;
- f. it is in fact important for good general practice anywhere;
- g. due to lack of mental health care personnel/services in the country, there is a greater need for generalist doctors to take up responsibility in this area;
- h. in understanding and building inter-personal relationships;
- i. to understand interdepartmental conflicts in medical colleges !

iii. *Regarding teaching and content, the suggestions were:*

- a. to emphasise the practical aspects;
- b. greater exposure during PSM postings in the rural areas;
- c. greater exposure through discussions etc, during internship;
- d. psychology of people in rural & urban areas to be explored;
- e. need to be trained to manage different aspects of alcoholism - physical, social, psychiatric;
- f. skills in developing and building relationships with teachers and colleagues would help in team functioning later.

1.6. GENERAL SUGGESTIONS DURING THE PRE-CLINICAL PHASE included:

- i. It was suggested that the following general topics could be covered during the preclinical phase:
 - a. five or six introductory lectures about the medical profession;
 - b. self development exercises;
 - c. physical training - exercises, yoga;
 - d. a presentation on student problems.
- ii. It was mentioned that involvement of the basic sciences (Anatomy, Physiology and Biochemistry) in community studies during the first year rural orientation programme was a very good experience for the students in one of the colleges.
- iii. It was felt that sessions on medical ethics were necessary.
- iv. It was important to develop healthy attitudes and a feeling of responsibility towards patients. The ultimate aim/happiness in the profession was in being able to help others and should not be measured by money or professional stature.

2. PARACLINICAL PHASE

2.1 PATHOLOGY

- i. Several respondents opined that pathology was basic to an understanding of the clinical subjects.
- ii. *Subject areas that were considered important were:*
 - a. clinical pathology which should be emphasised more than systemic pathology;
 - b. haematology;
 - c. an in-depth knowledge of immunology and its relationship to nutrition etc.
 - d. several felt that students should be proficient in preparation of slides and in carrying out routine investigations in clinical pathology - as lab. diagnostic facilities and pathologists are not available in rural areas;
 - e. doctors should be proficient in blood banking procedures and should participate in blood donation camps.
- iii. *Regarding the teaching, the following suggestions were given:*
 - a. a detailed study of histopathology of uncommon diseases is not necessary and could be deleted;
 - b. the emphasis should be on common diseases and correlation of pathology with clinical signs;
 - c. a posting in the Pathology lab. dealing with hospital specimens could be introduced during final MBBS and internship;
 - d. students should learn to independently carry out routine investigations;
 - e. they should be able to send specimens for HPE.
- iv. Doctors in PHIs often have the responsibility to support and supervise technical staff who conduct routine investigations in hospitals without a pathologist. They also sometimes have to set up/manage a small lab.

2.2 MICROBIOLOGY

The following comments/suggestions were made:

- i. The teaching could be oriented towards the acquisition of knowledge and practical skills which the doctor can apply in a rural set-up, where services of micro-biologists and laboratory facilities are not available. Clinical aspects to be stressed.
- ii. The subject is very useful in dealing with contagious bacterial, viral and parasitological problems prevalent in India.
- iii. Knowledge of common organisms in different/particular areas of the country would be useful. So also, types of organisms more commonly found in certain anatomical areas would help choice of therapy.

- iv. Focus on laboratory tests/simple routine investigations that can be done in a peripheral situation.
- v. Students should be proficient in examining simple specimens like sputum, stool, pus etc., to identify common pathogens. Staining and identification of organisms should be emphasised, especially Grams-stain, and sputum exam. for AFB.
- vi. Useful to study water borne organisms that commonly pollute water sources.
- vii. Should have postings in the lab. dealing with hospital specimens.
- viii. Interpretation of tests - their diagnostic value, reliability etc., to be emphasised.
- ix. There were also suggestions by a fair number that the volume could be diminished, by reduction of detail, (for eg., the composition of the cell wall of bacteria, the various descriptions and methods by which staphylococci can be differentiated etc.
- x. Sections that were considered to be covered too extensively and which could be deleted were - excessive details regarding micro-organisms; complicated laboratory techniques; classification and detailed study of serotypes. Virology could be reduced slightly.
- xi. Reduce emphasis on culture and culture media. Strengthen the use of serology and simpler examinations. These should be studied using clinical specimens.

In summary, "greater stress to be on bugs related to day-to-day practice" or common conditions.

2.3 PHARMACOLOGY

There was a great degree of interest shown in pharmacology as is evident from the fact that no one said that it was not useful or relevant, and there were a very small number (5 or 9.4%) of no comments. There were on the other hand a large number of and suggestions, viz.,

- i. Several respondents felt that the coverage was too exhaustive, too theoretical, going into unnecessary detail which is most often forgotten, with undue emphasis on drugs not currently in use, with the making of mixtures and experimental pharmacology which was "not particularly useful". Too much memorization was required which was not helpful. To quote a respondent "listing all the adverse effects of every drug, one forgets all". The latest drugs were not dealt with at all.
- ii. It was felt that there could be a change *in content, with emphasis on the following:*
 - a. applied clinical pharmacology with practical work using prescriptions from clinical cases in the wards/OPDs.
 - b. indications, contraindications and side effects of drugs;
 - c. drugs used in different situations eg., pregnancy and lactation;
 - d. paediatric dosages;
 - e. the rational use of drugs, or rational therapeutics, focussing also on cost effective management.

- f. drug interactions;
 - g. misuse of drugs;
 - h. it was considered important to have clinical correlation/orientation eg., "even though we study that Furesamide is a diuretic and can be given intravenously, a graduate using it intravenously for the first time has no idea of how much diuresis it will cause or how much hypotension/weaknesses. It is the same with analgesics and other drugs".
 - i. sessions on latest developments concerning newer drugs and their advantages;
 - j. rationale for use of each drug/combination to be stressed. Also the use and misuse of steroids;
 - k. focus on anti-infective, anti-infestation drugs, anti-hypertensives, and anti-diabetics.
- iii. *Suggestions regarding the teaching were :*
- a. pharmacology teachers should teach in the wards and community too;
 - b. reduce pharmacy classes with preparation of mixtures. Substitute with exercises where prescriptions are analysed and discussions held on many relevant aspects (mentioned above);
 - c. teaching must centre on a firm foundation around the use of essential drugs as given by WHO;
 - d. focus on drugs currently used;
 - e. identification of side effects of drugs in the wards;
 - f. drug dosages should be made easy to remember or if necessary a ready reckoner developed for use;
 - g. practical knowledge of some of the common trade names and the names of good drug companies in India;
 - h. it was suggested that Lawrence's Textbook of Pharmacology could be used.
- iv. It was felt that pharmacology should be removed from the para-clinical side to the clinical side with active postings in the wards.
- v. Frequent updates are necessary in the subject because of rapid developments and changes in drugs available.

2.4 FORENSIC MEDICINE

- i. The number of respondents who offered no comment or felt the subject was not useful was very small (7 or 13.2%).
- ii. There was in fact a strong plea to enhance the importance of the subject and comments that it was not stressed adequately during the present course.
- iii. Several respondents felt that medico-legal aspects were important to practice in PHIs.

- iv. *Important areas identified for study were:*
- a. management of suicidal consumption of poisons;
 - b. toxicology;
 - c. snakebites, injuries, accidents; particularly road traffic accidents;
 - d. examination of wounds, and enjuries wound certification;
 - e. diagnosis of death, certification of death, declaration of death;
 - f. medico legal autopsies eg., cases of murder. Practical difficulties of doing post mortems in rural areas;
 - g. managing medico legal cases where there are inadequate facilities and no transport to refer the cases;
 - h. all medico legal aspects of the doctor-patient relationship "since patients nowadays no longer consider doctors as 'Gods' who heal for free";
 - i. medical ethics to be given greater importance;
- v. *Comments regarding the teaching were :*
- a. identification of common poisons in the field/shops;
 - b. students should be able to witness court scenes;
 - c. practicalities of handling different types of medico legal cases to be covered;
 - d. medical jurisprudence to be adequately covered;
 - e. stress to be given to common social malpractices rather than going into criminological details only;
 - f. to develop a more human attitude to dead bodies, the morgue and the whole set up;
- vi. It was opined that forensic medicine and especially medico legal aspects are going to be increasingly important in the future and a better grounding in the subject would make the graduate more secure and more responsible rather than staying away from such situations.

3. CLINICAL PHASE

3.1 MEDICINE

- i. A large number of respondents mentioned that the coverage of the subject was useful, relevant and adequate.
- ii. *There were several general comments and suggestions, viz.,*
 - a. students should be taught how to approach different types of patients and what to do within the set-up available in a peripheral health centre. It was equally important to know when to refer a patient to a bigger centre.
 - b. attention should be given to the diagnosis and management of illnesses in a peripheral centre in the absence of facilities for investigations and newer/more expensive antibiotics /drugs;
 - c. the difficulties of adjusting from working in a large teaching hospital environment to the taking of independent decisions / responsibilities in peripheral health institutions were voiced by many. The change from a situation where a range of investigative facilities were available, and with many colleagues, seniors and other departments to refer, "to manage on one's own was difficult". Therefore greater involvement as interns in patient management was considered very important, rather than just writing discharge summaries, getting investigation results and performing "clerical" jobs. There is a need to build up independent decision making capacity.
 - d. emphasis on clinical skills rather than dependence on high tech. diagnosis helps in the field;
 - e. problem oriented medicine and therapeutics needs to be stressed with greater emphasis on clinical diagnosis and a rational approach to problems, interpretation of laboratory investigations, applied pharmacology and an overall emphasis on tropical medicine.
 - f. both curative and preventive aspects should be emphasised in Medicine. During internship practical approaches to general practice in peripheral situations need to be taught.
 - g. the subject has been described and taught according to systems. However, if it was dealt with in terms of common illnesses and problems it would have been better;
 - h. if possible the last 1-1 1/2 years of study should be spent primarily learning medicine, surgery, obstetrics, gynaecology and paediatrics. The other subjects should be completed before that.
- iii. *Suggestions regarding areas to be covered/given emphasis included:*
 - a. need for exposure to diagnosis and treatment in Emergency Medicine with taking of responsibility for such cases during internship eg., priority to be given

to the management of medical emergencies like bronchial asthma, myocardial infarction, variceal bleeds, etc.,

- b. infectious diseases, parasitic infestations, chest diseases, dermatological and ENT problems.
- c. the relevance of different diseases should be understood. Diseases more common in the West, eg., multiple sclerosis should not get greater or equal coverage in the curriculum. Common medical conditions in our country should be given more teaching time and importance.

In several of the good text books which are British or American, diseases with relevance to our conditions may not be described well. Hence the need to utilise Indian textbooks as well.

- d. too much attention is given to exotic diseases and inadequate attention to common problems like tuberculosis.
 - e. rational prescribing should be taught and interns given an opportunity to prescribe independently under the supervision of seniors.
 - f. the therapeutics should include teaching about cost benefit, cost efficiency relationships and the use of cheaper alternatives in the periphery.
- iv. *Regarding teaching, the suggestions included:*

- a. students should be given an increased opportunity to present cases and participate in seminars.
- b. theory lectures have a limited value. Students need more time in the wards with patients. The last one year of the MBBS course should be spent in the wards, like an intern. Students should take part in admissions, work-up, treatment, discharge and follow-up. Internship will be a continuation of this phase and a time for acquiring more detailed knowledge and perfection without fear of exams, rather than a fresh start in patient management. "It is easier to remember dosages of medicines, type of complications to look for and their management by actual doing and seeing, rather than depending on memorization from books."
- c. instead of the predominant teaching in wards, teaching in the out patient department, in mobile clinics and in general practice OPDs should be incorporated.
- d. there should be no routine lectures in large groups. Teaching should be always in a small group. Senior students should help the junior students in learning clinical medicine. The teachers should function as coordinators (facilitators).
- e. students should carry simple investigations in the side-labs and collect blood samples etc., in patients admitted to hospital.
- f. peripheral institutions could be made use of for the teaching of clinical subjects as well.

- g. More experience is required in carrying out procedures like intubation, starting of IV lines etc.
- h. students should follow up one or two admissions from OPD/casualty every week - they should be worked up in the ward and students should be in charge of these patients till discharge.
- i. it was felt that the writing of record books in the way it was presently done was mere routine, without much meaning, and could be discontinued.
- j. others felt that students may be involved in maintaining medical records for the hospital. For chronic and incurable patients students should be encouraged to follow them up in the community after discharge.
- k. the teaching should not be according to diseases but according to symptom based diagnosis.
- m. the present exam. orientation should give way to orienting students towards problems faced in a Primary Health Centre. It was felt that this is almost never done at present.
- n. common problems of medical practice need to be emphasised during exams eg., gastrointestinal and respiratory problems. Endocrine and cardiac problems, and others which are uncommon in PHI practice, should not be the main focus during exams.
- o. some felt that the time period of internship especially in medicine, was inadequate and should be increased.
- p. longer posting during internship in ICU/CCU/emergency areas (casualty) were suggested by some.
- q. if the number of forms to be filled during internship could be reduced and substituted with more teaching rounds it would be useful.
- r. It was felt that a book of 'Davidsons' standard is adequate for practice in India.

3.2 SURGERY

- i. As with Medicine, Surgery was also found to be very necessary and relevant for work in peripheral health institutions., This is evident from the extremely small numbers of "no comments", (2 or 3.8%) and nil "not useful" responses.
- ii. There were a very large number of suggestions. The most common among which were that they needed more practical experience in actually doing certain minor procedures and in acquiring basic skills.
- iii. *Important areas identified that need to be covered are given below:*
 - a. several respondents mentioned that more training is required in basic suturing techniques, minor surgery and management of emergencies.
 - b. similarly, proficiency in proper dressings, cut downs, cannulations is essential.
 - c. emphasis on trauma care and treatment of wounds.

- d. management of acute abdomen.
- e. stress on common diseases/problems.
- f. every doctor should be able to do an appendectomy and hernial repair.
- g. hand and foot surgery is important since rural occupations often result in injury or disease of hands and feet.
- h. as so many Indian villages still do not have access to big medical centres a graduate must be able to manage common surgical emergencies like appendicitis, duodenal ulcer, perforation etc.
- i. graduates should be adept at handling small cases eg., surgical removal of lymph nodes, lipomas, subcutaneous cysts, incision and drainage.
- j. more practical experience in minor procedures eg., I&D, biopsies, fistulectomies, suturing cuts.
- k. all major surgical procedures should be only mentioned. Greater emphasis should be given to post-operative complications and rehabilitation, and diagnosis of common surgical conditions. Tracheostomy on cadavers should be taught.
- l. need to be well versed in pre-operative preparation and in managing complications.
- m. ability to treat shock.
- n. practical dentistry - often a necessity because of lack of availability of any trained personnel.

iv. *Some of the problems mentioned were:*

- a. Presently the practical training is only 50% of what is actually required especially in a rural set up - what was learnt most was to arrange blood; fill forms; suturing and suture removal; and not minor surgical procedures. For rural work expertise in minor surgery is essential.
- b. graduates are grossly undertrained to handle minor surgical problems and do minor surgery. They should not be "overused" to assist major surgeries which have no practical applications in the future unless they are inclined to do their MS later.
- d. too exam oriented - should be oriented to problems faced in a PHC.

v. *Therefore the teaching should keep in mind the following:*

- a. the focus should not be only on the surgical procedures but on the "complete pre-intra and post-op" surgeon.
- b. to be able to meet the bare minimum surgical situations in rural hospitals, the graduate should have acquired enough skill and confidence by the time he is already in the situation.
- c. that in a peripheral set up it is important to know what is required for the patient,

to decide what is not possible in the centre, when to refer and to give the patient some idea of what to expect in the future and what would be done.

- d. emphasise clinical skills rather than exotic diagnostic procedures.
- e. increase ability to diagnose acute cases/emergencies and to do the needful.
- f. more opportunities/chances need to be given to do surgery/practical work.
- g. greater involvement of interns in case management is required rather than doing mainly clerical work.
- h. internship posting in surgery is too short.

3.3 OBSTETRICS AND GYNAECOLOGY

- i. The question on this subject elicited the greatest response. There was not a single "no comment" and nobody mentioned that it was not useful or relevant.
- ii. Several mentioned that the subject was very important for rural practice and one which can cause the most tension to a doctor.
- iii. 20 or 37.7% specifically mentioned that greater emphasis should be given to this subject, especially in the area of getting practical experience and in acquiring skills.
- iv. *Areas of importance for practice in PHIs, that need to be covered are:*
 - a. ability to provide good antenatal care.
 - b. ability to be able to assess pregnancy, to identify risk factors and to assess the course of delivery.
 - c. to develop the ability to make a decision as to when to manage a case in the peripheral centre and when to refer.
 - d. any doctor who goes to the village should be able to do a vacuum and forceps extraction and a caesarian section.
 - e. assessment of pelvis and cephalopelvic disproportion is very essential.
 - f. management of Pre-Eclamptic Toxemia and of Post Partum Haemorrhage.
 - g. greater stress to be given to the management of emergencies.
 - h. ability to manage bleeding per vagina, Dilatation and Curettage.
 - i. special stress to be given to management of abnormal labour, complications arising therein.
 - j. A detailed study of ovarian tumours etc, and operative details of hysterectomies is not required. This should be replaced by tubectomy, episiotomy, repair of cervical tears, precancerous condition of the cervix, PAP test etc.
 - k. sufficient information should be acquired about the effect of drugs on pregnancy.
 - l. neonatal care, including recognition of complications at this stage.
 - m. practical knowledge relating to family planning was also necessary.

n. while most mentioned that Obstetrics was more important and to be stressed upon during the training, the ability to manage common gynaecological problems was also mentioned.

v. *Regarding the teaching - learning process the following points were made :*

- a. teaching should keep in mind the situation and necessities of treatment in rural primary/peripheral health centres. Here they often have to manage complicated cases, for which they have never gained experience during their undergraduate days.
 - b. in general more attention should be given to patient oriented teaching rather than exam. oriented theory.
 - c. more experience in per vaginal examination, in assessing a woman in labour, in the management of deliveries.
 - d. the need to develop confidence in handling obstetrical problems and practical knowledge was repeatedly stated. This could be acquired through exposure to more cases and through getting more experience.
 - e. students must conduct as many normal deliveries as possible - upto 50 would be better.
 - f. interns should be allowed to do evacuations and forceps and vacuum extractions under the supervision of senior doctors.
 - g. Donald's Textbook of Obstetrics was found to be a very practical guide during rural practice - it was recommended as the standard teaching book.
 - h. students should also know well what should not be attempted in a rural primary/peripheral health centre.
 - i. "Rather than being taught just to do what one is told we should be trained to think and act".
 - j. for those who are interested, a longer duration posting should be given.
 - k. there was a lone voice that said " for those who are not keen on it, the labour room requirement in final year may be made less rigorous".
- vi. It was mentioned that, "the patients are dealt with as cases more than as human beings". To overcome this it was felt that the students should be involved with history taking etc., of patients in the OPD. This will encourage them, give them experience as well as "rectify the behaviour of hospital staff towards OPD patients."

In summary, there is need for greater involvement in patient management in OPD, casualty and in the ward, with follow up of certain patients till discharge. The emphasis should be on gaining practical experience. Interns should be allowed to do many procedures.

3.4 PAEDIATRICS

- i. Paediatrics was considered important because a large proportion of patients seen in the rural PHIs - upto 60-70% in one case, were of the paediatric age group. Therefore several of the respondents felt that it should be emphasised.

- ii. 19 or 35.8% of respondents felt that the coverage was adequate and was very useful to work in PHIs and 2 thought it was excellent. Not one thought it was not useful or relevant.
- iii. Several suggested that the following steps could be taken:
 - a. more marks need to be allotted to this subject in the curriculum;
 - b. it should be made a separate paper;
 - c. the time allotted to paediatrics should be increased with longer postings.
- iv. *The following areas were important for PHI practice:*
 - a. infectious diseases;
 - b. immunization schedule, its complications;
 - c. diarrhoeal disorders, gastrointestinal infections;
 - d. management/practical treatment of dehydration in detail;
 - e. neonatology - in relation to obstetrics;
 - f. pharmacology - rational prescribing of drugs;
 - g. URTI/respiratory tract infections;
 - h. convulsions;
 - i. nutrition;
 - j. neonatal and paediatric resuscitation should be taught well, with management of emergencies, practice on cadavers;
 - k. overall focus to be on common diseases;
 - l. the understanding and study of the normal child needs greater emphasis;
 - m. weightage to be given to social paediatrics rather than just theoretical/academic aspects;
 - n. community orientation especially regarding nutrition is needed;
 - o. the importance of useful domiciliary measures can be stressed. This will suit the community better and give the doctor greater involvement in the given setting.
- v. *Regarding the teaching, the comments were:*
 - a. they felt the need to be exposed to more cases. "Those who are working in villages need to have more experience in this field. And we must know simple methods of tackling ordinary problems/common diseases - what one requires is practical knowledge rather than theory".
 - b. during the training there was a tendency to concentrate on the more unusual cases like Nephrotic Syndrome, Congenital Heart Disease etc., while in the PHI most of the patients needed immunization, nutritional supplementation and treatment for coughs and colds.
 - c. students to work in OPDs, carryout simple investigations, follow up patients in the community.

- d. every student must work in a well baby clinic and participate in immunization programmes.
- e. each student should follow up 1-2 admissions/week from OPD and casualty, do the work up in the wards and be fully in charge of patients till discharge.
- f. should learn how to approach a patient within the set-up available in a peripheral centre and when to refer a case to a bigger centre.
- g. much more ward work with involvement in patient management.
- h. last 1 1/2 years to be devoted only to Medicine, Surgery, Paediatrics and Obstetrics & Gynaecology.
- i. small group teaching to be used, with senior students working with junior students.
- j. theory lectures to be minimised.
- k. paediatric hand books of CMC-Vellore are very handy.
- l. more practical experience with incubator management/IV cut downs is essential, as this is often required and difficult to do.
- m. since the internship posting is only for a month it would be better to be trained in these procedures during the pre-exam postings.
- n. nursery posting should be given to all interns.
- o. "when we get out after internship, we feel so inefficient. It would be better to train us to think and act rather than do only what is told".
- p. "Boring teachers. what a difference they make!"

3.5 PREVENTIVE AND SOCIAL MEDICINE /COMMUNITY MEDICINE

- i. Most respondents felt that the subject was important particularly for rural practice, as well as for the situation in India. However 18 or 33.96% felt that the training was inadequate. The language use by respondents was indicative of a sense of irritation regarding several aspects about the subject and its teaching.
- ii. As with the other clinical subjects, there was only one respondent who had "no comment", and one who thought that it was of no use "since there was not much change resulting in the life of people".
- iii. *Areas that were identified as being important were:*
 - a. need for better coverage of preventive aspects eg., immunization.
 - b. need for better coverage of management aspects.
 - c. how to organize/actually work out feasible health programmes in the village.
 - d. nutrition, especially regarding use of local foods available.
 - e. methods of health education of the public within the time available,i.e., alongside the practice of medicine as well eg., use of posters, audiovisual equipment etc.

- f. school health and the training of school children as health guides.
- g. occupational health.
- h. epidemiology and statistics.
- i. use of different methods of communication.
- j. to assess the public health problems of a community through surveys and to be able to evolve a simple practical strategy for intervention.
- k. to be able to identify local health and economic needs and also to be able to identify and muster resources to help meet the needs.
- l. greater stress to be given on how to organise a community health centre, how to organise extension programmes, how to avail of existing facilities under various (government) programmes etc., rather than having only didactic lectures on the National Tuberculosis and Malaria control programmes etc., at the macro level alone.
- m. discussion on the common types of problems in community work.
- n. community health orientation with the total approach towards development using health as an entry point to the community.

iv. *Comments/suggestions about the teaching were:*

- a. students should be taught the organisational and administrative aspects of conducting programmes for immunization, mother and child health, family planning.
- b. students should participate in the training of community health workers.
- c. an emphasis even in PSM/CM on acquisition of clinical skills was important with posting of interns to centres where in-patient facilities are also available.
- d. it was felt that it would be better if teaching of the subject could also give importance to what basic doctors could do on their own in their settings.
- e. the teaching could be made more interesting with the use of slides/films, practical work in the field.
- f. there is need for more guidance of interns in the field during PSM postings.
- g. more importance may be given to this subject by sending students to the villages more frequently and making them work there. One respondent felt that atleast 1 year may be given to this subject.
- h. it was suggested that the 3 month internship could be done as an apprenticeship in peripheral hospital/health centres - so that "one gets a taste of things to come in the future".
- i. exam. orientation should be dropped.
- j. there should be a complete reorganisation of the present set up including the system and syllabus which should be tuned to the needs of the Primary Health Centre medical officer.

- k. another respondent felt that:
1. "lecture classes should be abandoned immediately;
 2. the available books are quite insufficient to make the subject interesting;
 3. too much time is spent learning definitions and reporting, rather than understanding the significance of programmes;
 4. no teacher should be appointed according to University degrees. They should not be allowed to teach unless they have concrete experience of work in the field".
- l. there should be a minimum of lectures and more of field work. Greater use of community based teaching is essential.
- m. it was expressed by several respondents that the subject should be made more interesting, more practical with more field work.
- n. since students do not seem to respond to present methods of teaching it was suggested that they could be modified and they could take up different projects to work on.
- o. the present 3 month posting in PSM was considered a waste by many respondents.
- p. it was felt that the subject was made boring due to undue importance being given to unnecessary lectures on latrines, wells and "other like". Practical demonstrations of these with a simple visit would be more beneficial.
- Innumerable "definitions" were also considered "a bore".
- Instead it was felt that lecture hours could be used for study/practice of management of clinical illness in relation to the community.

v. *Other comments/suggestions were:*

- a. The Departments of Community Medicine should give the lead in the community orientation of medical teaching.
The lifestyle and the teachings of the doctors should be relevant to the community.
- b. it was suggested that there should be a direct contact between rural service doctors and the PSM/CM Department with a special cell created to respond to different needs.
- c. one of the problems mentioned was that of being a single doctor in a hospital, with no community health programme and without availability of basic staff.
- d. it was mentioned by one respondent that "the Department has poorly motivated staff, with stress on the seemingly useless aspects of PSM (Pseudo PSM), with a total lack of practicality and a lack of basic ethics, so much so that even interested persons get no motivation".
- e. the textbook (Park & Park) was suggested by one as a treatment for insomnia!

- f. it was felt that most of what was studied in the college is not being carried out in the field.
- g. this was considered "a highly debatable department which could do a lot but was not able to. If a PSM teacher was really wanting to, they could influence a number of students and totally change their attitude towards "health" and "society"

3.6 PSYCHIATRY

- i. of the 53 respondents, 1 did not undergo a formal training in psychiatry during the undergraduate course, 6 offered no comment, 1 said it was not relevant to work in PHIs and 1 felt that training in it could be reduced.
- ii. A majority of the other 44 respondents felt that greater importance needs to be given to the subject as "50-60% of patients seen in the peripheral hospital had an associated psychological problem" and "20-25% of the OPD in any hospital consists of primary psychiatry/associated psychiatric illnesses" etc., i.e., they felt it had great practical importance to any general practice. Even those who did not pay attention to it during their student years, found that it was "extremely important".
- iii. *Some of the common problems encountered in rural practice were:*
 - a. depression - presenting as a physical illness and accounting for a large percentage of the patients who attend OPD;
 - b. alcoholism - need for knowledge/ability to manage de-addiction;
 - c. cases of mania - where practical management is very important;
 - d. attempted suicides;
 - e. neurosis;
 - f. hysteria;
 - g. mental retardation - how to manage, what to do;
 - h. psychotics - how to deal with them in the community.
- iv. *The suggestions and comments regarding the teaching were as follows:*
 - a. more working hours need to be allotted to psychiatry - a posting of 3 months could be introduced rather than the present 1 month;
 - b. a separate paper should be introduced;
 - c. the focus should be on problems likely to be faced by a Primary Health Centre doctor;
 - d. it would be better if the posting to the psychiatric unit is given at a later stage, during the clinical years of study;
 - e. this is one of the fields making rapid strides as far as advancement of medical knowledge is concerned. Students should be put in touch with modern advances in this subject rather than undergoing repetitions of old theories;

- f. emphasis should be given to the social implications;
- g. because of the psycho-somatic background in a large proportion of illnesses, knowledge about psychiatry is useful in all clinical settings and in all cases;
- h. greater clinical exposure and practical knowledge is necessary;
- i. there is a need to be trained to take psychiatric histories;
- j. relevance of different drugs should be taught;
- k. need for training in counselling patients;
- l. should have regular case presentations followed by analysis/discussion. Classroom lectures could be reduced;
- m. the present form, which is very drug oriented, was considered "useless". Students must be taught how to talk to and to counsel psychiatric patients;
- n. need to be able to identify common psychiatric problems and to have a definite knowledge about some serious disorders. This will enable doctors to intervene to help patients, and also to know when to refer;
- o. this is an area wherein a young and fresh doctor is not confident and in which problems are faced very often. The idea that it is a "short-posting" needs to be removed;

Thus longer and wider exposure to the subject is needed.

3.7 DERMATOLOGY

- i. Five respondents out of 53 offered "no comments" but not one said that Dermatology was not useful. Of the eight who mentioned that it was useful/relevant, four termed it as being important/very very useful/essential.
- ii. *Common skin conditions that presented to the PHIs included:*
 - a. fungal infections;
 - b. allergic conditions;
 - c. Hansen's Disease;
 - d. nutritional skin problems;
 - e. sexually transmitted diseases;
 - f. scabies;
 - g. eczema;
 - h. lice infestation;
 - i. pyoderma;
 - j. dandruff;
 - k. falling hair;
 - l. cracks in the feet;
- iii. *Among the suggestions/comments were the following:*
 - a. Several 15 or 28.3% said that the posting should be longer with more exposure

to common disorders since a fair proportion of the OPD patients in peripheral health centres had dermatological problems. The present 15 day posting was considered inadequate;

- b. graduates need to be able to recognise/diagnose common skin lesions. They should be able to perform simple tests and to treat the above;
- c. there should be an emphasis on proper therapeutics. "Blind treatment" is very commonly resorted to with an ointment containing a combination of steroids, antibiotics, antifungals for any dermatological condition;
- d. proficiency in skin biopsy techniques (for patients suspected of having leprosy) needs special emphasis. So also the treatment of Hansen's disease;
- e. emphasis should be given to the importance of proper diagnosis of conditions and in deciding when to treat and when not to;
- f. common diseases should be covered in sufficient detail, and students should be able to see an adequate number of cases of each of them;
- g. A few felt that it is not taught adequately. There is no prescribed textbook in the curriculum at the MBBS level;
- i. again the concept that it is a "short posting" should be removed.

3.8 OPHTHALMOLOGY

- i. Of the 53 respondents, 5 offered "no comment", 3 felt that the subject was not useful to practice in peripheral health institutions, and a further 6 specified that it was not very useful as people preferred to go to specialists for ophthalmic problems.
- ii. Of the remaining 39, 16 felt that the training received was adequate and 1 thought that it was inadequate.
- iii. *The following areas should be well covered, with adequate clinical exposure ensured;*
 - a. acute conditions, including trauma to the eye, and removal of foreign bodies;
 - b. infections, particularly conjunctivitis, which are common;
 - c. problems relating to the anterior part of the eye;
 - d. detection of serious conditions at an early stage and ability to differentiate them from benign conditions;
 - e. refraction, evaluation of vision;
 - f. diagnosis and treatment of cataract, glaucoma, Vitamin A deficiency and trachoma.
- iv. *Regarding the teaching, the suggestions were:*
 - a. the details of operative procedures could be deleted or reduced;
 - b. students should be able to participate in mobile ophthalmic clinics and camps;

- c. students should be taught about the preventive aspects of ophthalmology such as nutritious diet, prevention of ophthalmic trauma, and organisation of village outreach programmes for the prevention of blindness;
- d. there should be greater emphasis on common problems, with less importance given to "exam" cases;
- e. the respondents suggested that if doctors in rural medical practice were given adequate training in retinoscopy and in determination of refractive errors there would not be a need to refer such cases to the ophthalmologist/refractionist;
- f. there was a suggestion that there could be an internship posting (which was not presently there), keeping in mind the situation at the PHC level, and the problems faced by a doctor there;
- g. importance in teaching to be given to practical experience gained from the community and in dealing with OPD cases rather than theory.

3.9 E.N.T. (OTORHINOLARYNGOLOGY)

- i. Of the 53 respondents, 8 offered no comments and 3 felt that the subject was not very useful to practice in a peripheral health institution. Of these 1 mentioned that an ENT surgeon managed the cases.
- ii. Thirteen respondents felt that the coverage was adequate and 2 thought it was inadequate.
- iii. *Suggestions regarding some important areas to be covered are:*
 - a. management of epistaxis;
 - b. removal of foreign bodies and wax;
 - c. children with ENT problems are seen quite commonly in daily practice, eg.,
 - tonsillitis;
 - Chronic Suppurative Otitis Media (CSOM) (discharging ears)
 - running nose - upper respiratory tract infections, rhinitis;
 - foreign body.

There was a suggestion that the teaching could be combined with paediatrics.
 - d. problems of the external ear;
 - e. giddiness/vertigo;
 - f. repair of ear lobes is also important.
- iv. *Suggestions regarding teaching were:*
 - a. Students need to get more practical experience with basic procedures like syringing, otoscopy, foreign body removal. This was presently difficult as the batches for clinical postings were too large;
 - b. need for emphasis on rational therapeutics;
 - c. students should be taught about preventive aspects;

- d. the focus should be on recognition and management of common problems in a rural setting. The PHC and the doctor there should be kept in mind;
- e. details of operative procedures could be reduced or deleted;
- f. importance to be given to the gaining of practical experience from working with patients in the OPD, and in the community, rather than on theory;
- g. a few suggested a short posting during internship.

3.10 RADIOLOGY

The suggestions/comments given were as follows:

- a. Students should be trained to diagnose common conditions from X-rays;
- b. Students should get adequate experience in the interpretation of the following types of X-rays:
 - i. X-rays of the abdomen;
 - ii. chest X-rays;
 - iii. different types of fractures;
 - iv. barium studies;
 - v. some congenital anomalies - this is more rare;
 - vi. the importance of the diagnosis of Tuberculosis was mentioned.
- c. Proficiency in the interpretation of chest X-ray films should be stressed as this is one of the most useful investigations which may be useful in diagnosing many conditions.
- d. More experience in the reading of plain X-rays is necessary. This should be taught in the context of patients during clinics or rounds.
- e. Most rural health insitutions (voluntary sector) are equipped with X-ray facilities without a technician.
- f. An elementary knowledge about taking and developing films will help the graduate in certain situations.
- g. Basic knowledge of handling X-ray equipment (technical aspects) is useful.
- h. Should have compulsory tutorials and postings during Final MBBS and internship.
- i. Reading of X-rays should be part of the training in different departments.
- j. Students and interns presently do not take radiology very seriously. The importance of the subject needs to be stressed, particularly in Medicine and Surgery.
- k. Six respondents felt that they could also be trained to carry out safe contrast studies.
- m. Use of a screening machine should also be taught.

- n. Exotic views and sophisticated contrast X-rays and the rapid developments taking place in the field of imaging are not so useful in the periphery.

3.11 ANAESTHESIOLOGY

The suggestions/comments given were as follows:

- i. The usefulness of peripheral/regional/local nerve blocks in PHIs was mentioned by several respondents (11). Most of them suggested that practical training was necessary in this area, which was very important to be able to do minor surgical procedures. It could be taught along with subjects like Surgery and Orthopaedics. Sometimes dental cases also have to be handled, therefore knowledge regarding mandibular nerve blocks etc., are useful.
- ii. Similar was the need for experience in spinal anaesthesia for caesarians/appendicectomies, especially in peripheral hospitals that have an operation theatre, but no anaesthetist/trained nurses to work there. Therefore experience in doing lumbar punctures is also necessary.
- iii. Doctors should be able to administer anaesthesia in emergency cases.
All resuscitative measures should be taught adequately;
- iv. It is necessary to know how to intubate a patient and how to ventilate a patient if he/she cannot be intubated.
- v. Some knowledge/ability to give general anaesthesia as open drip ether/short time IV anaesthesia etc., would be useful. Knowledge of what drugs to be used, precautions to be taken etc., should be given;
- vi. It is important to teach the complications of spinal anaesthesia and general anaesthesia.
- vii. A few felt that longer exposure, with perhaps a 2 week posting during internship would be useful.
- viii. Only 1 respondent felt that the subject was not needed at all and should be offered as an elective.

3.12 ORTHOPAEDICS

(NOTE: A question on this subject was not included in the questionnaire given to 10 respondents, therefore the total number of responses are fewer).

The suggestions/comments were as follows:

- i. Several respondents felt that this was a very important subject from the point of view of practice in peripheral health institutions and they felt they needed to be more adequately prepared in it.

To quote: "I regret that I could not even handle simple Colles fractures though they were so common (during the mango season for example when kids fall off trees)".

"These are very very common problems in rural practice since falls and fractures occur frequently. There are often no radiological facilities and no technicians to apply the Plaster of Paris cast".

- ii. Emphasis to be given to first aid measures and trauma care while transferring patients to referral centres.
- iii. Casualty postings should be compulsory to get exposure to orthopaedic procedures.
- iv. A posting in orthopaedics should be a must during internship - preferably of a month's duration.
- v. Several respondents mentioned that practical experience was essential. "Theory does not help 5% in a rural setting".
- vi. *Specific areas mentioned in which skills were needed included:*
 - a. diagnosis of fractures, closed reduction of fractures/dislocations eg., of common reducible fractures, Colles fractures, dislocation of the shoulder.
 - b. application of a Plaster of Paris cast;
 - c. how to give an intra-articular injection and more important when to give one;
 - d. treatment of osteoarthritis;
 - e. bandaging, application of splints;
 - f. recognition and treatment of complications of application of plasters;
 - g. post-operative/post-plaster exercises;
 - h. to know when to refer to a higher centre;
 - i. to be aware that the complications of certain therapeutic measures can be more disastrous than the original injury;
 - j. portions on tumours, detailed operative procedures could be reduced/deleted.
- vii. Several respondents felt that the teaching was inadequate and mainly exam oriented.
- viii. This is also a field in which a fresh graduate is not confident and wherein he may face problems very often.
- ix. Again, the idea that this was a "short posting" and therefore relatively unimportant should be removed.

3.13 DENTISTRY

- i. Several respondents felt that a fair number of patients came with dental complaints to peripheral health institutions. Most often there were no trained dentists available in such situations. The knowledge that a medical graduate has is too superficial to do anything.

- ii. *They therefore suggested that it was necessary to have some basic knowledge regarding:*
 - a. the scope of dentistry;
 - b. how to extract teeth; more exposure to cases and chances to extract teeth - " this can be done with some training and self confidence". The clinical batches were too large. More attention needs to be given to practicals. "Theory can always be studied on one's own".
 - c. when a tooth extraction can be done by a non-dentist;
 - d. even if tooth extraction is not done, the doctor should know when they need to be pulled out, what to expect and what to do after they have been pulled out by someone else;
 - e. experience in giving mandibular nerve blocks;
 - f. management of eruption of last molar;
 - g. treatment of dental caries;
 - h. treatment of pyorrhoea;
 - i. treatment of abscesses;
 - j. when to refer;
- iii. One of the respondents took a special training in dentistry before going to the PHI. He found it very useful and recommends it to all graduates who opt for rural practice.
- iv. One respondent felt that a 15 day posting was adequate for those who were not going to have to respond to dental problems.

3.14 SEVERAL OTHER GENERAL SUGGESTIONS INCLUDED

- i. First Aid to be taught to 1st MBBS students.
- ii. The whole of medical education is oriented towards big hospital/referral hospital practice, making work in rural areas very insignificant and not at all glamorous. Therefore during clinical case discussions and during internship every case seen or discussed should end with what can be done for the case management in a rural set up with only a few basic facilities available. This should be done in as many cases as possible, like the last paragraph in most chapters of "Mudaliar Textbook of Obstetrics"
- iii. A working knowledge about running a pharmacy.
- iv. The teaching to focus mainly on common diseases, so that a fresh graduate can recognise them, treat them and know when to refer them.
- v. The importance of leprosy to be highlighted. Even medically trained persons are reluctant to take this up.
- vi. Some basic ideas about physiotherapy to be taught;

- vii. Urgent need for training in emergency medicine and emergency procedures eg., venesections, endotracheal intubations, tracheostomies, management of epistaxis, management of fractures, burns, intercostal tube placement.
- viii. Awareness about the economic situation of the patients will help in the general management. Linkages with voluntary/funding/helping agencies can be incorporated into the hospital.
- ix. A brief knowledge about the "Alternative systems of Medicine" particularly Ayurveda and Homeopathy will be useful. Since these are commonly used in rural areas, doctors should know more about their advantages and limitations so that they can educate the people too.
- x. The concept of holistic health needs to be imparted to students.
- xi. Basic concepts of ultrasonography and Cat-Scan to be included with the major subjects.

"The medical education system and the health care delivery system have each gone their separate ways. There is little congruence between the role of the physician and the needs of society, little equilibrium between medical education and health care. Medicine is still regarded essentially as an enterprise of science and technology, the physician is the repository of all knowledge and dispensation, specialisation is the hall-mark of progress, and the training ground is the teaching hospital. Recent efforts to change this unhappy situation, to produce the 'right' kind of doctor and to give a community orientation to medical education have yet to make any meaningful impact"

ICSSR/ICMR Health for All Study Group, 1981

4. ADDITIONAL AREAS / SUBJECTS

4.1 MEDICAL ETHICS

The comments/suggestions were as follows:

- i. Among those who felt that it was not necessary/relevant there were some strong reactions:
 - a. there were too many unethical doctors around for the subject to be applicable (though another respondent felt that this same reason justified a need for medical ethics to be a subject for discussion).
 - b. that “medical ethics” depends upon a person’s ethics, and a stress on right over wrong was what was important;
 - c. the ethical practices of managements seemed to be a cause of irritation;
 - d. this aspect cannot be dealt by theoretical discussion, but needs to be practised and followed.
- ii. *Reasons given for its importance/necessity included:*
 - a. A strong and ethical grounding is required to help a young doctor to be steadfast and not be ‘converted’ as one of the first experiences encountered in practice is that of unethical medical practitioners “who try to cut you down, while you try your best to stick to ethical and correct means”;
 - b. the subject is particularly relevant and meaningful in the present day highly technical, sophisticated and competitive environment;
 - c. this is a vital aspect to a good medical approach;
 - d. one of the respondents said that though the subject seemed irksome during the undergraduate days, it provided a very useful background to several difficult situations in the field;
 - e. this is particularly relevant in the context of the general deterioration in values in society, including those of the medical profession. Young doctors therefore should be enabled to hold on to ethical values in medical practice and thus also to be an example to others;
 - f. this is essential in the Indian context due to lack of legal restrictions;
 - g. the illiteracy and ignorance of people is being exploited by private practitioners and illegal medical practitioners using unethical means.
- iii. *Suggestions regarding areas to be covered were:*
 - a. It should include aspects like treating the poor, using rational therapeutics in medical practice, therefore affecting the type of drugs prescribed, the choice of investigations etc
 - b. the caring aspect of a doctor-patient relationship;
 - c. having a human approach to patients;

- d. right of the patient to get information and a proper explanation about the disease;
 - e. patient to be informed about the progress, treatment and adverse effects of treatment;
 - f. duties towards the patient.
- iv. *Suggestions regarding the teaching were:*
- a. the teaching should include greater interaction with people in practice who know the ethical problems they face;
 - b. the issues raised by this subject should be experienced at the bedside of every patient, by every student while watching the consultants - through their daily working attitudes and behaviour;
 - c. it is essential to discuss the subject during internship as well;
 - d. the indepth inculcation of values such as speaking the truth, not exploiting/cheating patients etc., should be done through discussions, debates, seminars.
- This was considered especially necessary as several people these days do not have these values on the basis of religion. It will go a long way towards influencing the future of doctors.

4.2 BASIC NURSING PROCEDURES

- i. While five respondents gave no comment, not one said that knowledge and skills regarding basic nursing procedures were not useful or necessary. On the other hand 13 or 24.5% felt that the training was inadequate in this aspect.

The following statement sums up the general feedback "suddenly during internship the intern is supposed to have all the skills in basic nursing procedures, without proper training". There is therefore scope for further strengthening the course in this respect.

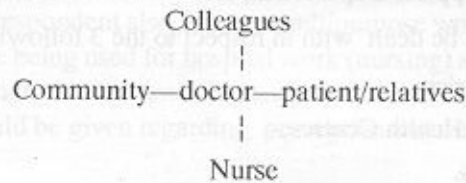
- ii. *Emphasis to be given to the following aspects:*
- a. bandaging;
 - b. starting an IV line and IV fluid administration;
 - c. giving intramuscular and subcutaneous injections;
 - d. giving soap and water enemas and bowel wash;
 - e. giving steam inhalations;
 - f. applying traction;
 - g. care of the unconscious patient;
 - h. passing a naso-gastric tube;
 - i. catheterization;
 - j. doing dressings;
 - k. effecting the passage of constipated stools in different age groups;
 - l. basic running of a CSSD/autoclave.

- iii. *The general suggestions/comments given were:*
- a. All nursing procedures ordered by a doctor should be done by him/her atleast once during their lifetime;
 - b. these techniques should be learnt by doing the job, while working in the wards;
 - c. they should form a regular part of a students duties throughout the clinical years and should not be taught just by classes;
 - d. it should be included in the curriculum;
 - e. it could be made a separate subject with a 3-6 month posting in the preclinical years;
 - f. it is necessary to be confident about these procedures both to carry them out as well as to give instructions as and when is required;
 - g. all nursing procedures useful in peripheral centres should be taught - they should be trained in such a way as to manage cases without the aid of nursing staff;
 - h. skills should be acquired during studentship itself and increased during internship.
 - i. the nurse-doctor relationship and attitudes need to be restructured. Medical students often feel that "these jobs are too low for us".

4.3 COMMUNICATION SKILLS

- i. There were varying opinions on the topic of 'communication' including a couple of question marks! Fifteen respondents gave no comments while two felt it was not necessary. Thirteen felt it was adequately covered.
- ii. *The suggestions/comments by 43.4% (23) respondents were as follows:*
 - a. the importance of knowing the local language should be emphasised. Language classes to be held;
 - b. communication with others is very important in small peripheral centres, unlike in a medical college;
 - c. it is a personalised skill that each medical student should acquire. It helps in the creation of a smooth working environment and in medical practice;
 - d. it is necessary for the creation of a rapport with the patient for reassurance, to be told about the disease etc., all of which helps in treatment compliance;
 - e. students should be taught more on how to talk to patients and develop a good rapport with them, as this will definitely affect the healing process;
 - f. it is necessary to communicate effectively with patients relatives as well;
 - g. it is important as part of the art of getting along with colleagues of different age groups;
 - h. students should be encouraged to talk to patients beyond mere history taking,

- oriented towards fulfilling examination requirements;
- i. lack of communication skills can handicap a doctor who may have even been a rank student;
- j. over time one develops methods of communication overcoming barriers of language and culture;
- k. communication skills are needed for a doctor to interact at different levels in work, as shown



- l. it is important in community work eg., techniques of reaching out to a new population group, especially a hostile one.
Much depends on the readiness/willingness to get involved with the community;
- m. need to overcome communication barriers or gaps at all levels, in every place and cadre;
- n. need to use and develop indigenous forms of communication;
- o. need to understand the effect on the patient of different styles/modes of communication eg., what the patient understands and remembers.

4.4 MANAGEMENT

Suggestions/comments were as follows:

- i. A basic idea regarding running a small hospital is needed. This is especially important when working in peripheral areas when one is often required to make vital decisions.
- ii. This is very much needed as the young doctors were often incharge of health centres and need to know how to manage. It is important also for efficient general practice.
- iii. Important for the improved running of small hospitals;
- iv. *Areas to be covered, that were mentioned were:*
 - a. delegation of work;
 - b. how to set up evaluation systems;
 - c. how to buy equipment and regarding purchasing in general;
 - d. how to run a pharmacy;
 - e. how to run a small laboratory;
 - f. how to 'manage'/dealwith supervisors/employees; - personnel management;
 - g. optimum management of resources at their disposal - in small peripheral centres;

- h. labour laws;
- i. accounting;
- j. market policies;
- v. The subject should be introduced during studentship and interns should be given more responsibility to develop this skill.
- vi. There should be postings to the Accounts section, Medical Records Department, Central Sterile Supplies Department, etc.
- vii. The subject could be dealt with in respect to the 3 following types of work:
 - a. to dispensaries;
 - b. to Primary Health Centres;
 - c. to hospitals.
- viii. It is taught as part of Community Health.

4.5 TRAINING OF HEALTH WORKERS / OTHER PERSONNEL

- i. Though this is not a “regular” part of the undergraduate medical curriculum it was considered important from the point of view of community orientation of Medical Education. Only eleven respondents showed a lack of interest by not giving comments.
- ii. *Comments/suggestions given by 79.2% (42) respondents were as follows:*
 - a. “Ability to train health workers can be useful. We were not really trained to do so, but made improvisations on the job”.
 - b. “Undergraduates/interns need to be taught the art or demonstrated the same, atleast once in a way during their 3 month rural posting”.
 - c. many health personnel/staff working in PHIs are untrained or insufficiently trained. They could be helped by training to perform better and more confidently.
 - d. several of the respondents were involved in the training/on the job continuing education of a variety of health personnel viz., nurses, laboratory technicians, multipurpose health workers, village health workers etc.
 - e. it was felt that it was very essential to learn about teaching methodology, the use of audio-visual aids, the development of course content;
 - f. exposure to and active participation in such schemes during internship would be meaningful;
 - g. this will definitely help in medical outreach programmes;
 - h. the focus on training health workers should be to transmit vital information on the preventive aspects of medicine;
 - i. it should be taught as a pre-professional placement i.e., a compulsory 3 month course before a person goes for their line of choice.

- j. another respondent felt that graduates should participate in these programmes and gain practical experience after internship;
- k. an important aspect should be how to simplify subjects/health messages;
- l. it is also important to learn how to motivate health workers;
- m. one respondent felt that during selection of personnel for such courses, importance should not be given to marks as in any other profession, but rather to their attitudes and motivation towards the community;
- n. the respondent also felt that multipurpose workers and village health workers were being used for hospital work (nursing) and hostel work (including in the kitchen) and are not being taught what is necessary in the field. More teaching should be given regarding preventive and curative medicine.

4.6 OTHER SKILLS NECESSARY FOR WORK IN PHIs

Several very interesting suggestions were given along with reemphasis of points raised earlier. These were:

- a. need to emphasise practical application in all fields/subjects;
- b. need to have an orientation for community work "since medical colleges impart an upper strata type of everything";
- c. the most important part of the training was internship. "This should be preserved and not changed, as it is beginning to happen now";
- d. need for training in emergency medicine and emergency procedures;
- e. more exposure to clinical subjects in peripheral settings;
- f. more training in obstetrics;
- g. surgical skills;
- h. handling of medico legal cases;
- i. managerial coaching, basic lessons on hospital administration;
- j. problem oriented, practical training;
- k. ability to impart health education;
- l. ability to explain/organise medical programmes at the community level;
- m. "patient management starts with investigations and includes drugs, procedures, reassurance and proper instructions. Investigations and drugs are quite costly. This should repeatedly be given emphasis as there is a tendency to do things routinely. Instructions too are important or else everything else done for the patient can be brought to nought."
- n. an introduction/orientation about the problems that can arise with the hospital managements and about clinical practice in general in the setting of peripheral health institutions. A "settling in time of 4-6 months" is usually required for any fresh graduate when he/she starts practice for the first time;

- o. determination and development of the practical essentials of a basic doctor;
- p. confidence and personality development;
- q. a doctor should be trained to be a leader in society;
- r. skill to deal with politicians, administrators, government authorities, writing complaints regarding public health etc;
- s. a keen social and political sense;
- t. cooking, other outdoor pastimes like trekking, rock climbing. Any other hobby, sports or anything;
- u. Any form of self-defence skills! - police are non-existent in rural areas.

4.8 OTHER SKILLS NECESSARY FOR WORK IN THE

"A basic doctor, to effectively deliver health care to the country, must be an astute clinician, a good communicator and educator and a sound administrator, so as to effectively lead an ever expanding health team for a positive health action work. The action domain of the doctor has crossed the boundaries of drugs and dispensaries and presently extends to a large extent to the families and to the communities - hence the need for the basic doctor to be a community physician".

- Draft National Educational Policy for Health Sciences (1989).

5. GENERAL ASPECTS OF THE MEDICAL COURSE

5.1 SELECTION PROCESS

- i. *In the context of work in PHIs, the comments/suggestions by 47.2% (25) were:*
 - a. More people from backward areas/rural areas where there is a lack of doctors, should be given preference;
 - b. It is not brilliance that is required but commitment, dedication and hard work;
 - c. Students should be older and more mature, probably after having completed the degree course;
 - d. Selection should not be:
money oriented; or merit oriented but;
aptitude oriented and service oriented.
 - e. One should choose the kind of personalities who will be able to work at the expense of a social life;
 - f. Strike out reservation based on caste and introduce a reservation for those who want to commit themselves to work in needy areas of the State for 10 years either with the voluntary sector or the government sector.
The needy areas should be pre-determined from data available from the State and preference given to resident students from that area.
 - g. For admission, merit should not be the only criteria. During the written examination and interviews, views of the students regarding society should be elicited, their reaction to society and preparedness to give their service to the rural poor;
 - h. There should be an entrance exam. Ten percent of seats could be allotted for those who secure the highest marks. The rest could be selected on an area-wise, quota basis in accordance with the performance at the entrance exam. Students should sign a bond that they must serve in rural areas of their home district for 5 years. Five percent of seats should be reserved for candidates from other states;
 - i. Students should be shown the minimum bondages under the State rules that candidates will have to fulfill under each degree/diploma course, as their part in reciprocating the expenditure incurred by the State for their higher education;
 - j. After the 12th standard, students should some spend time in various colleges according to their choice to help them make a decision about a career choice;
 - k. Rather than arbitrarily selecting candidates with the best marks or according to caste based or regional quotas - the selection should be able to identify some students who would be academics, some teachers, some good general practitioners and some who will go to rural areas;

- l. Aptitude for the subject is a must. In some cases parents force their children to take up the medical profession. This makes intelligent students fail in the field;
 - m. Selection should avoid much reservation to be of a uniform standard. It must be merit based and never capitation fee based;
 - n. The selection should be purely on merit and on the basis of extra-curricular activities;
 - o. Equal importance should be given to the interview and entrance exam;
 - p. The selection process should include a premedical examination, an interview, plus psychoanalysis and personality testing;
 - q. The selection must be absolutely fair without any favouritism whatsoever;
 - r. One respondent felt that a little more emphasis needs to be given to the academic abilities of candidates.
- ii. Eighteen respondents 33.96% gave no comments, 3 said they had no idea of how selection was done and seven felt that the present procedure was fine.

5.2 TEACHING METHODOLOGY

- i. Twelve respondents gave no comment. Nine felt that the methodology being used was adequate/good. Suggestions by 60.4% (32) are given below:
- ii. *Modifications were suggested in certain aspects of teaching. These were as follows:*
 - a. There is need for a lot of improvement, especially in presentation;
 - b. There is a need for committed teachers "who bother to prepare for lectures and to practice presentation";
 - c. The teaching should not be exam. and marks oriented and should not be hurried;
 - d. Inter-departmental frictions to be reduced as they affect the student adversely;
 - e. Teachers should build their careers as teachers primarily and not as private practitioners.
Persons from the regular stream of health services should not be teachers. The only exception is PSM for which practical field experience is the best criterion to be a teacher;
 - f. "In some departments, we are expected to know everything in the first class itself, which is absurd".
- iii. The respondents understood the term "teaching methodology" in a broader sense and did not confine it only to pedagogy. Suggestions/comments were:
 - a. Several respondents felt that the number of lectures could be reduced;
 - b. It was expressed by many that studying a subject would become easier and more interesting if audiovisual aids are used;

- c. Similarly greater use of practical demonstrations would be useful;
- d. The entire approach should be more practical rather than theoretical - with emphasis on the "practising part of a doctor's work";
- e. Teaching should be problem oriented not disease oriented;
- f. Need for greater coordination between the curricula of the pre, para and clinical sections, eg., "by the time the student sees his first hernia, he has forgotten the anatomy of the inguinal region - as during anatomy he was also preoccupied with the structures under the gluteus maximus and thought they were all equally important";
- g. Combined (integrated) teaching on issues. Anatomy, Physiology and Biochemistry teachers could take joint sessions on a particular topic eg., Respiration. A total interaction of all subjects around patients would help the learning process so much more eg., "if Anatomy, Physiology and the clinical teachers could teach their respective subjects in relation to a ten year old male child with Rheumatic Heart Disease - Mitral Stenosis in congestive heart failure";
- h. Clinical orientation with emphasis on practical management is required especially in the pre and para clinical sections;
- i. There needs to be an orientation of the teachers themselves towards the Primary Health Centre and their problems;
- j. There should be more ward work. Medical students need to learn practical work in the wards like student nurses do;
- k. A useful combination of theory and practicals with greater emphasis on clinics would be helpful;
- l. Instead of being taught to "present cases" only, the stress should be on a coordinated way of assessing the history, the symptoms, findings on examination and the investigations and arriving at an understanding of the logical system involved in arriving at a diagnosis;
- m. Students should spend much more time in the wards from the first year onwards. They should be part of the units and take responsibility for patient care. The present trend is to attend the wards to pass exams. Very few students come to the wards to learn to be good basic doctors;
- n. The teaching should be directed towards:
 - i. what is expected of the graduate at the end of the course;
 - ii. to stimulate and awaken an interest in the course.
- o. More time should be spent in the basic clinical facilities and less in the super-specialities;
- p. Basics should be emphasised;
- q. Common ailments and common problems of India like Hansen's disease and

- Tuberculosis should be given greater importance rather than vague, rare diseases;
- r. During ward work students should be incharge of patients, their treatment and progress and thus develop a “feel for patient management”;
- s. The stress should be on the independent management of common diseases with the use of minimal investigative facilities;
- iv. One respondent felt that it was heartening that the present generation of teachers are able to understand, communicate and guide properly.

5.3 CURRICULUM STRUCTURE/TIME FRAMEWORK/SEMESTER BREAK-UP ETC

- i. Eighteen respondents offered no comments to this question. Nine respondents felt that the present system was adequate. The responses of 49% (26) are given:
- ii. *Suggestions and comments regarding the pre and para clinical phases are as follows:*
 - a. The present semester system in the pre and para-clinical years is too subject oriented and does not appear to be an integrated part of the overall medical education;
 - b. There is no relationship and no interaction between the pre, para and clinical phases. Hence each subject loses its importance and applicability;
 - c. Several respondents mentioned that Anatomy, Physiology and Biochemistry should be allotted a shorter time period than what was being given at present;
 - d. The semester break-up for Anatomy and Physiology should be for 2 semesters only;
 - e. The present time framework of classes for the pre and para clinical subjects can be reduced by atleast one third. This can be used more meaningfully for clinical postings and pathology;
 - f. The entire pre-clinical phase could be reduced to 1 year and taught as an integrated course of Human Biology;
 - g. The pre clinical and clinical subjects can be taught simultaneously to facilitate a better understanding;
 - h. There should be a review of the pre-clinical subjects during the clinical years.
 - i. Theory classes should be for 1 hour and practical classes for 4 hours;
- iii. *A range of alternate forms of curriculum structure were suggested which are as follows:*
 - a. Alternate structure - 1

Anatomy	6 months
Physiology/Biochemistry	6 months

Pharmacology		
Pathology		
Microbiology		1 1/2 years
Forensic Medicine		
Preventive and Social Medicine		
Clinical Subjects		1 1/2 years.

b. Alternate structure - 2

Preclinical subjects		1 year
Paraclinical subjects		1 1/2 years.
Clinical subjects		2 years.

c. Alternate structure - 3

Anatomy, Physiology, Biochemistry		1 year
Nursing procedures, Psychology, Sociology, Management		3 months
Pharmacology, Pathology Microbiology		1 1/2 years
Clinical subjects		the remaining period, but reduce Gynaecology to 3 months and add Psychiatry.

d. Alternate structure - 4

During the first six months:

- Vernacular and English language classes especially medical terminology;
- Introduction to all the topics/subjects which would be covered later;
- Methodology of how to learn, etc.

During the next 4 years:

Integrated, systemwise teaching of Anatomy, Physiology, clinical subjects, etc.

- e. The first MBBS course should be reduced to 1 year. Following this, students should join the clinical side as part of the treating team and be involved in patient management at the lowest rung. They should learn basic nursing skills along with clinical subjects.
- f. One respondent felt that each semester could be of a 6 month duration. All subjects presently taught over 1 1/2 years could be divided into 3 parts. There should be an examination after each semester and also after all the semesters. It should be compulsory to pass all exams.
- g. Another suggestion was that there should not be any time limit for the MBBS course or for subjects. Frequent University exams could be held once in 3-4

months. Students can take the exams at their own pace when they are prepared. They could then spend less time in subjects they are not interested in and more time in areas of their special interest.

- h. Yet another suggestion was that a graded system could be introduced with a 5 year medical course that includes a 1 1/2 year period of internship. Following this, 2 years rural service in India should be made compulsory for all graduates. Post graduation should be made possible after that.

iv. *Suggestions regarding clinical subjects were:*

- a. Final year subjects need to be broken up. Minor subjects (ENT/Ophthalmology/Orthopaedics) should be completed 6 months earlier to reduce the load and increase the importance of major subjects.
- b. The last one or one and a half year of the course should be utilised only for the study of Medicine, Surgery, Obstetrics, Gynaecology and Paediatrics with practical work like an intern.
- c. Greater weightage to Paediatrics, Dermatology and Community Medicine is needed in the curriculum time.
- d. The internship training is a most useful part of the curriculum and should involve a lot of hard work, and practical training.

v. *General suggestions were:*

- a. The teaching should be integrated with teachers from various Departments dealing with their respective fields.
- b. Several felt that the semester system of teaching was good.
- c. The present system "breeds only exam-oriented students". A six monthly semester break up with continuous assessment would be better.

5.4 EXAMINATION SYSTEM

- i. Fourteen respondents gave no comment on the examination system. Twelve (22.6%) felt that the system was adequate out of which three felt that it was good.

- ii. The majority of comments about the examination system were not very complimentary. This aspect of the undergraduate medical course has attracted the most negative comments. However there are also several suggestions. A summary of comments by 49% (26) of the respondents is given, including some in the original language of the respondents to indicate the depth of feeling.

iii. *The comments regarding the present system were:*

- a. The examination system is very subjective, unrealistic and outdated.
- b. There are many prejudiced examiners and the system is often unethical.
- c. Some examiners even come drunk to the examination.
- d. The examiners should be assessed before examining others.

- e. The present system should be banned - there is too much examiner bias.
 - f. The exams are totally irrelevant to actual medical practice, especially in peripheral health centres. For example, the cases given in medicine are mainly those with cardiac-endocrine problems etc., which one hardly comes across in peripheral practice. The cases given in surgery are those that are most often beyond cure. The exams should be more problem oriented regarding common diseases and problems, how one would respond in emergencies, etc.
 - g. The trend of trying to elicit what the student does not know, rather than what he knows should be corrected.
 - h. "We are getting more and more exam oriented, while the exams are getting less and less patient oriented".
 - i. "The percentage of results in some cases are prefixed and the average and little above average are pulled down so as to pass influential students, or those who have given a bribe or those who belong to a particular community".
 - j. "In some colleges, caste and community play an important part. Sanghas of particular groups exist and even Professors and staff belonging to the particular group go for meetings. This plays a role even during the exams".
 - k. The system of marks, awards, rewards was felt to be too individualistic needing reorientation. "There is too much emphasis on marks right from the entrance exam onwards.
All the prizes and awards go to those who do well in exams and the others are discouraged".
 - l. "Final MBBS is a test of nerves more than anything else!. But nerves is what one needs for rural service!".
 - m. "Exams seem to be an indestructible and necessary evil".
 - n. Time limitation plays an important part in exams which does not occur in practice.
- iv. *Suggestions for change included:*
- a. The focus should be to stress whether the student has acquired the necessary knowledge and skill;
 - b. Several respondents felt that a system of continuous assessment should be introduced - a cumulative/monthly honest working system, with assessment in the ward;
 - c. Multiple choice questions to be used for theory exams;
 - d. Long essay type questions should not be given, objective type questions to be used;
 - e. Practicals should be used to assess skills that are absolutely necessary. Clinical practicals should be only problem oriented;
 - f. Instead of being given one long case and two short cases, students could be given 10-15 small cases, each with discussion on some particular points;

- g. Ethical viva exams with greater allotment of marks than for theory were suggested;
 - h. Greater importance to be given to the approach and management of patients rather than primarily to the final diagnosis;
 - i. In general, exams should be problem oriented;
 - j. The practical application of clinical medicine should be tested, rather than only text-book knowledge;
- v. *Suggestions of a more general nature were:*
- a. A uniform examination system should be evolved for the entire country;
 - b. The basic attitude towards the examinee as being "ignorant of all" and the examiner as "knowing all" or as an "almighty" should be broken;
 - c. "The holes through which corruption enters should be sought and removed. There should be a separate movement to stop corruption at exams".

5.5 INTERNSHIP TRAINING

- i. Eleven respondents gave no comments. Two felt that it was adequate and two others that their internship experience was good - excellent. Contributions by the remaining 38 (71.7%) are given below:
- ii. *Suggestions/comments of a general nature regarding internship were:*
 - a. "There should be less of chart care and more of patient care";
 - b. Several respondents felt that the "clerical" aspects of an intern's work eg., copying out orders, writing investigation slips and getting the results, writing discharge summaries should not fill up most of the intern's time. However, there was a mention by one that much depends on the interest taken by the interns in learning also;
 - c. Several respondents mentioned that internship is a very important period of the training, during which confidence is built up, by taking responsibility for patient care and taking decisions regarding the management under the guidance of the PGs/SHOs/staff. These aspects seem to be declining and therefore need strengthening;
 - d. A credit system of marking could be introduced, based on acquisition of practical skills;
 - e. There should be special emphasis and orientation given towards orientation to work in a PHC;
 - f. If what the interns do presently is done during studentship then the interns could be made to take decisions and responsibilities for patient management and be taught various procedures. These skills and attitudes are necessary to be able to work effectively in a rural hospital;

- g. Interns should be trained in all aspects of preventive and curative medicine to run a family practice;
 - h. Interns should acquire basic nursing skills.
- iii. *More specific suggestions regarding the postings to the primary clinical and other departments were:*
- a. There is a need to increase emphasis on the management of common medical and surgical emergencies especially the technical and practical aspects. These have been mentioned in detail under each subject heading. Also to have discussions on decision making in emergencies, eg., when to manage, when to refer etc;
 - b. It is desirable for the Medicine posting to be the first or one of the early postings, though the logistic problems involved in this were appreciated;
 - c. A posting in Dermatology is important and could be part of the Medicine or the Community Medicine posting;
 - d. There should be a posting of longer duration (1 month or 15 days) in the Casualty for atleast 8 hours a day;
 - e. A posting in Orthopaedics is necessary for practical experience for upto 1 month - this could be part of the surgical posting;
 - f. There was a suggestion that urology should also be a part of the major surgical posting;
 - g. Acquiring practical skills in Obstetrics and Gynaecology and those related to family planning, especially management at the levels of peripheral health institutions;
 - h. Compulsory postings in Radiology;
 - i. A posting in Paediatrics;
 - j. In departments like ENT, Ophthalmology and Anaesthesiology, the posting should be atleast a month's duration;
 - k. Posting in Dentistry;
 - l. There should be a posting in Pathology (clinical path. lab. and blood bank);
 - m. Posting in Medical Records Department and Accounts section;
 - n. Sessions/discussions on Medical Ethics to be held, during internship.
- iv. *There were several suggestions, some of them differing from each other, regarding the 3 month rural positing/posting in community health:*
- a. It should be in more than one type of centre so that they can gain a wider sphere of experience;
 - b. This 3 month posting could be organised in established rural peripheral/mission/voluntary sector hospitals. Or else it could be given to the major specialities;

- c. Decrease rural posting to 2 months;
 - d. Increase it to 4 months, but work in rural hospitals;
 - e. Two weeks of this to be spent in dermatology;
 - f. The present postings were considered a waste.
- v. *Regarding postings in super specialities there were differing opinions, viz.,*
- a. All superspeciality electives to be cut out with concentration on the basics;
 - b. There should be one month postings in each super speciality with an increase in the duration of the internship by 1 year;
 - c. A choice of a 2-4 week posting in a super speciality should be the intern's prerogative.
- vi. *Several suggestions were given regarding the duration/alternative structuring of internship postings:*
- a. The postings in Medicine, Surgery, Obstetrics & Gynaecology and Paediatrics are not sufficient for doctors to work independently in the periphery. Besides qualitative changes mentioned above and elsewhere in the report, the duration of the posting could also be increased;
 - b. There was a suggestion that internship could be for two years with four months each in Obstetrics & Gynaecology, Surgery, Medicine, Paediatrics, Dermatology and Orthopaedics;
 - c. The entire medical course could be 6 1/2 years after PUC, with atleast 1 1/2 years spent for internship;
 - d. After 9 months of internship - in the major departments, the doctor could decide/choose which of the following streams they would like to opt for viz.,
 - postgraduation in a clinical speciality;
 - work in a government PHC/post graduation in community medicine;
 - general practice;
 - work in the voluntary sector;
 Depending upon their choice, a 3 month pre-placement or preparatory training could be given.
- vii. A few mentioned that the present duration was adequate and with qualitative changes they could be more prepared for rural work.

5.6 METHODS TO ENHANCE SOCIAL/EMOTIONAL PREPAREDNESS OF GRADUATES FOR WORK IN PHIs

- i. This questions was asked to 43 respondents only, of which seventeen gave no comments.
- ii. The suggestions and comments given by the other 26 (49%) using their own words are were as follows:

- a. There should be plenty of community based experience, "introduce exposure to community life style, during each year of study - and not just in the first year. The concept should sink in well";
- b. Before going to work in the peripheral health institution, there could be an orientation regarding the common problems faced, including those with the administration;
- c. During the first 6 months after internship the young graduate is usually a little insecure and may want to leave or change institutions etc. At this time they could be given reassurance, support etc.
- d. Graduates who have already worked in peripheral health institutions, should share their experience with under-graduates to encourage them to do the same;
- e. Undergraduates during their internship may be posted in rural health centres/ peripheral health institutions;
- g. Throughout the course it should be emphasised that doctors should not give importance to making money alone, but to the service of people, especially those underprivileged who form the majority of the Indian population;
- h. It is better to have some experience during one's under-graduate days and internship of managing cases/working in peripheral hospitals. This is better than just seeing patients in a mobile clinic on an OPD basis;
- i. "Our training is hardly relevant to a village setting. We are left loose to work in villages without basic guidelines about what is the minimum expected of us".
- j. Rural medical work is a trying experience for a single doctor. Teams of 2 or 3 could work together for it to be beneficial;
- k. Could something be done (by the medical college) at the level of the peripheral health institution also to change certain attitudes/approach of the people working there;
- l. A good training in the local language where one is to be posted/basics in all South Indian languages would be very useful for medical work;
- m. A career guidance cell in the medical college would help graduates to make better options and help them to prepare themselves better for village service;
- n. Graduates (opting for work in PHIs) should be encouraged especially during internship to take more responsibility for their patients and to give suggestions for better care "Unnecessary running around should be curtailed as much as possible";
- o. Graduates should be prepared to work under someone who is not always fair, reasonable and understanding. There will be no more spoonfeeding. "You will probably enter a big cruel world and meet many frustrated people";
- p. Rural service should be presented as a challenge that should be enjoyed. "If you dread it, it becomes a horrible burden that can 'break' people";

- q. "A few tips to people opting for work in PHIs:
1. Take a radio/transistor along. It helps to keep contact with the world outside,
 2. Keep in touch with the latest through medical journals";
- r. Just and fair rules, equal for all, should be laid down;
- s. In the peripheral setting a graduate should not try to experiment with anything without the knowledge of the patient by using their illiteracy.

5.7 COMMENTS ON ANY OTHER ASPECTS OF CONTENT, PROCESS, ENVIRONMENT OR BASE OF TEACHING

Most comments have been given in the words of the respondents.

- a. The environment is unhealthy. One is not allowed to think for oneself and grow;
- b. The teacher-student relationship is often lacking;
- c. Most medical colleges are located in cities with western style hostels. During the training, stress is given to a western style of practice with sophisticated lab tests etc., eg., MBBS students talk of blood gas studies, lipid profiles etc., for simple problems.
Therefore "even a student coming from the remotest area of India will become a western oriented, style loving doctor, dreaming of city life with all its luxuries when he finishes
MBBS. So then, how do you think you can send him back to the village, when his aim is for America?"
- d. Greater emphasis should be given right through from the selection process to the internship, to community orientation;
- e. The role of social and political factors to be taken into account in the community orientation;
- f. Special topics to be taken on different religions/scriptures and their positive features regarding health eg., Gita and Health, Koran and Health etc.;
- g. "One uses only a fraction of what one learns in common practice, one also invents/discovers several things not taught. Learning is a continuous process. Medical school is just a start. We cannot be too critical";
- h. Rules are poorly planned, often unfair and not in the best interests of students;
- i. Teachers should be good role models and should establish a good work ethos in the campus;

The Community Health Cell (CHC) is the functional unit of the Society for Community Health Awareness, Research and Action - a registered autonomous Society in Bangalore, Karnataka.

Its aims and objectives include:

- * creating an awareness in the principles and practice of community health and
- * promoting community health action in the voluntary and governmental sector.
- * undertaking research;
- * evolving educational strategies;
- * dialogues with health planners and decision makers and
- * providing information and advisory service.

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Complementary Publications from Medical Education Project:

1. The Project Report
2. The Key to Change
3. Stimulus for Change
4. Faculty Resources Book

"Call it by whatever name, the need is for a new breed of physician, who has a broad understanding of human biology, who is imbued with the ingredients of rural and peri-urban societies and their way of life, who can communicate effectively with the patient's family regarding the nature of the ailment, who can address himself to preventive aspects in the homes, who will be an effective leader of health workers, and who will use his knowledge to stimulate other community building programmes. We need in effect, a social biologist . Mass public health and hospital patient care, however well developed, cannot fill this gap".

—V. Ramalingaswami, 1968