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THREE CHAPTERS FROM A BOOK UNDER PUBLICATION:

DOCTORS FOR THE VILLAGES

by

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Of special relevance to the practical question of what can be done to get doctors into rural work is an evaluation of the impact of present patterns of medical education and the rural internship In the questionnaires, we asked interns their opinions about their preparedness for various types of professional work and estimates of their own professional ability We also asked them to make judgements about the merit of specific activities in the internship, to record the time actually spent on these activities, and to estimate how much they had learned Lastly, we asked how they thought the internship might be improved

Professional Preparedness

Expectations obviously influence evaluation of preparedness, and thus their responses can be judged only in relative terms Rather than attempting to set standard criteria against which judgements would be made, we decided to have each intern score himself against his own expectations of the demands that would be placed on him were he a full-fledged professional This was because we were specially interested in whether their confidence in their own professional competence would effect their willingness to serve in villages From a list of ten items, interns were asked to score on a four-point scale their responses to the question, *"Thus far in your training, how well do you feel that you are prepared for each of the types of professional activities listed below?"*

The interns revealed a general feeling that they did not really feel ready to assume independent professional responsibility (Fig 7 1) The highest mean values were for work in government hospitals and for urban private practice, but even these values were well below the moderately prepared ranking Ranked somewhat lower were rural private practice and primary health centre work Administrative positions in health and hospital services ranked last, after teaching and service in the armed forces

After the rural internship, the greatest improvement in self-confidence expectedly occurred in reference to rural private practice and primary health centre work While this increased confidence is encouraging, considering the purposes of the internship, the mean in both instances still barely reached the midpoint of the scoring scale

The relationship between general attitudes towards rural service and the feeling of preparedness for primary health centre work is strikingly shown in Figure 7 2 At the beginning of the internship, those with greater interest in rural work felt better prepared for primary health centre work than did those who had slight or no interest in rural work The group interested in rural work also registered the maximum increase in feeling of preparedness at the end of the internship The mean score for those not interested recorded no perceptible improvement and remained well below poorly prepared Those having slight interest showed a moderate gain during the internship Interns who were interested in primary health centre work also felt better prepared for government hospital work and rural private practice

Cross-tabulations of preparedness against residential background (Fig 7 3) showed less marked differences than when related to interest in rural service Nevertheless, the residential background is of interest because this variable may be useful as a basis for selecting medical students Interns with a rural background considered themselves substantially better prepared for work in primary health centres than did those with urban backgrounds By contrast, the urban group reported that they were better qualified to engage in urban private practice and private specialty practice Expectations obviously influenced this relationship

Professional Ability

As a further exercise in self-evaluation, interns were asked to give

an estimate of their ability to perform specific functions as compared to their expectations of what a good doctor at their stage of development should be able to do Sixteen functions were listed, and evaluation was again on a four-point scale

The highest score recorded was for their ability to establish good relationships with patients and families, but this may merely reflect a lack of appreciation of the special skills that are really required Also rated close to good were the skills of using simple clinical methods in making a diagnosis, managing the treatment of patients, and suggesting practical means for disease prevention (Fig 7 4) Rated lowest was their opinion about their ability in reference to a cluster of skills related to public health and preventive medicine, such as being able to manage and supervise a primary health centre and to mobilize community participation The lowest score was for their ability to investigate health problems and do research

Interns who were interested in rural work scored themselves higher for items relating to health centre work than did other groups (Fig 7 5) The greatest differences between those interested and those not interested were in their estimates of their ability to manage and supervise a primary health centre and to work with public health auxiliary workers The *before* and *after* questionnaires of all groups showed an increase in confidence in this ability during internship Again, it is evident that the interns with greater interest in primary health centre work seemed to have gained most from the experience

Worthwhileness of Internship

To get some indication of the relationship between expectations and the actual internship experience, we asked the interns at the beginning of their rural rotation to score nineteen activities according to their anticipations of their relative worthwhileness At the conclusion of the internship, they were asked to rescore these activities in terms of how worthwhile they had actually been Generally, most activities were seen as less worthwhile after the internship than had been anticipated at the start This was especially true of "*control of communicable diseases*" and "*inpatient care*," both of which had been looked forward to with considerable expectation On the other hand, the high expectations for "*outpatient care*" were met (Fig 7 6)

As shown in Figure 7 7, clinical care items (e g , *outpatient care, maternal and child health, and family planning clinics)* were considered very worthwhile *Control of communicable diseases* ranked second, even though opinions about the worthwhileness of this activity declined during the internship Community oriented and public health activities were rated lowest (e g , *studying the community development organization, gathering routine data for administrative purposes, and field surveys) Didactic teaching* was ranked very low (a realistic appraisal because very little teaching took place in most of the internships) In spite of all these deficiencies, it must be emphasized that seventeen of the nineteen activities were rated moderately worthwhile or better

In a continuing pattern, interns interest in rural service tended to attach more value to public health and social medicine activities than other groups (Fig 7 8) Furthermore, those interested in rural service showed greater acceptance of such activities as field surveys and time spent in learning about rural life as being useful as a result of the internship experience

Knowledge Gained During Internship

The interns were asked to score on a five-point scale from *"nothing"* to *"very good"* the amount of knowledge they had gained in twelve areas (Fig 7 9) The means for ten of the twelve items fell between *"fair"* and *"good,"* indicating a generally favourable appraisal It was encouraging that the interns reported that their greatest gain in knowledge during their rural internship was an ability to learn from practical experience, ability to establish good relationships with villagers, and an understanding of socio-economic factors in disease These are clearly among the main purposes of rural internship programmes Evidently, the least learning was in methods of research and community surveys, the application of community health measures and the organization of primary health centre activities — again, activities that are also listed among the main purposes of the rural internship, even though they are often largely ignored in day-to-day work

On the whole, those who were slightly interested in rural service said that they had learned more during their internship than either of

the other groups of interns (Fig 7 10) Expectedly, the non-interested group learned the least The group with greatest interest reported almost as much learning as the slightly interested group in knowledge of rural life and ability to establish good village relationships For the items *ability to learn from practical experience, getting along with professional colleagues and auxiliaries, and understanding socio-economic factors in disease*, the mean values for the slightly interested groups were well above the scores of either of the other groups This suggests that learning was greater among those who, while not rejecting the experience, were not as well informed initially as the greatly interested group

By cross-tabulating knowledge gained from the internship against residential background of interns (Fig 7 11), we found that those with a rural background tended to report a somewhat greater gain in knowledge during the internship than either of the other groups This applied even to such items as learning about rural life

Finally, interns were asked to answer the open-ended question, *"How can the rural internship be improved?"* Table 7 1 recorded the frequency of twenty such responses according to sex and interest in rural health centre work The first three items in order of importance were (a) *improved living conditions*, (b) *improved health centre equipment and resources*, (c) *better planning, guidance, organization, and supervision of the internship* Male interns seemed more concerned than females about living conditions This was also true of the fourth ranked issue of monetary benefits, with males showing much more interest in pay than female interns Interns who were greatly interested in rural health centre service emphasized the need for improvement in health centre equipment and resources more definitely than others

Daily Log

Interns were asked to maintain a daily log of their activities so as to provide descriptive information on how they were spending their time Pretesting included having them keep a daily diary, including their subjective reactions to the village experience While these made fascinating reading, the results were impossible to quantify

A very simple daily time record with precoded entries was finally developed which seemed relatively easy to use and gave a simple quantitative record It did require, however, considerable effort from

the interns and from the social scientists who had to see that all forms were completed Data collected during the first year provided a clear pattern of how the interns' time during internship was being allocated It was, therefore, decided to discontinue the administration of daily logs after the first year

To show the range in responses, Table 7 2 presents the data on the six medical colleges and the averages for all colleges It is evident that the biggest problem is that interns were not busy enough to be stimulated, or perhaps conversely they were not stimulated enough to keep busy Almost seventeen hours per day were consumed in personal activities, about five and a half hours a day were spent in professional service, and about one and a half hours per day in direct educational endeavors

Differences between the internship programmes that stand out are the range from almost four hours to 0 1 hours in time spent in curative work, a similar range in preventive work, health education and family studies, all schools were making some effort to provide educational experiences

Supervisor's Check List

Another research instrument which was discontinued after the first year was the Supervisor's Check List Although this represented a theoretically important part of our data gathering, we reluctantly stopped the effort because of resistance from the faculty members responsible They said that it required too much effort and that they had too many interns to do an adequate job of scoring their performances

Some results were gathered during 1963 on 143 interns from five medical colleges which are shown in Figure 7 12

Table 7 1

Measures for Improving Rural Internships Suggested by Male and Female Interns

	Male (N 964)	*Female (N 516)*	*Total (N 1480)*
Improved living conditions	50	37	46
Improved health centre equipment and resources	46	39	44
Better planning, guidance, organization and supervision of internships	34	34	33
Monetary benefits	26	9	20
Improved quality and quantity of health centre personnel	21	17	19
More contacts with the rural areas	17	17	17
Greater independence and more responsibilities	17	14	16
More curative work	13	16	14
Better interpersonal relationships between interns and health centre staff	13	16	14
Decrease duration	15	9	13
Increase duration	11	6	9
Less field work	9	9	9
More seminars, discussions and didactic teaching	7	6	7
More preventive work without clinical bias	5	9	6
Contact with PHC, its administration and function	7	5	6
More preventive work with clinical bias	3	7	5
More field work	4	5	4
Less seminars, discussions and didactic teaching	3	6	4
Less curative work	2	1	2
Miscellaneous	38	28	34

Percentages add up to more than 100% because of multiple suggestions

Fig 7 2

Interns' Estimates of Their Preparedness for Various Professional Activities Compared With Interest in Rural Service

(Before and After Internship)

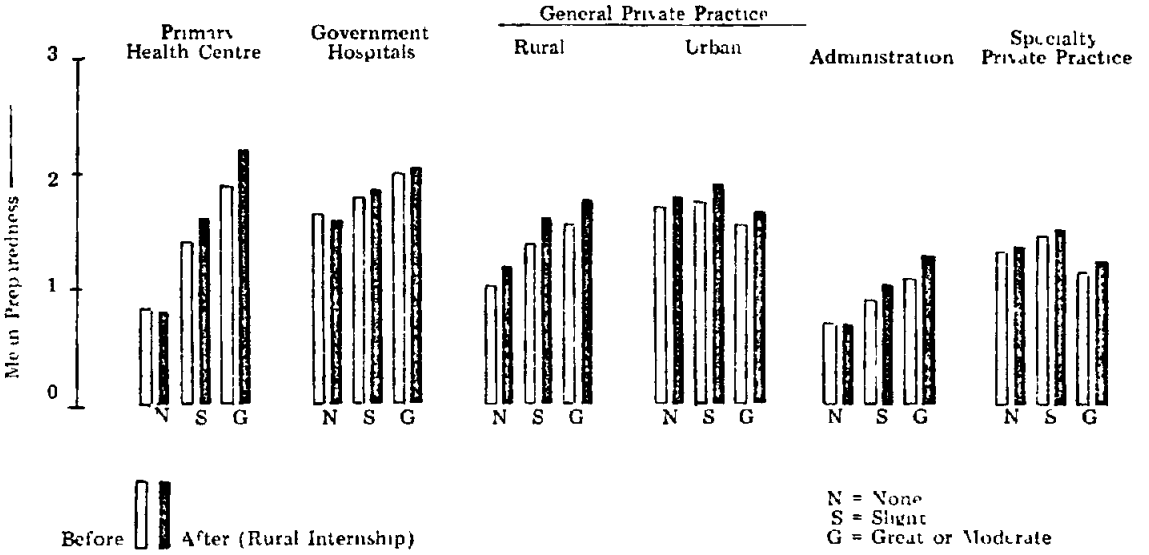


Fig 7 3

Interns' Estimates of Their Preparedness for Various Professional Activities Compared With Residential Background

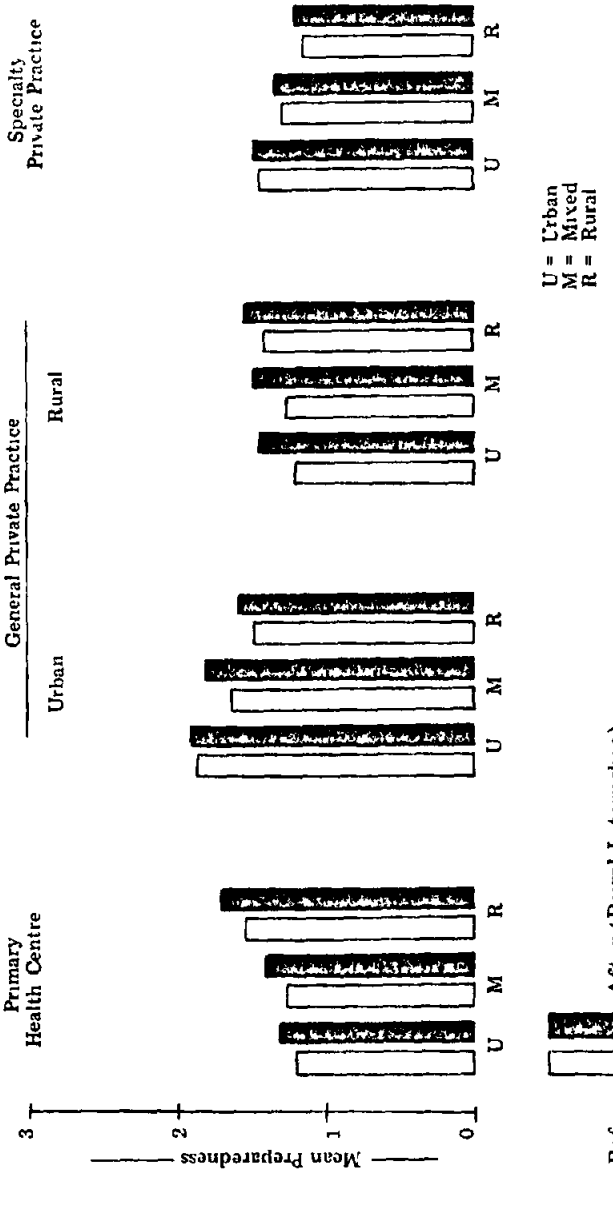


Fig 7 4

Interns' Estimates of Ability to Perform Selected Activities

(After Internship)

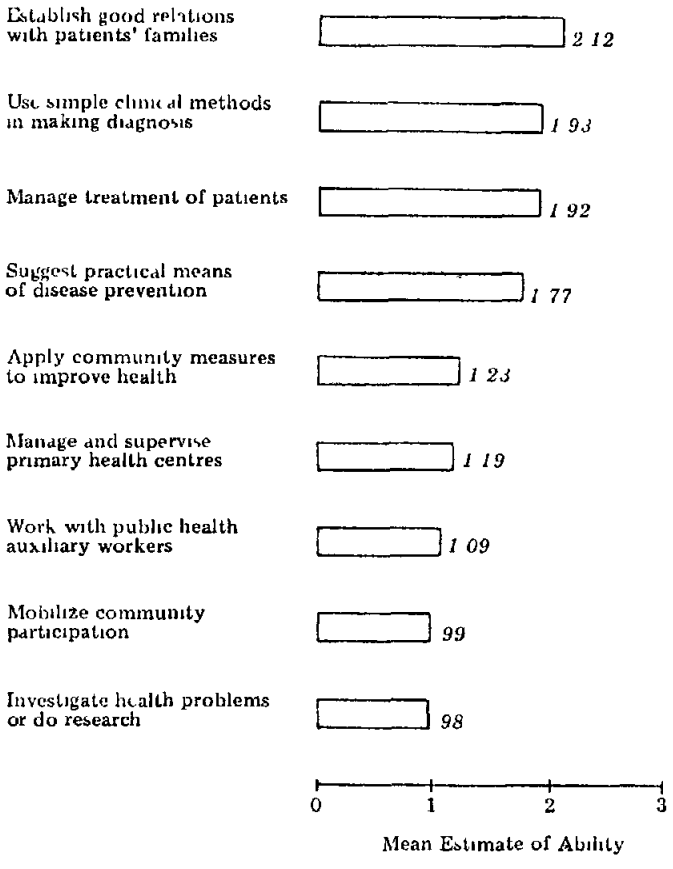


Fig 7 5

Interns' Estimates of Skill in Performing Selected Activities

Compared With Interest in Rural Service

(Before and After Internship)

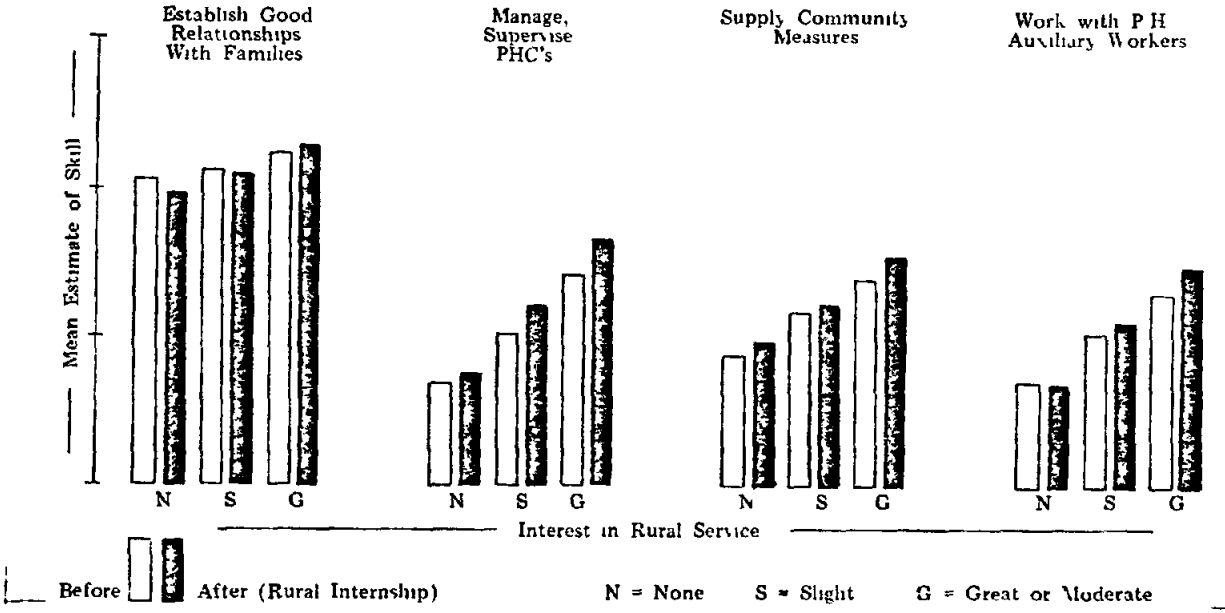


Fig 7 6

Interns' Opinions About Worthwhileness of Selected Activities

(Before and After Internship)

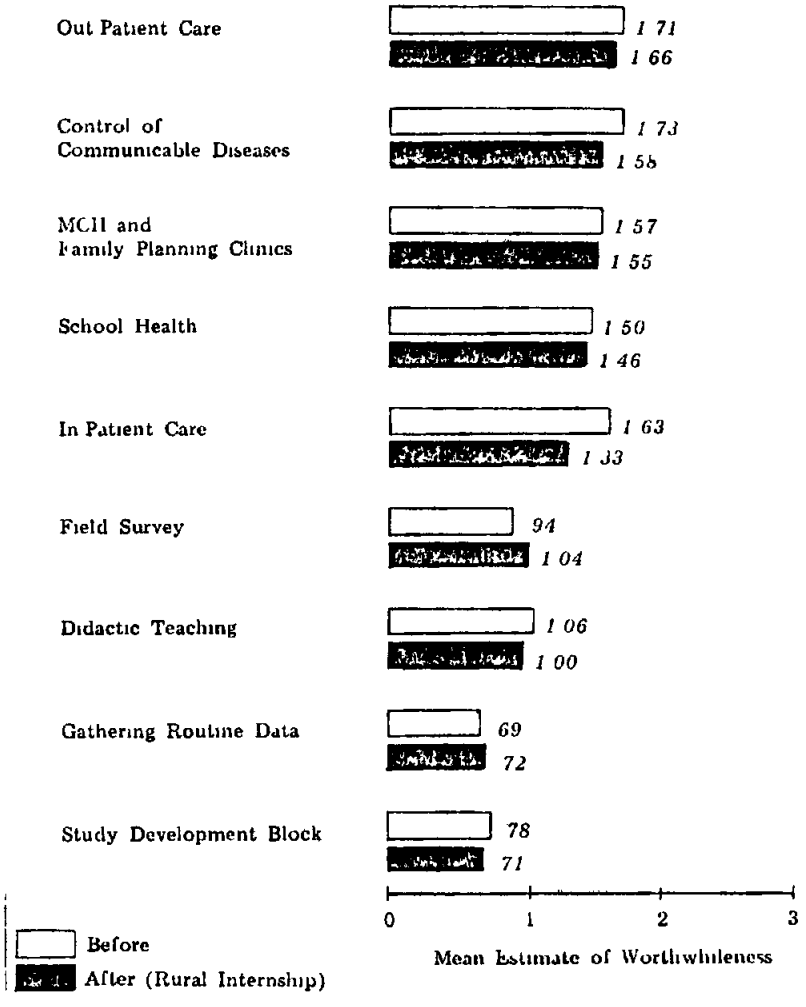


Fig 7 7

Interns' Opinions About Worthwhileness of Selected Activities

(After Internship)

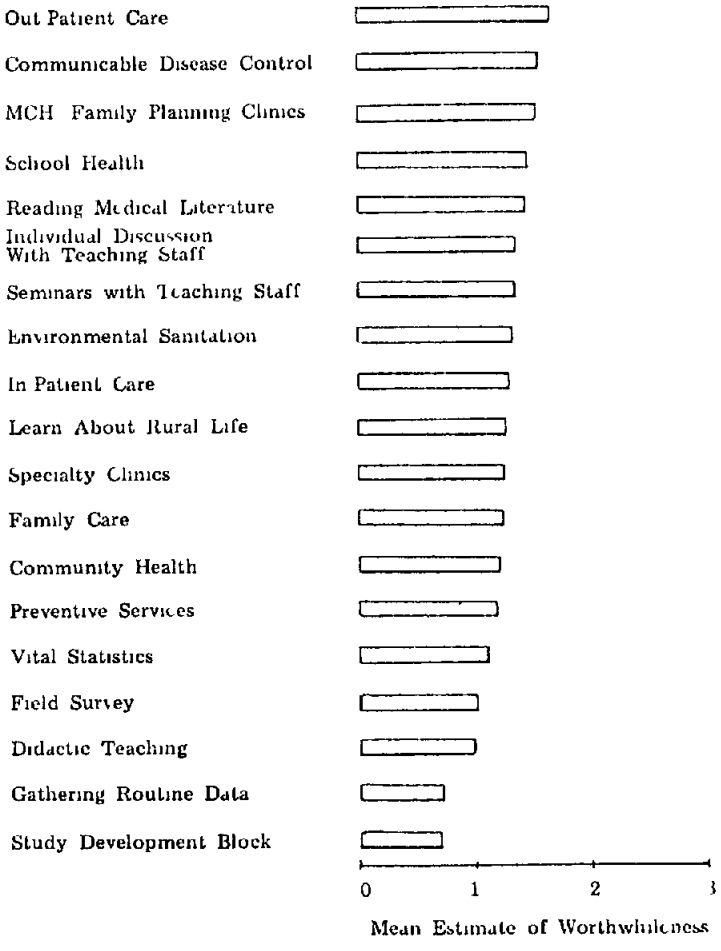


Fig 7 8

Interns' Opinions About Worthwhileness of Selected Activities Compared With Interest in Rural Service

(After Internship)

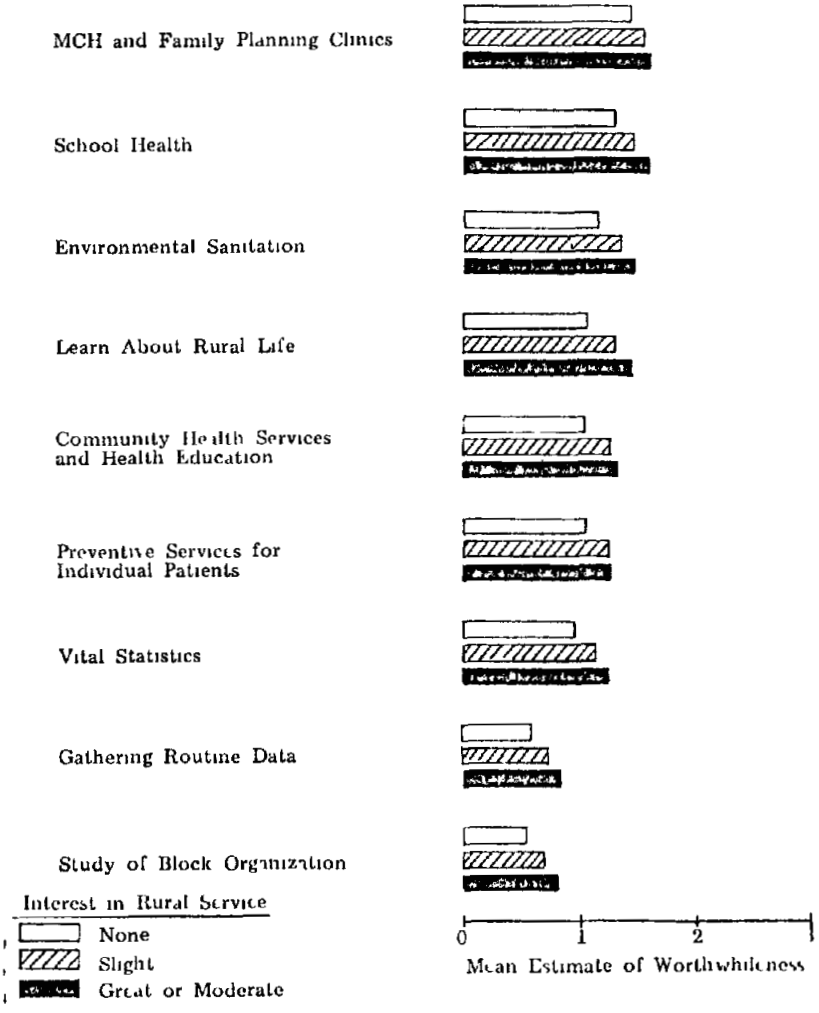


Fig 7 9

Interns' Opinions of What They Learned During Internship

(After Internship)

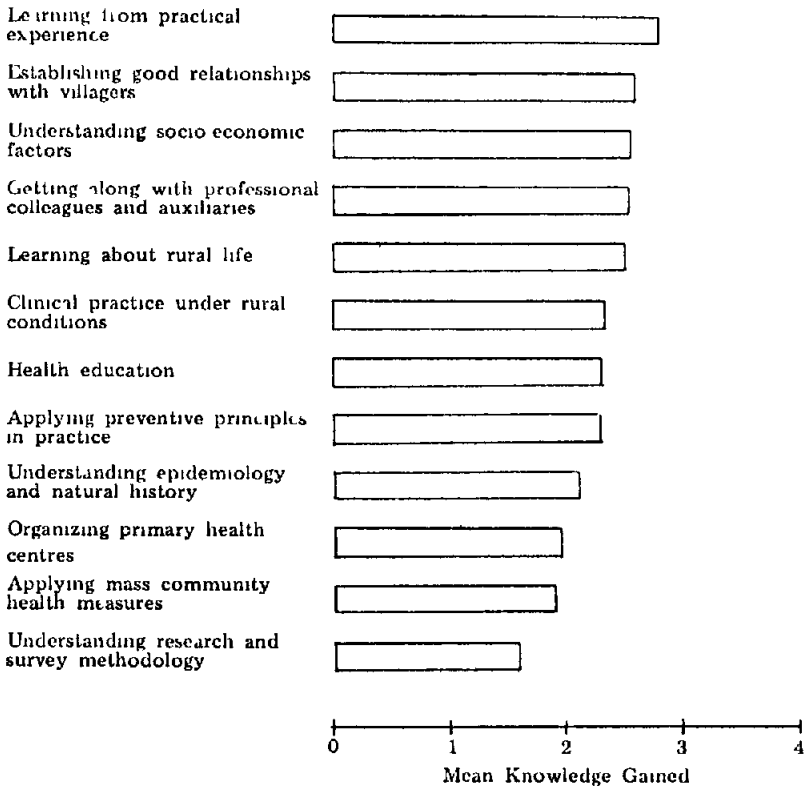


Fig 7 10

Interns' Opinions of What They Learned During Internship Compared With Interest in Rural Service

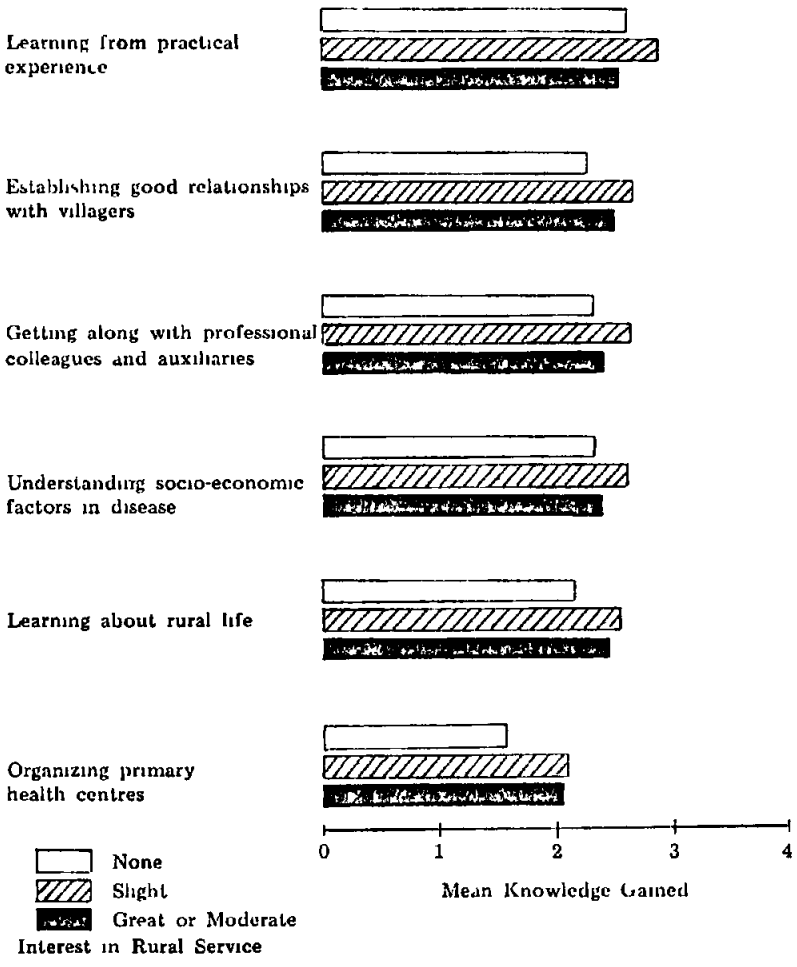


Fig 7 11

Interns' Opinions of What They Learned During Internship Compared With Residential Background

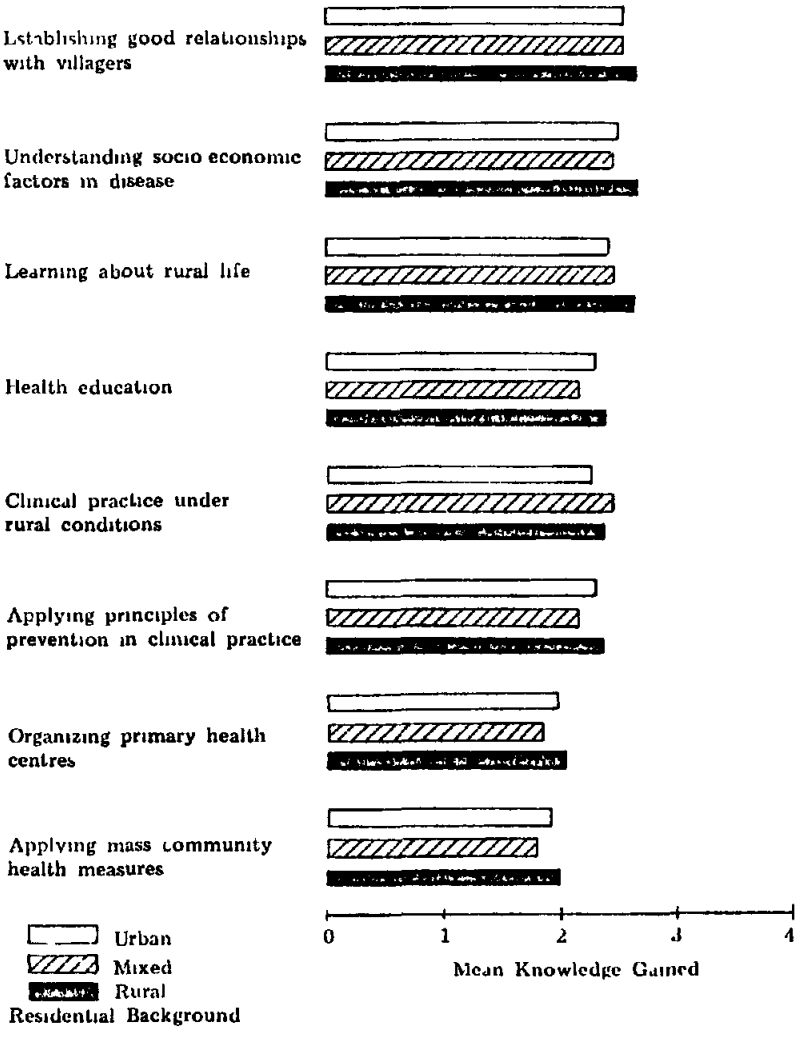
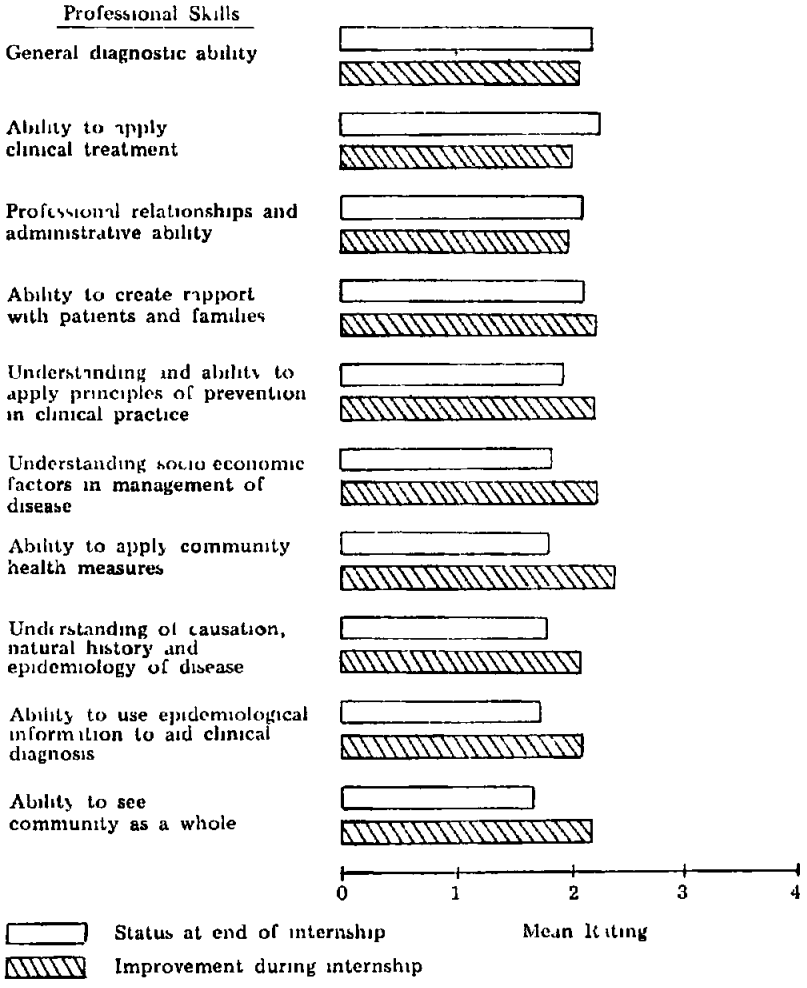


Fig 7 12

Supervisors' Rating of Rural Interns at End of Internship and Improvement During Internship

(1963 Only)



THE NEED FOR A NEW RURAL HEALTH SYSTEM

Through the years, innumerable political speeches have exhorted doctors to go to the villages Socially conscious medical educators have criticized themselves because they have not been able to imbue their graduates with either the orientation or the motivation to serve rural people

Early in this research it became evident that the whole rural health care system is inadequate and at fault, not medical education alone The blame for the lack of health care in villages cannot be placed on doctors alone The deficiencies of doctors, both numerically and in their preparation, are only a part of a more general problem Doctors cannot be effective in rural health centres until these peripheral units are made decent places for doctors to work With the progressive improvement of physical facilities in health centres in some states of India, it is increasingly evident that there are even more serious organizational problems From a continuing series of research projects at Narangwal, we have learned a great deal about what is needed in the reorganization of the rural health system

Basic Elements of the Health Centre Approach

The problems of the rural health system are so fundamental that various partial and piecemeal efforts to reorganize services have obviously not been radical enough The Bhore Committee and subsequent planning groups conceptualized a regionalized comprehensive care system that made good theoretical sense Progressively there has been considerable advance in providing the structure of the system, but

there are major gaps and it has never developed smoothly functioning interrelationships

In the first volume to come out of our Narangwal studies (Takulia et al, 1967), we described the twelve basic elements of the health centre approach, these are summarized in Chapter 1 An all-or-none principle was defined We postulated that it is necessary to reorganize all these elements in order to get the system to function effectively In the past there was too much tinkering in that only two or three elements would be changed at a time One of the most deleterious aspects of the present system is the continuing tendency to carry to the villages the western health care pattern, exemplified by private practice and hospital outpatient services, with the physician functioning only as a solo practitioner

Traditionally, health services tended merely to respond to patients' initiatives as they came seeking health care As the orientation now shifts to include the preventive part of comprehensive care, it becomes increasingly essential that the health services take the initiative This, in turn, requires a clear definition of professionally determined need in the community in addition to just responding to individual patient demand A balance must be maintained with participation of the whole community in planning which leads to local determination of priorities

Mass Needs of Villages Cannot be Met by Doctors Alone

A fundamental reality is that doctors can never meet the mass needs of villages by themselves Doctors will not go to remote villages in sufficient numbers, and it is increasingly evident that the government would not be able to pay all of them if they did go (Alexander 1966) Evidence gathered in our research demonstrates clearly that the expectations of both the medical profession and society generally are such that the physician will probably still be expected to fill the role of leader of the health team Expectations must change, however, to recognize that he should not be required personally to try to provide all primary medical care Furthermore, the analyses show that this trend is probably appropriate in ensuring the best use of physicians' time A whole new orientation and role for the doctor will have to be worked out as the health system is rationalized and this will require major changes in present orientation and preparation

This study showed that young doctors reflect general urban attitudes in ranking highest those clinical specialties that have particular dramatic appeal (Fig 5 1) The order in which clinical specialties were ranked suggests rather clearly that the drama of prompt cure is a dominant factor in social prestige, recognition, and remuneration The ranking, progressively moving downward from surgery to public health, suggests that those preventive and community activities which lead to deferred and less dramatic results have minimal prestige, even though they may in fact produce greater improvement in general health

A similar orientation is reflected in the interns' choices of types of professional activity—with the rank ordering ranging from specialty private practice at the top to primary health centre work at the bottom (Fig 5 2) That this is not related solely to financial remuneration is indicated by the importance accorded to intellectual satisfaction, the factor ranked highest in career choice (Fig 5 7)

The fact that rural service has little appeal as a career is neither a surprise nor an insuperable obstacle Doctors may be willing to go to the villages, but conditions will have to be modified first There seems little reason to expect many doctors to develop missionary motivation But this study has clearly shown that most doctors are willing to serve in rural health centres if basic personal and professional considerations are met Almost equally important, they do not want to be stuck in a rural setting for life (Fig 6 1)

Three observations support the interns' intuitive recognition that the solution does not lie in a massive flow of doctors to the villages The fundamental problem is economic Few villages can afford to pay doctors the remuneration they expect in solo practice of primary medical care Doctors are too expensive, and modern medical care costs too much Nor does it make sense to prepare a highly skilled professional to use sophisticated techniques and equipment and then put him in situations where he does not have access to such expensive facilities

It follows, then, that a health manpower policy that concentrates mainly on producing doctors is inappropriate An unbalanced educational system concentrating mainly on training doctors makes neither political nor economic sense The cost of medical education by itself requires that their numbers should be smaller than the supporting categories of paramedical professionals and auxiliaries Many developing countries have, however, rushed into unbalanced

production of doctors, partly because doctor-population ratios have become prestigious, international indicators of a developed health system Recent pressures to open more medical colleges also show that many families want to expand medical education to provide career opportunities for their children The resulting distortions produce a manpower profile shaped like an hourglass rather than a pyramid, with only a few health workers supporting the doctors and a large number of indigenous health practitioners working independently in the villages Rational manpower planning requires a truly pyramidal balance between doctors and auxiliaries to get the most cost-effective manpower mix

Finally, we observe that efforts to provide all medical care by doctors does not necessarily result in the best health care Auxiliaries, trained specifically to do particular routine jobs, seem better able to produce a consistent quality of work than the more broadly prepared doctors This is especially true in situations where auxiliaries are closer to the people and can, because of this, apply prompt care which can offset further progression and complications The auxiliary learns a routine and tends to be satisfied to carry it out A doctor forced into a position where he is performing only rather simple routine tasks quickly becomes bored, dissatisfied, and ineffectual

The fact is that primary medical care tends to be monotonous because common illnesses are readily cared for by routine procedures Doctors in solo practice tend to fall quickly into what Osler called "penny in the slot" patterns of practice, with a statement of a chief complaint eliciting a reflexive prescriptive response One director of health services told one of us that a PHC doctor had been commended officially because he was seeing 700 patients in a morning Detailed work studies of more typical health centres indicate time allocation of an average of one to two minutes per patient Even with this ridiculously high work output, the doctor can only serve fewer than 5,000 people living within a few miles of his health centre, rather than a whole community development block of more than 80,000 people

A heavy load of curative work has emerged, then, as a primary obstacle to the effective provision of comprehensive care As long as doctors are overloaded as they try unsuccessfully to meet the mass demand for care of simple illnesses, there is little chance that they will effectively organize a health team to provide an appropriate balance of preventive work Because of archaic traditions that make

clinical care the particular preserve of doctors, preventive work has been delegated to auxiliaries, with the subtle implication that preventive services are relatively unimportant and simple There is also an implication that if preventive services are improperly done there will be less potential for doing harm than with curative work

In our continuing rural health research (Taylor and Takulia 1971, Taylor 1970), we have tried to get away from professional stereotypes and develop a more rational definition of the doctor's role We have attempted to reallocate functions in the health team on the basis of careful evaluation of the skills and competence required to perform specific activities The principle is that all functions that can be easily routinized should be assigned to appropriately trained auxiliaries or paramedical workers Only tasks requiring broad understanding, the judgement to make complicated decisions, or complex skills should be referred to doctors We found that ninety percent of primary medical care was, in fact, easily routinized and simply treated, while the other ten percent can consume as much time and money as can be made available Auxiliaries can be trained to diagnose common conditions on the basis of symptoms and simple findings Then, clear instructions for prevention and treatment can be built into standing orders (Uberoi et al 1974)

Furthermore, simple routines for referral to a physician can be based on well defined findings or the patient's failure to respond to standard treatment in a specified time The screening function is a relatively straightforward skill which can be taught In fact, too much medical knowledge is likely to interfere with efficiency in this kind of routine task because knowledge of all the alternatives is distracting

The more sophisticated a community becomes, the more they can learn to take care of routine problems themselves Oftentimes health centres in developing countries are crowded partly because people are still sorting out the relative value of various systems of medicine Because they are still not sure what scientific modern medicine will cure most readily, they bring all their minor complaints for diagnosis

For referral procedures to function efficiently, an information system should be set up to record unfortunate sequelae If they become recognizably frequent, they can be identified as having special priority, and special referral routines can then be established Since such special routines must be sharply limited to the highest priority

problems, the guiding principle in keeping the standing orders simple must be the general public health dictum that the objective is adequate care for all rather than unlimited care for a select few

Preventive routines also may be either routine or complex Some mass preventive measures can be almost mechanistic—for example, spraying for malaria, routine weighing in nutrition surveys, doing immunizations, or conducting environmental control procedures The types of preventive services that require changes in personal living habits and those that involve community diagnosis and measures to introduce social change, however, have as much variety, uncertainty, and intellectual challenge as the ten percent of clinical cases which need referral for specialized care During a home visit, for instance, considerable social and scientific sophistication may be needed to work out the dynamics of changing personal living habits How can one routinize the greatest mass need of all in India, which is to standardize the motivational approaches that will convince parents to practice family planning? These skills require sociological, psychological, and community training for all members of the health team

To have auxiliaries distributed in subcentres throughout the health centre area, is also the only way that medical services can be made geographically accessible to all the villages of a community development block Women and children do not have the mobility of men who can get on a bicycle and travel to a health centre several miles away Coverage should be increased by ensuring that a subcentre is within a mile or two of every village family, and that the auxiliary staff there can provide comprehensive primary care

The realities of the rural health situation require an inversion of present roles in the health team Instead of doctors providing curative care and auxiliaries doing the preventive work, the delegation of responsibility for both curative and preventive services should be based only on whether safe routines can be established Doctors can function effectively as leaders of health centre teams only if they are relieved of responsibility for the ninety percent of curative care that deals with common and uncomplicated illnesses in a system that provides screening for the more serious conditions There must be a concurrent reorganization of medical education and the training of other members of the health team Even more fundamentally, the

whole system of values must be changed to revise medical ethics to accept these changed roles

Role Definitions in the Health Team

Two divergent points of view need to be placed in perspective in the current crisis of medical care in most countries of the world They are the contrasting scientifically based professional view of doctors and the public's view of what happens to them when they are sick

Doctors increasingly consider the traditional public image of the family doctor to be mostly a sentimental nostalgia for a pattern of service which is increasingly difficult to achieve in the modern world, and essentially impossible in poor countries It is well to remember that the memory of the family physician is cherished by the limited public in most of the world who really had access to general practitioners The present trend among affluent groups is to reestablish family medicine by raising it to the status of a specialty The content of medical knowledge and the range of medical skills is too great to be handled by any one person Specialization is growing because doctors feel that it is necessary for them to focus their learning and skills fairly narrowly in order to have the personal satisfaction that is derived from competent performance Doctors generally feel obliged to handle common problems with a thoroughness that will take into account rare possibilities in differential diagnosis and complications, and only the affluent can pay for this service

In today's trend toward specialization, then, the growing problem is for patients to find primary care physicians with sufficient generalist understanding to keep the whole range of their health needs in perspective and to help the patient find his way among the maze of specialists A good specialist can usually diagnose elusive and complicated medical problems in a shorter time and with more precision than a general practitioner—provided, of course, that the patient gets to the right specialist In the meantime, however, the patient usually suffers the hazards of progressing disease and the cost and personal danger of inappropriate diagnostic and therapeutic measures

The public, nevertheless, continues to be concerned with matters which have been ignored in the scientific era of medical progress They

want a doctor patient relationship that includes hand-holding and time spent in explanation These qualities provide a basis for confidence, patients feel the need for someone who cares, someone to whom they can turn over the worries associated with ill health

For most of the people of the world, there seems to be no way in which the combined functions of applying the best of medical wisdom and technical skills on the one hand, and human caring and emotional support on the other, can be built into a one-to-one continuing human relationship with a single family doctor Even the most affluent are having trouble gaining access to such care To apply the best expertise within reasonable constraints of efficiency and economy, we are having to turn to organization of multiple skills within a system People are not used to personalizing a system sufficiently to develop real confidence in and affection for it We must, however, learn to approximate the ideal in a way that provides more equalization of access to services People want to know that their needs have, at least, been taken into account

An effective health system, then, requires two components First, the primary care contact should be the point at which the continuing human support relationship needs most to be developed This is where kindness and caring must be evident in a personalized relationship with an individual who is readily accessible With such a person to do the interpreting, it will then be easier to encourage the impression, and hopefully the reality, of caring in the whole system The second characteristic of an ideal system requires the development of mechanisms so that the technical needs of patients will be cared for by the person who can best and most efficiently and economically apply appropriate specialized skills and understanding in diagnosis, therapy, and prevention Such a system requires a good screening procedure and easily accessible referral

To allocate responsibilities rationally, it would seem best to enlist for the primary care contact persons who have come from a social and educational level relatively close to the community they serve Unfortunately, this seems to imply that more affluent, educated groups will have access to more highly trained family doctors, while poor and uneducated groups will have to be satisfied with someone closer to their own group who will probably be an auxiliary This arrangement seems realistic, though, in improving care patterns because it is well known that professionals who are socially distant from the communities they serve have trouble in bridging the wide interpersonal gap

Such professionals can, however, bring prestige and support to an auxiliary On the other hand, it is also important that the primary care person should immediately command respect in the community, and this requires a readily recognized level of special preparation and a widely supported process of building up the distinctive image of the health care auxiliary

When a highly trained professional has to perform routine and boring tasks in mass primary care, his only recompense for the lack of intellectual challenge will be some other direct reward For instance, a doctor will attend faithfully to the care of normal colds, Monday morning headaches, and smoker's cough only if he is paid well, if his patient is politically powerful or socially prestigious, if he happens to be unusually charitable, or if he just cannot find any other way to make a living A doctor with an affluent private practice of simple illnesses may rationalize his contribution by stressing the need for considering abstruse possibilities in making a differential diagnosis in order to add a few percentage points of better care for important patients, or he might get his gratification from the contribution he occasionally makes by encouraging personal preventive measures such as stopping smoking

By contrast, if the lack of prestige can be overcome, with changed role expectations, motivation and training, many doctors could find the role of being a community physician challenging and attractive They can work through a team of auxiliaries to reach large populations and can learn to cope with complex community problems In an increasing number of countries, even those which have been considered affluent, economic constraints are forcing the new approach to mass comprehensive care based on paramedical or auxiliary workers

To make the system run efficiently, attention must also be paid to the logistics of transport and communication Records must move with the patient, both centripetally and centrifugally, as he is referred to appropriate specialists and then returns home Both at the periphery and centrally in the regionalized system, each stage needs the benefit of a summary of what others have learned and prescribed But at each stage, responsibility should move with the referral

Perhaps most important for maintaining the service tone in such a system is routine but not regular (in the sense of being expected) visits by trained supervisors to support auxiliary workers This supervision must be educational rather than punitive If an effective career ladder

within the system has been developed, one feature in the selection of those who will move up should be the opinion of field supervisors This selection, then, would go beyond academic performance A specific characteristic found in the good professional is the ability to balance alternatives in complex judgements To maintain a quality of caring throughout the system, the selection process should also ensure consideration of community reactions and an opportunity to reflect their feelings about whether the individual being considered for employment or advancement is one to whom they would like to go for health care

It is evident that doctors need special preparation to manage a health team While the general idea of integration has been widely accepted for some time, all that has been done practically has been to throw traditionally trained doctors into a village setting with the exhortation that they be team leaders Comprehensive community care includes some of the more complex arts in the practice of medicine Rather than expecting the recent medical graduate to solve such problems without guidance, the management problems require concentrated research attention The findings that come out of research must then become a part of medical training

It is the professors who should go to the field to develop the new health system, rather than hiding in the protective security of teaching hospitals Clinical professors are especially needed because they, presumably, can separate out the core of what is absolutely essential from ritualistic fringe activities in medical care They should also be better able to apply cost-benefit judgements in developing routines of simple care to meet the mass needs A better balance should be achieved between field research on practical problems and the general tendency to do increasingly sophisticated and expensive studies on rare diseases

Comprehensive care packages of service must be designed to integrate activities When a mass campaign is developed for malaria, it remains efficient only as long as a particular pattern of coverage with DDT spraying is maintained for a large number of people When malaria programmes reach the maintainance phase, they must be integrated with basic health services, even though this is difficult It has proved inefficient to send health workers to villages to do only one task and then have several different types of workers trying to make home visits The new comprehensive care package can be designed to

get maximum trade-offs between those activities that will be synergistic Our other projects at Narangwal have shown that services can be designed in field research to produce simple service packages for women's services, child care and family planning which are appropriate for replication and mass implementation There is need for field research on the whole comprehensive care package

Political considerations are increasingly requiring a more uniform distribution of health manpower over the total population This is a direct move away from the focussing which results from the attraction of urban centres for doctors A phased approach seems necessary during an interim period One compromise has been to draw intensive coverage circles for limited populations immediately around health centres and subcentres The full package of comprehensive care is provided only in the intensive area, while people can come on their own initiative from the wider areas

Simple but extremely important geographical limitations control the coverage that can be expected from one subcentre A common mistake is to try to get health auxiliaries to cover too large a population In our functional analysis of health centres (Reinke et al, 1974), we found that in Mysore, where auxiliary nurse-midwives were expected to cover 10,000 population, they spent forty-five percent of their time just walking from home to home In the Punjab, with the same general coverage of a subcentre population, ANM's were only required to do home visiting in an intensive area of 3,000 population, here they only spent twenty-three percent of their time in travel Local transport arrangements and distance between population units will influence the balance between work and travel But in general it seems reasonable to have more multipurpose auxiliaries travelling shorter distances, even if this means spending the same amount of money to hire workers who are less qualified in their training To develop maximum coverage within constraints of cost, such minimally trained auxiliary personnel may have to focus their activities on the most limited and simple components of the service package Having several single-purpose workers obviously multiplies travel time Since people tend to be more expensive than improved transportation, greater use should also be made of simple technology, such as bicyles

Perhaps the greatest reduction of cost in the functional redistribution of roles in the health team will come from moving responsibilities back into the community Many of the acute and common illnesses

which overload the present health centres can readily be cared for in the family Self-treatment or maternal treatment of minor complaints can be increased through health education For instance, most of the severe morbidity from the massive prevalence of diarrheas among children could be readily prevented by early oral fluid replacement therapy If packages of the appropriate salts to be mixed with water, with clear instructions for their use were available in all village homes, the need for much time-consuming medical care for rehydration would be greatly reduced

The Highest Priority - Family Planning and MCH

The greatest health problem in India is rapid population growth The unfavourable effects on the physical, emotional and social well-being of individuals, families and communities have been well documented (WHO 1970) As with other mass health problems of high priority, early stages of program development may be amenable to a mass campaign approach In India, such approaches have thus far dominated the family planning effort, with sterilization camps having received the greatest publicity

Indian policy has, however, moved toward recognition of the need for the long, slow effort of building continuing local services that integrate health and family planning Family planning and health have a two-way interaction Not only is family planning a principal means of improving maternal and child health, but maternal and child health also greatly strengthens family planning

Up to an as yet undefined threshold of socio-economic development, health motivations are probably more important in gaining consistent practice of family planning than other factors such as education, economics, and the status of women Among the health motivations for family planning, the most clearly identified are those that relate to maternal health The success of post-partum programs is a clear indication of the readiness with which women accept family planning when it is provided in the context of maternal care

A presumably important but little understood relationship is the effect of child health and survival on family planning motivation The common sense notion, which has yet to be scientifically demonstrated, is that it is unrealistic to expect parents to stop having children until they have some assurance that those they already have are going to

survive (Omran 1971; Taylor 1965, Taylor and Hall 1967, Taylor et al 1974) This child survival hypothesis presumably is subconscious and conditioned by expectations that are developed during an individual's own early experiences If one's siblings and friends died early, then there is a built-in subconscious feeling that extra children are needed to end up with the desired number When children's survival is assured, it would presumably take at least one generation for these expectations to shift The integration of family planning with child care could set up conditions for reducing this lag period (Taylor and Takulia 1971)

In addition to mortality expectations, there is perhaps an even stronger effect of morbidity (Taylor 1970) Illnesses of children seem to influence family planning motivation, and our research at Narangwal suggests that the care of certain illnesses, such as marasmus, have more impact than general medical care in demonstrating the availability and effectiveness of child care

At Narangwal since 1966, a major research project has been defining the relative impact on family planning utilization of various modules of health service input (Taylor and Takulia 1971) We have shown that it is possible to develop an integrated village-based service using family health workers to provide ninety percent of medical care, as well as nutrition, immunization, pre- and post-natal care, and family planning For deliveries, we have learned that it is best to support the dai *(indigenous midwife)* rather than trying to replace her There are several key elements in making such a service module work First, there should be weekly supportive supervisory visits by a family health supervisor and separately by a doctor to see referred patients and to help with community diagnosis There should also be one-day training sessions every other week when all auxiliaries are brought into the centre for intensive sharing of experiences and working out new solutions Furthermore, there needs to be adequate logistic support The family health worker should have access to medicine and procedures that really work, rather than being left in a poor competitive position with indigenous practitioners who preferentially search out the strongest western medicines Perhaps most important, there must be standing orders and operating manuals that are clear and practical

Built into the health care routines are a series of "entry points" for family planning These include those points in the reproductive cycle when parents are most ready to talk about family planning

Willingness of Doctors to Work in New Health System

Perhaps the greatest contribution of this study is the optimistic finding that these doctors reported that they were ready to go to the villages if better professional and personal conditions of service were provided (Fig 6 1) The motivations of these young medical graduates seem sincere, realistic and relatively humanitarian They rate professional blocks to rural service of greater importance than personal considerations (Fig 6 7) It is worth noting that the problems that bother them most are ones which can be corrected

At the top of the list in all geographical areas was concern about the lack of drugs and supplies The only reason given for the remarkably frugal practice of providing a bare minimum of drugs and supplies to health centres is the fear that they will be sold for personal profit This argument is not valid economically A total investment of lakhs of rupees *(100,000 rupees)* in the health centre and its staff is essentially cancelled out just in order to prevent the possible waste of a few thousand rupees which might be lost in black market drugs Surely administrators can find better ways of controlling drug inventories than by emasculating the whole service One alternative would be to encourage panchayats *(village councils)* to put up money raised from the village people to pay for the drugs in health centres and subcentres Villagers are usually more ready to pay for drugs than for any other item Then, if this is clearly identified as their own money, highly effective local controls will develop automatically, since villagers do not take kindly to anyone wasting their money as distinguished from what they view as being the Government's money Experimentation is needed to develop health insurance mechanisms to distribute costs of local services to the consumers

The next three professional obstacles to recruiting doctors to village service relate to the difficulties rural doctors experience in maintaining their professional competence Particularly important is lack of opportunity for professional advancement This was also frequently expressed in the concern that once they got out in a village, everyone and especially their superiors and medical teachers would tend to forget about them Then, ranked almost as highly are concerns about the lack of opportunities for postgraduate education, poor access to libraries and reference materials, and scarce opportunities for consultation These are reasonable concerns with readily available and effective solutions

Among the alternative solutions, the most desirable would be to develop a regionalized relationship in which medical colleges reach out to the health centres If medical college faculties were to develop an interest in or perhaps to take responsibility for the primary health centres in districts around them, they could keep in touch in a number of practical ways These might include periodic seminars and refresher courses at the medical colleges Even if a PHC doctor were visited only twice a year, it would do a great deal for his morale Medical college libraries could circulate information and literature through many different technical media More elaborate possibilities include innovations such as a radio network

Another major but relatively simple administrative device would be to ensure rotation out of a village assignment to compensate for the intern's fear that he will "get stuck in the village for life " Many young doctors say they would put in a period of service in villages at an early stage of their careers, before they have school-age children Village service should be made a prerequisite to any kind of professional advancement, whether it be post-graduate training, advancement in government service, or a foreign fellowship Two years of service by all medical college graduates would staff every health centre in India

A final point needs to be made about the recognition and prestige accorded to village service The medical social structure clearly puts health centre service and preventive work at a low level, of virtual untouchability The real excitement and challenge of community medicine can and should be built into the career expectations of doctors and of society at large Symbols may be important, such as an annual award to the best PHC doctor in a state or a district The fact that low salary ranked eighth among the obstacles to rural service shows that doctors' motivations are not purely materialistic Adequate rural allowances would, of course, be an important way to show that the special contributions of rural doctors were being recognized Another simple device would be to make sure that at least one village doctor is asked to present a paper at each medical conference Similarly, they could be encouraged to publish in medical journals Occasional articles in newspapers and magazines about a particularly effective health centre team would influence favourable public recognition

Comparative Studies of Rural Orientation

The problems discussed in this book are, of course, not unique in India They are universal, and the more affluent countries have much to learn from those countries where limited resources require more efficient use Our studies in other developing countries, using research methods developed in Narangwal, have revealed many similarities

A health manpower study of Turkey provided an opportunity to adapt the battery of tests developed in India Four groups of doctors in rural service for varying lengths of time were compared with a control group of residents in Ankara hospitals In addition, fifty-eight doctors were tested as they began their government assignments in rural health centres in Eastern Anatolia and again one year later Detailed data are reported in a separate volume (Taylor et al 1968) Some conclusions that we reached were

1 All doctors in rural service differed from hospital residents in showing greater interest in general practice, public health, rural work, and village people That this was not merely due to self-selection was shown by the fact that a distinct shift toward the above parameters occurred during the year of rural service
2 The Turkish doctors' frank evaluation of the problems of rural service replicate remarkably the findings in India Ranked highest as unfavourable factors were inadequate medicine and supplies, supervision by non-medical persons, lack of professional meetings and stimulating professional contacts, unqualified assistant staff, and lack of educational facilities for physician's children
3 The ranking of the relative importance of various health centre functions showed the irrelevance of current medical education Greatest importance was attached to serving as leaders of the health team and working with health unit staff, preventive services, and community studies—all neglected subjects in medical education
4 Groups with the least acquaintance with villages showed polar reactions to questions about their attitudes to villagers, including both unfavourable and favourable responses, while doctors who had worked in villages had more casual and realistic opinions

A similar comparative study was carried out in Iran by Mehta (1969) In addition to using an adaptation of the same battery of tests on three groups of rural health centre doctors, this study also included groups of hospital residents in Teheran, final-year medical students, and first-year medical students Again, responses showed similar patterns

1 First-year medical students idealized the prospects of rural service, while final-year students showed a more practical approach
2 Doctors serving in rural areas ranked the problems in village service with remarkable uniformity lack of opportunity for postgraduate education, inadequate drugs, supplies, and equipment, lack of educational facilities for children, lack of medical meetings, no libraries, no outside consultants, and inadequate transportation and housing Not enough pay ranked twenty-fourth out of the twenty-seven items listed
3 Responses to conditions under which rural service would be considered acceptable showed a strong preference for a required rural rotation of all doctors
4 One group, the health corps, received preparatory and inservice training The favourable effects showed up clearly in their orientation This was especially true of preventive and public health measures and the mobilization of community action
5 Reasonable motivations for service and altruistic attitudes characterized the responses of most groups Students and hospital residents tended toward polarized viewpoints, emphasizing both positive and negative characteristics of villagers, while rural practitioners tended to have more neutral feelings

Summary

A new pattern of health care is evolving which promises to meet in a more adequate way the needs of the people, while still providing a reasonable basis of gratification and satisfaction for health workers The service must be regionalized in the sense of having mutually strengthening linkages between all levels of the health care system The team concept is central, and a totally new approach is necessary for

reallocating roles In particular, routine medical care must be turned over to auxiliaries to permit professionals to concentrate on the more complex problems, especially those involving community diagnosis and therapy Young doctors are reasonable in recognizing their responsibility to provide comprehensive village care if it can be done as a rural rotation early in their medical careers But such rules should apply uniformly to everyone Presumably this will lead to more effective selection of those few who will choose rural and family medicine as a specialty and will move to positions of leadership in improving rural services

A NEW PATTERN OF RURAL MEDICAL EDUCATION

The health system can be changed only if the orientation of the people who make up the system is changed

Medical education in India is still too much a replica of British medical education of fifty years ago Most systems of medical education around the world share the same problems, although there have been significant efforts at reform in the past twenty years In India, modifications have consisted principally of adding new course material, often without sufficient cutting of lower priority material to make room in the curriculum Much of the specialized information now included is useful only to clinical specialists in particular fields It is almost inevitable that when specialists do most of the teaching, they will emphasize what they know best

The crowded curriculum has jeopardized preliminary efforts in the last twenty years to introduce a community orientation Curriculum congestion also causes a rigidification of both content and methods of teaching Students have no time for anything but rote, didactic learning to pass the examination hurdles The situation has been sharply aggravated by a massive expansion in both numbers of colleges and sizes of classes Overwhelming shortages of qualified teachers and adequate facilities created concerns about quality control which led to an unhappy fixation of inflexible patterns in the mass production of doctors

In the medical profession generally, a serious decline in the spirit of scientific enquiry, a lack of innovative sharing of wisdom and experience to new generations of doctors, and especially a diminishing evidence of a sincere and dedicated concern for service have been noted in many speeches by medical leaders over recent years That these

concerns are shared by the public is indicated by numerous letters to newspaper editors There has been a growing awareness that the present trends must be reversed The real leaders of medical education and health services have been making slow but steady progress in finding solutions, rather than just joining in the recriminations

India has been caught in an acute manifestation of a manpower planning crisis that we have referred to elsewhere as "The Qualitative-Quantitative Dilemma" (Taylor et al 1968) Under the British Raj, the emphasis was to limit the coverage of health services to a select few but to maintain high quality The masses of village people were largely ignored With independence, the greater concern for common people demanded a sharp shift in policy As in all democratic political structures, there is an egalitarian compulsion to distribute services rather than restrict them to the elite The votes are in the villages, and politicians found it useful to make speeches promising free medical care Political realities then made it necessary for India to sacrifice quality in a rapid expansion to obtain quantitative coverage The phenomenal speed with which the country was covered with primary health centres is a truly remarkable achievement

Doctors have always been the obvious symbols of health care An exaggerated mystique implies that increasing the number of doctors will automatically lead to better health Political compulsions led to crash efforts to satiate rapidly the demand for doctors It is, however, not easy to turn off a manpower production flow, and an increasing number of Indian states now face the impending dilemma of over-producing doctors—in the limited sense that money is not available to absorb them into organized government services Since the scope for lucrative private practice is not inexhaustible, an increasing proportion of doctors are escaping into the world market for physicians through the much publicized brain drain

Another political compulsion further tilts decisions to the quantitative side of the production balance The high prestige of medicine leads children from elite families, and secondarily all academically qualified candidates, to demand as a right the opportunity to become doctors The fascinating phenomenon of private medical colleges being established with exorbitant capitation fees is now being supplemented by straightforward political pressure to force continuing expansion of government financed medical colleges This pressure also is directly counter to the planning priorities of meeting the service gap in villages, since these students certainly do not picture their own

medical careers as being to serve rural areas This continuing political pressure comes at a time when the only thing that makes sense from the planning point of view is to level off the production of doctors To offset the bulge at the top of the manpower hourglass, it is essential that a massive concentration of educational effort be focussed on filling out the thin neck of the hourglass to convert it into the desired manpower pyramid by producing supporting personnel and auxiliaries in much larger numbers than doctors

In summary, then, a period of massive quantitative expansion of medical education in the past two decades was probably inevitable It is now time for this curve to plateau The emphasis must shift back to qualitative considerations But this requires a new definition of quality

In the past, quality of care has been defined only in terms of medical care for the individual More and more knowledge, skill, and sophisticated technology were applied to improving the care of specific illnesses without regard to cost By contrast, a modern definition of good quality care for the community starts with recognition that the goal must be adequate care for the whole group rather than excellent care for the few This immediately introduces a need for cost-benefit judgements because resources will always be limited The great challenge is to learn how to identify those problems for which the most can be done with the limited resources available

When quality is defined in community terms, the location as well as the content of medical education must be rethought There is no excuse for limiting practical training just to teaching hospitals It is not desirable for students to learn how to work only with elaborate equipment, since the professional careers of most doctors will not permit them access to such facilities ever again Even more important than the straightforward issue of learning inappropriate skills is the more subtle psychological impact of teaching based exclusively on hospitals During the impressionable medical college years, the young doctor has set before him a value system, role models, and professional expectations, thereafter, he measures all his activities against the original teaching hospital experience A subconscious reflex judgement leads to a downgrading of other types of practice If the doctor remembered only the intellectual and scientific atmosphere of the teaching hospital rather than the material environment, then this might still be good More often, however, his standard of judgement becomes

the physical plant, complicated technical equipment, and evidences of affluence ostentatiously displayed by clinical professors

The result is that most physicians then go through their professional lives with a sense of failure because they have not met the standards set by their professional role models When the gap between the "ideal" and their own practical working situation is moderate, they presumably experience a beneficial psychological stress which may be a valuable source of professional stimulation As in other stress conditions, however, when the gap between expectations and performance is as great as in the reality of most medical practice situations in India, the young doctor finds that he has little basis on which to adapt to his field realities the excellent techniques that he learned in medical college He just gives up because good quality seems impossible and, therefore, irrelevant

A practical solution would seem to be to distribute the practical training over some combination of four levels of facilities Certainly some time in teaching hospitals is needed to provide understanding of what is possible in quality care for the seriously ill individual Then a period in a more average district hospital would fill the gap in relation to the usual hospital care patterns Thirdly, there is need for intensive experience in a teaching health centre where community care is demonstrated as it should be provided Finally, some time in a more average health centre would round out the student's range of practical experience By being exposed to scientific and intellectual stimulation and good care in all these situations, the young doctor will learn to separate the realities of what is necessary for good care in the majority of illnesses from the less essential extra refinements that have become symbolic of the teaching hospital

The basic philosophy represented by this new definition of a good quality of community health care leads to the concept of a medical college without walls The community and its health facilities would be as much a part of the medical college as hospitals and laboratories Following this broad review of implications for medical education, we turn to some specific findings from this research

Selection of Candidates

A major conclusion of this study is that in order to produce doctors with a rural orientation it is necessary to select students who

have the best prospect of developing this quality It will probably never be possible for the medical college and internship experience by itself to consistently ensure a rural orientation

Interns from a rural background expressed greater interest in primary health centre work than other interns They also appreciated the importance of subject matter relating to rural practice and by every criterion measured they showed greater ability to profit from their rural training Similar but less clearcut results were observed in students from poor families To get rural doctors, then, a first step is to create scholarships for worthy students from rural and poor families so that their rural origin or financial status will not prevent them from getting a medical education, but instead will open to them an opportunity to obtain a good medical education

In this study, it was possible to get direct and apparently meaningful responses about the level of interest in rural health Our questionnaire approach would obviously not work as part of a selection process because all students would soon recognize that statements showing interest in rural service would increase their chance of admission

Innovations in admission procedures which get away from standard examinations graded with pseudo-mathematical precision will, of course, run into serious challenges because of possible distortions and the inevitable accusations of favouritism However, the assumption that there is much significant association between "merit" and examination results is patently fallacious

As a more promising alternative, our research experience with the *Rural TAT* suggests that it might be worth a trial as a selection mechanism Using the standard coding manual, rather accurate scoring proved possible for characteristics defined as favourable responses to villages *(V+)*, and unfavourable responses to villages *(V—)* Long experience with *TAT* tests suggests that it is difficult for responses to be faked except with a rather sophisticated understanding of the psychological basis for the test

One of the most definite conclusions of this research is that greater opportunities in selection for medical education need to be provided for rural and poor students Since this requires general recruiting, something should also be done to provide opportunities for candidates who are not admitted to medical colleges If an adequate expansion of paramedical and auxiliary education is achieved

the same promotional effort could be used to attract candidates to the whole range of positions in the manpower pyramid and to arrange a flow upward within the system

Undergraduate Medical Education

Courses during the medical college years should be designed primarily to provide understanding and skills in the basic disciplines of community medicine, while the rural internship will provide opportunity to practice these skills These undergraduate requirements can be summarized as follows (Taylor 1970)

A *Basic Sciences of Community Medicine*
- 1 Ecology
- 2 Social Sciences, including health economics and community organization
- 3 Statistics
- 4 Epidemiology
- 5 Demography
- 6 Genetics, Nutrition, and Child Growth and Development

B *Applied Sciences of Community Medicine*
- 1 Administration of Health Care, and Integration of Basic Health Services
- 2 Management of the Health Team
- 3 Community Disease Control Measures (sanitation, vector control, community health education, organization of programmes for specific health services such as immunization and nutrition
- 4 Family Planning

C *Basic Changes in Attitudes and Values*
- 1 Learning to rank priorities among health problems and to concentrate resources on priority problems
- 2 Learning the doctor's new role in the health team

To provide opportunities to practice basic skills such as epidemiological survey techniques, health education, and the diagnosis and amelioration

of community problems, it is important to have a community laboratory For undergraduate teaching in the village setting we refer to the study village as a laboratory rather than a field practice area, because students should be learning specific skills and gaining understanding rather than learning how to implement a general service programme It is especially important for students to learn to work with families and neighbourhood groups Observation units must be small enough to be readily understood and analysed. It is better to incorporate relevant experiences in a graded sequence throughout the medical curriculum than to attempt to crowd them all into the internship period

General Organization of Rural Internships

The focus of this research project has been on the rural internship because it provides the most important opportunity for practical orientation to village work During the medical college years students usually visit villages only for an afternoon or a day They are in groups If properly run, the experience can be sufficiently stimulating to be interesting During the internship, however, the young doctor should actually live in the village Village problems take on much more reality, even though there is more chance for negative reactions

A good internship in any subject should provide progressively increasing responsibility under supervision Too many internships fail just because it is simpler to have interns observe than to have them actually do the work.

Another general dictum is that there is no point in spending time in the rural internship doing things that can be done more efficiently in a hospital, such as clinical medicine The time in rural communities is precious because it is so hard to arrange Transportation and logistics limit the time available, but there are many valuable lessons that can be learned only in the health centre and community

In view of the multiple objectives and organizational possibilities of rural internships, it seems worthwhile to summarize our present thinking about educational objectives and activities based on this research Our ranking of activities is very different from the priorities attached by the interns to a doctor's health centre responsibilities (Fig 6 12)

(A general comment needs to be made about our internship data We have not reported individual medical college differences as part of our research results nor related these to programme components in those internships, although there might be much to be learned from such an analysis The numbers from some of the colleges were not large enough for separate analysis The main reason, however, is that we had promised the medical colleges at the start that no mention would be made of individual college differences because invidious comparisons would be inevitable We did give each college its own set of research findings to be used to improve its own internship programme To provide descriptions of some workable programme alternatives that have been tried, the college programmes have been described in Chapter 3)

Specific Objectives

Management of a comprehensive care team is a general skill that can be learned only in a field practice area Since it represents a primary responsibility of health centre doctors, it probably deserves top priority Interns should be placed in working relationships with other members of the health team so they can learn the activities and capabilities of other categories of personnel Specific situations can be set up which require the exercise of management skills

Another important set of skills is *community diagnosis* This requires a working knowledge of field epidemiology and statistics The community physician must follow community rates and vital statistics as carefully as a clinician observes temperature, pulse, and laboratory findings It is also important to learn practical and simplified social science skills and principles because many community problems relate to social variables more than biological causes Some experience with environmental sanitation is worthwhile, even if not rated high by the interns

Because flexibility is necessary in adapting a health service to local needs, the health centre doctor must learn how to *plan* One of the most important steps in the planning process is to specify priorities This requires some mathematical calculations but even more necessary is practice in balancing judgement to make appropriate cost-benefit and cost-effectiveness decisions Presumably by making analyses of

priorities as they relate to families and small groups, experience can be gained that will prove useful in dealing with larger communities

There are, of course, many other things that can profitably be learned in the rural internship Some experience in *health centre clinical work* is desirable, especially since this is rated highest by the interns All clinical activities should demonstrate how the doctor and his associates can use simplified procedures for diagnosis and treatment It is more important, however, that emphasis be placed on getting the feel of how the doctor can support the auxiliaries who are responsible for carrying out primary medical care, and how best to work within the simple standing orders that provide adequate routine care for most patients

One thing rural internships should not do is to simply provide an unsupervised chance to practice clinical medicine The sad truth is that in a village, interns can often do things they would never get a chance to do in a hospital because there is no competition from the clinical heirarchy above them Most clinical experience can be gained more usefully in hospital wards and outpatient departments

Principles in the Organization of Rural Field Practice Areas

Our thinking about practical field training has changed considerably during this study We are no longer satisfied with the idea that a single village health centre can provide an adequate teaching base An area is needed where all the regional health service components are functioning Two major lessons have been learned about how village services might be organized in such a demonstration area

First, it is essential to have a genuine, working service Too often in the past we have merely tossed interns into a village to learn what they could do on their own without any supporting services This is equivalent to sending students for clinical instructions into a large room containing patients lying in beds with no supporting services No one would call such an arrangement a teaching hospital Without nursing, laboratory, X ray, diet, and other supportive services, students would learn little about modern medical care Similarly, community care of good quality requires a full health team within which the young doctor can work in order to learn how a programme should be run

Furthermore, there has been too much insistence by some that the teaching health centre should be kept at the functional and financial level of an average PHC As indicated earlier, interns need to have

assurance that the village health problems are not insoluble. Then they should also spend some time in an average primary health centre to learn how optimum methods can be adapted.

The second major consideration is that it is important to get respected clinicians involved in both service and research in the field practice area. A major psychological need is to show young doctors that rural work is respectable. Nothing will add respectability as much as seeing clinical professors periodically participating in health centre activities. The simplest thing to arrange, usually, is a weekly clinic which can be used for teaching. Even more useful is to get clinical faculty involved in joint clinical-epidemiological research in which students can participate. This has the advantage that clinicians will see that they, too, can get something out of the experience.

The Qualities of Field Teachers

Field teaching will change orientation and motivation only if teachers can create an atmosphere of excitement and challenge. It is of primary importance that they really know the village through prolonged personal involvement. A problem in finding staff for teaching health centres has been that those who volunteer tend to get stuck in the village just like PHC doctors. A more equitable arrangement would be to require a rotation of service from all the community medical staff.

The most important personal characteristic to ensure good teaching is enthusiasm. This is especially true where difficult field work makes it all too easy for teachers to evade difficult tasks under rigorous conditions by telling the interns to do the work and not participate themselves. The teacher must believe in village work and be optimistic about the chance for change. He must like village people. His interests should be broad enough to cover a wide range of rural development subjects, such as agriculture and anthropology. Enthusiasm must be blended with concern to produce a service motivation that is contagious.

Relation of Community Medicine Teaching in Medical Schools to Graduate Education in Public Health

A final comment must be made on the much discussed subject of

the relative roles of community medicine teaching in medical schools and graduate education in public health An artificial confrontation often develops between the two educational activities which is unfortunate, irrelevant and diversionary Some international consultants continue to push the idea that medical schools should absorb schools of public health A related argument is that community teaching in all departments of a medical school will eventually make departments of community medicine unnecessary The fallacies in these points of view are numerous but they are rooted in the supercilious attitude that only doctors can cope with health concerns because the problems are fundamentally clinical

Public health includes a wide range of professionals other than doctors — i e , sanitary engineers, statisticians, nutritionists, social scientists, economists, planners, administrators, and several kinds of biological scientists It is not just another medical specialty such as surgery or radiology, therefore, graduate training in public health cannot be treated as just another process of getting a group of doctors through specialty training There are great benefits in providing graduate training for this multi-disciplinary group of public health specialists, including doctors, in a shared environment Where schools of public health are run as departments of medical schools, there is an inevitable focussing on clinical preventive medicine and medical specialties

The argument that departments of community medicine should eventually be eliminated as their work is absorbed into clinical departments is even more damaging to a strong community emphasis An equivalent argument would be that since all doctors should know pathology and pharmacology those departments should also be absorbed by clinical departments We have repeatedly stressed in this volume the necessity for clinical departments to be actively involved, especially in teaching and research in the field practice area This requires constant stimulation and coordination provided by specialists in community medicine, otherwise long term interest and continuity is extremely uncertain The Johns Hopkins Medical School provides an example of the almost total withering away of an excellent teaching programme in preventive medicine after the department of preventive medicine was abolished in 1947, making it

difficult for the school of public health to pick up the responsibility because there was no focus in the medical school with which to work The optimum is to have a department of community medicine in the medical school and a separate school of public health—but no arrangement is automatically fast or easy The old proverb applies here, "*What is everybody's business, soon becomes no one's business*"

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