Critical Health

S A medical education

Ivory tower or community-based?

Contents

Editorial

Medical education in South Africa reflects the problems of apartheid education in general, with its race and class divisions. These divisions are manifested in inequalities. Teaching hospitals and medical schools are largely segregated and resources are not equally distributed. Medical schools continue selecting a far greater proportion of white matriculants than black matriculants, according to criteria which favour students from middle class backgrounds.

This class bias is carried further into the curricular emphasis on curative care rather than on the causes of ill health. Rare diseases affecting only a small fraction of the population receive a great deal of attention, while there is hardly any provision for teaching and learning about preventive, promotive and rehabilitative health care. The psychosocial skills required for such care (such as counselling) are therefore neglected.

This inappropriate direction in medical education produces medical graduates who are wrongly placed and do not choose to work where they are needed, e g in rural areas and deprived communities. This imbalance is analysed in the articles by Profs H Philpott and B Sparks.

It is time to consider alternatives to the present medical education system in South Africa. One alternative is community-oriented medical education. As the article by Prof S Ross points out, community-oriented education is education that is based on the needs of the community in which it is located. Community-based education has been proposed as a strategy to develop such a community-orientation in education.

An example of an attempt in this direction is given in the article by Prof J Hamilton, which relates the rationale, development and achievements of the Faculty of Medicine of the University of Newcastle in New South Wales, Australia. The curriculum taught at the Newcastle Medical Faculty integrates the basic and clinical sciences and the biological and social sciences, with the teaching of particular skills, such as skills in health education, law, counselling, problem-solving, study and research. The curriculum has a special emphasis on health problems in the community, which are integrated into the "course content" and into the skills taught along with it. This model counters any fears that community-oriented education means a drop in academic standards. In fact, students on the whole enjoy the curriculum and graduates have been well received as interns, or even preferred to graduates of traditional medical schools.

This raises the possibilities and specificities of a community-oriented medical education in South Africa. The article by Mr J Lazarus reiterates the problems of South African medical education in its present form. The article cautions against any piecemeal solutions. Experience has shown, for instance, that changing particular elements within the educational process without adjusting the remaining elements accordingly, fails to bring about the desired result. Therefore congruence

between the various elements in the educational process is imperative.

In South Africa, there are particular difficulties in the selection of students from deprived communities. The poverty of primary and secondary education characterises and affects students in general, but particularly those who have been subjected to DET-controlled schools and syllabi. The article by Ms P Kotecha identifies particular problems resulting from the poverty of education (e g rote-learning, unquestioning academic attitudes, no problem-solving experience) and offers some solutions on the basis of insights gained from academic support programmes.

Two issues which arise from the articles cited above, which need to be addressed if community-oriented education is to become a reality in South Africa, are the extent of community involvement and the implications of this orientation for education and training, not only of doctors, but of health workers in general.

Some indication as to the role that the community can play in giving direction to education is given in the article by Prof S Ross. Community orientation may take the form of either consultation or the sharing of power. The successful implementation of a community-based education programme requires the involvement of the community in planning, decision-making, problem-solving and evaluation.

This should ideally apply not only to the education and training of doctors, but also to that of other health workers. In order to promote a problem-solving, team-work approach, the training of all categories of health workers needs to be integrated.

South African society finds itself in a period of transition. Medical education needs to align itself with the process of social change. A twin track strategy, embodying a community-oriented approach is an appropriate start, but must be adopted with a commitment to overall change. If this does not occur, the convergence of the two tracks in the distance will remain an illusion.

Community-based medical education (CBME) provides the basis for expanding the practice of people's education - an education not just to doctor apartheid South Africa but to create a free South Africa.

The idea of a workshop to address the need for appropriate medical education in South Africa has been initiated by the National Medical and Dental Association (NAMDA). The workshop is to be held in December and will be co-hosted with the University of the Witwatersrand. The final article in this edition is included to provide some background about NAMDA as an organisaiton.

The need for alternative medical education in South Africa

Doctors first completed their medical education in the University of Cape Town in 1922. The early medical teachers brought their curriculum with them, mainly from the United Kingdom. They produced many first rate doctors and in the decades since, many graduates have attained international acclaim. There have been a number of intra-university curriculum reviews but these have tended to add more and more to an already overfull course. In 1985, the South African Association for Medical Education (SAAME) held a national review of medical education in South Africa, but very few of the recommendations have had any effect on our medical schools. Our universities are neither producing graduates appropriate to the needs of our country at present nor, more disturbingly, for the post-apartheid future. This paper sets out some of the reasons why we urgently need alternative medical education to help solve the serious health care problems in this country, remembering that it will be six years after the new curriculum is established before the first graduates appear.

1 Maldistribution of health services

Doctors tend to practice in the kind of environment where they are taught and so it is understandable that they find their security in city practice, either in this country or overseas. It is true that it will take more than a changed education to entice doctors to practice holistic medicine in the neglected parts of our country, but if we don't change the education we provide, no amount of structural change in the health service will bring about improved health care for the people of South Africa. Doctors need to be trained in the context of where their services are needed most.
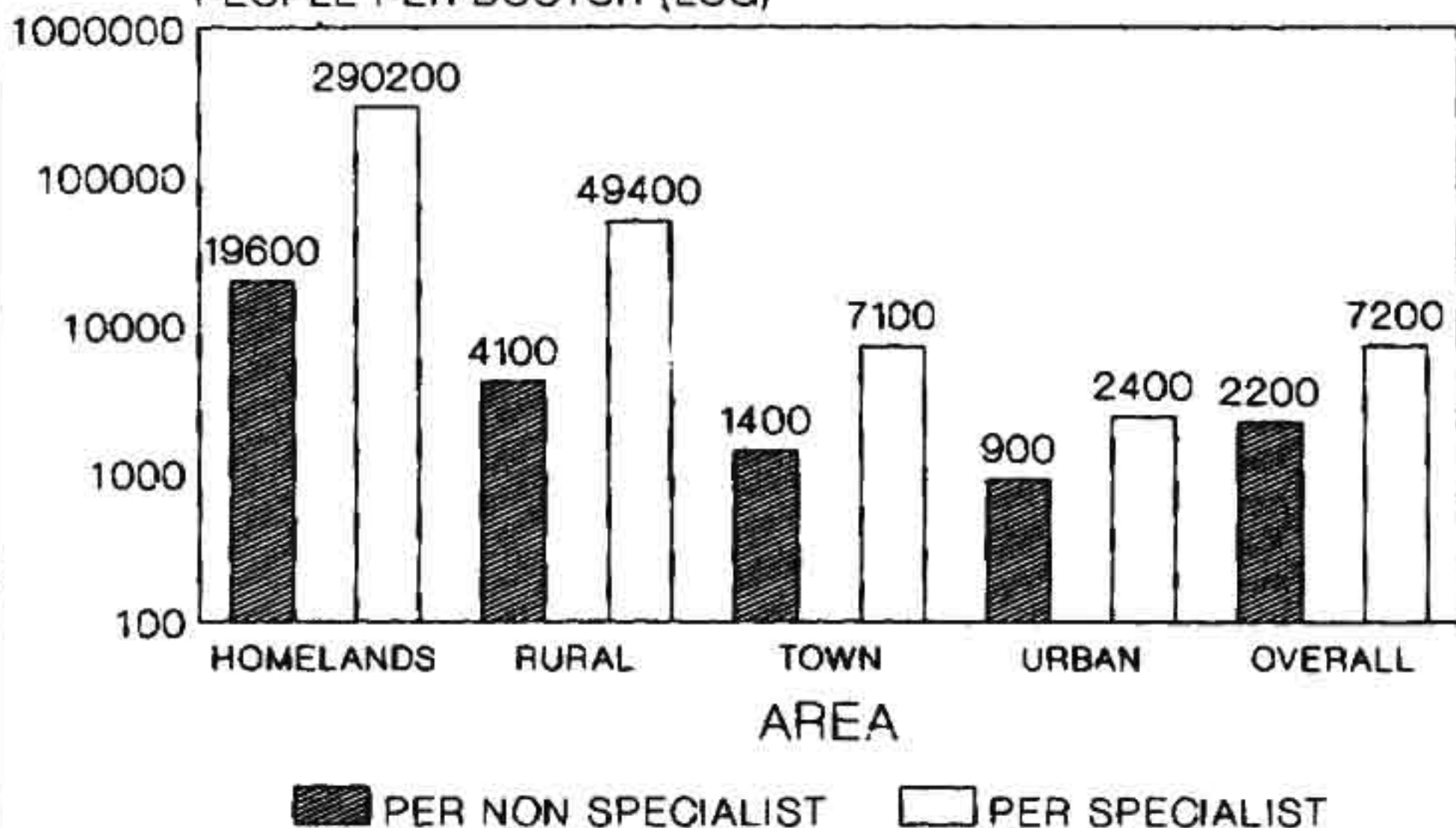
Not only does maldistribution operate geographically but also in the emphasis on specialities. For example, many specialist obstericians with a minimum of twelve years of training spend the bulk of their time doing normal deliveries for extra-ordinarily high fees while primary health care for the poor is seriously neglected.

2 Tertiary hospital base

The major portion of clinical teaching is provided in referral, high-technology teaching hospitals, where the bulk of the country's health budget is spent. This gives students a view of health care that suggests that doctors only deal with rarities and that sophisticated monitoring systems and laboratory investigations are not only indispensable, but immediately available.

DOCTOR RATIOS, BY AREA
THOUSAND PEOPLE PER DOCTOR

PEOPLE PER DOCTOR (LOG)

Area	Per non specialist	Per specialist
HOMELANDS	19600	290200
RURAL	4100	49400
TOWN	1400	7100
URBAN	900	2400
OVERALL	2200	7200

AREA

■ PER NON SPECIALIST   □ PER SPECIALIST

Doctor ratios, by area (thousand people per doctor) - the above graph illustrates the maldistribution of doctors in South Africa
(Courtesy of Dr M Zwarrenstein)

3 Emphasis on curative medicine

The teaching hospital glorifies high-technology curative medicine and surgery and gives limited consideration to preventive and promotive health. Role models have a major influence on the development of a medical student's approach to medical practice, and with the emphasis given to curative medicine and the down-playing of preventive and promotive care, it is little wonder that the same pattern persists in succeeding generations.

4 Compartmentalised specialist departments

There is a need for a medical faculty to develop expertise in the various specialties but this does not promote the most appropriate basis for medical education. It has engendered unhealthy competitiveness for curriculum time, space and status. Each department advances its own course for survival sake and as a result produces a curriculum more suited to specialists in the discipline. Such structures are not suited for the undergraduate education of 'core' doctors. Instead, there is a need for strong central departments of medical education that co-ordinate cross-discipline, integrated programmes of problem-based learning.

5 Doctor-orientated health service

Medical students who graduate from our medical schools have every right to presume that health care is dependent primarily, or even exclusively, on doctors. Their doctor teachers in the hospital are on top of the pile and project other health workers as auxiliaries. Medical students are seldom introduced to other health workers, let alone train with them. Again it is understandable that our graduates have little experience of working in teams and that our country's health service is, in the words of David Werner (author of the book *Where There is No Doctor*) community oppressive rather than community supportive. Doctors are expected to have all the knowledge and wisdom and are not shown how to consult the communities they are meant to serve. They have been trained to be consultants before they learn to consult and to direct before they have learnt to serve.

Medical students are taught separately from other health workers and as a result they have little experience of team work

Sangoma in consultation - medical education often negates the value of alternative methods of healing and ignores the world view of the patient

6 Community beliefs not recognised

The tenets of western medical practice are taught as if no other beliefs and practices have any place in a country with such a multiplicity of cultures. Our very failures should alert us to the need to examine others' successes and to incorporate them into new learning opportunities for our students. A salutary research study conducted in Zimbabwe needs to be heeded by our medical educators. Groups of 100 rural and 100 urban women (many of whom were university graduates) were asked where they would wish to be delivered of their next baby and who they would like as their attendant. The majority in both groups wanted the safety of a hospital or maternity clinic but 100% of the rural and 90% of the urban women preferred to have a traditional birth attendant (TBA) with them during their labour. Few doctors even recognise that the overwhelming majority of women on this continent are delivered by TBAs. Instead they write off such patients as 'unbooked' or 'defaulters'. We interpret compliance as meaning taking the host of tablets we prescribe, in spite of the fact that we never explained what they were for. We also forget that our patients have an entirely different world view that informs their understanding of the aetiology and therefore treatment of illness.

7 No recognition of other components of health

Not only do we compartmentalise within our medical faculties, but we isolate the medical schools from all other faculties in the university. How can we expect students to accept other disciplines such as agriculture, economics, sociology and education as being important, if not more important, than medicine in providing health and wholeness of care? We even call one of our schools a Medical University, which is not only a contradiction in terms, but more evidence of our failure to understand what holistic health care is all about. The consequences are a country that can boast the first heart transplant while within walking distance of the particular hospital involved, there are townships with no piped water. The need for a multi-disciplinary approach to teaching extends beyond the compartmentalised medical school to cross the academic barriers in the university. It is only when engineers and agriculturalists link with sociologists and physicians in formulating new curricula that the ill-health caused by factors related to each of these disciplines will be addressed. It all seems so obvious, but until we are brave enough to create new educational structures, our students will retreat into their academic enclaves instead of becoming the new pioneers of health care in Southern Africa.

8 Graduates orientated away from the struggle for change in South Africa

This is not the language of our medical teachers. We are the privileged ones and we are comfortable with our elitist positions and the status quo and bureaucracy that protects our academic safety. Few of us have experienced the oppressive effects of apartheid, the major cause of poverty and ill-health in the midst of this land of great wealth. Without this experience, our teachers are unable to interpret the effects of state systems on community and individual health, and therefore demand that politics and health care be kept in separate compartments.

In spite of the fact that many of our students come from the oppressed communities, their awareness and understanding is not encouraged by the majority of their teachers, and the only oasis in the midst of a year of non-contextualised teaching is the annual Students Conference, at which academic staff are conspicuous by their absence.

9 The medical course itself

The content is excessive

This statement hardly needs elaborating, yet we are all guilty of adding every new discovery to the curriculum, without taking anything out. Each new discovery

should remind us that much of the content in today's curriculum will be out of date by the time our students are in practice and our volumes of content will not prepare them for the demands of the new century. We subscribe to "Health for All by the year 2000" but are not equipping graduates to meet that challenge. Rather than multiplying content we need to provide students with problem-solving skills, for it is that that they will be called on to do whether at the community or the individual patient level. Problem-solving will ensure a multi-disciplinary approach to medical education and will equip students to absorb and apply new knowledge as it becomes available. It will also ensure that each subject discipline is dealt with according to its merits, the merit of the solution to common life-saving problems in the first instance, and later, any other problem that may present itself. Students progress when they know how to explore knowledge rather than just memorise it.
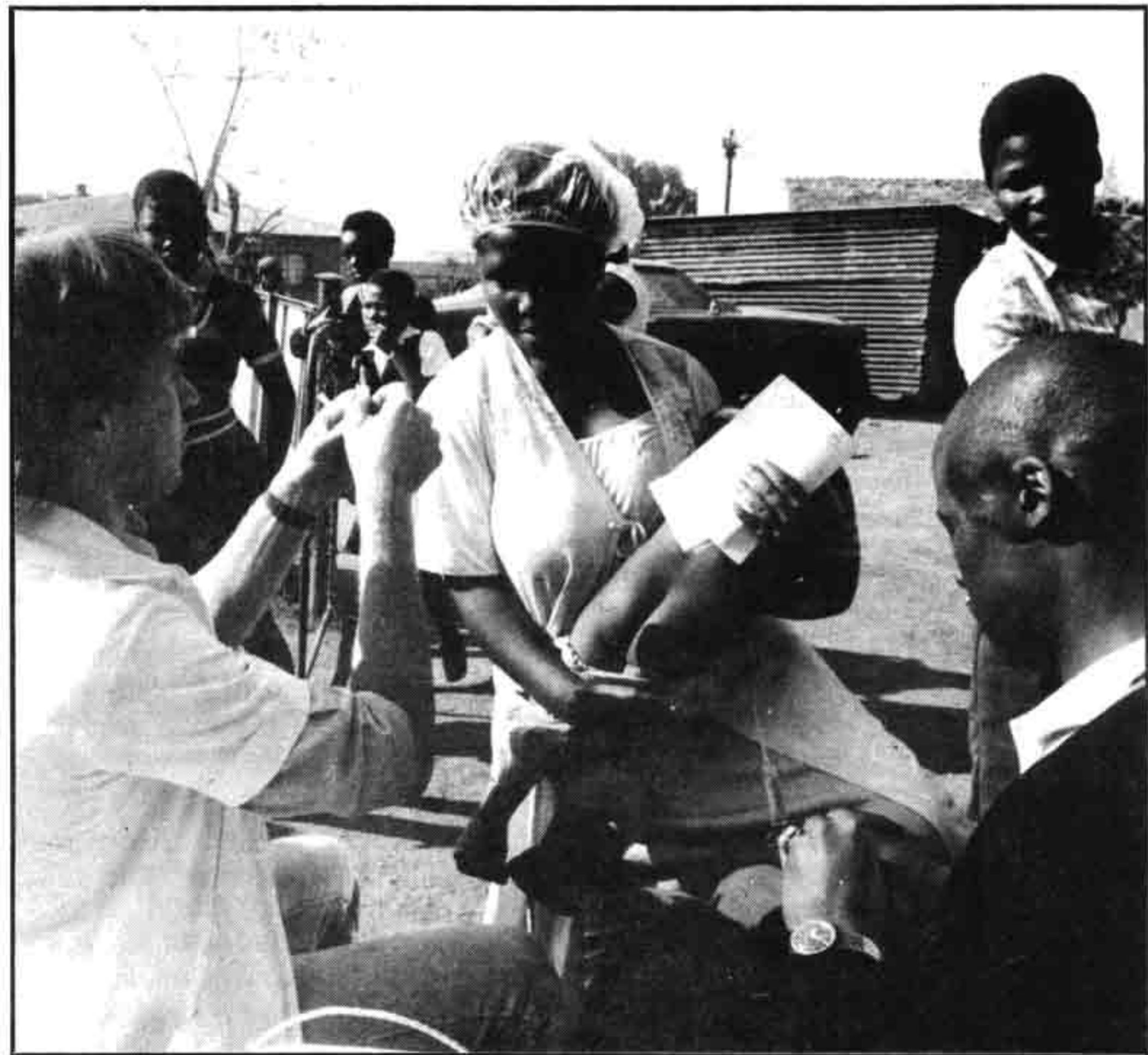
Immunisations - medical education gives little consideration to preventive and promotive health care

Lack of perceived relevance

We manage to drain every atom of motivation and enthusiasm that students bring with them by our layered curricula, which in the first three years can only suggest to students that life is filled with laboratories, cadavers and specimens in bottles. How much more exciting it is to see a small group of first year students deciding on the anatomy, physiology, pathology etc that they need to explore and learn to enable them to solve a particular clinical problem. By the end of a course of suitably chosen problem-solving studies they will have not only learnt the principles and content of each subject in the curriculum but they will see how it all fits together in helping them solve the problems. Experience with such curricula has shown that students have to be restrained from over-studying rather than driven through the early years of boredom.

Educational methods are oppressive rather than liberating

Medical schools are not entirely to blame for suppressing the natural spirit of adventure and exploration. The rot sets in at junior schools. Children, left to themselves, are experiential, self-directed learners until the schools get hold of them. From then on the teacher takes control, and presumes that all children learn at the same pace. Consequently they are regimented into large classrooms, told to keep quiet and listen to the teacher. The only difference at medical school is that the classes are many times larger and the teachers do not even hold an education diploma. My only surprise has been the rapidity with which fourth year university rote learners respond to the liberating experience of changing from an emphasis on whole-class lectures to the fun of problem-solving in small groups. We have shown that it works at that late stage of the curriculum, so why not start that way from the first year of the medical course?

Of all countries in the world today, South Africa in particular needs a liberated educational system. Not only is this the most appropriate way to learn but it equips people to seek after truth and justice in every sphere of their lives.

Conclusion

This outline of the need for alternative medical education in South Africa must point us in the direction of community-based, community-oriented, integrated, problem-solving education as the solution to our needs.

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Reflections on South African medical education

Paul Alters sits down anxiously at the small table. This will be his first consultation since arriving at the mission clinic in the rural area of the Suurveldt. Will he be able to cope as the only doctor in the region?

The previous night he had been talking to Sister Euphemia at the dinner table about the patients who normally attend the clinic - the 'TBs', 'VDs', the severely malnourished geriatrics, the occasional patient with difficult-to-diagnose leprosy, the diabetics having difficulty with dietary control, the dehydrated babies, the desperate, 'irreversibly' infertile young woman, the stroke victims with nobody to care for them and even the three AIDS patients they saw the previous month.

As the night proceeded, they had also discussed the problem of 'epidemic' teenage pregnancy and alcoholism in the area, the need for him to attend to the water-borne illnesses associated with the pit-privies which contaminated the extremely high water tables and open wells, and the meeting he was to have with the traditional healers, scheduled for the next day. He has also to develop the sorely neglected health education and prevention programme in the area. Will he be able to cope? Where are his Community Health and Family Medicine teachers now that he needs them? He has his trusty Merck Manual at his side. It has helped him through all the years at medical school and in the wards. Now he doubts whether 'Merck' has ever heard of water-logged pit-privies!

Paul had completed his degree at Wits, then after doing house-jobs at Coronation Hospital, he had 'done' medicine, paediatrics and gynaecology at the Johannesburg Hospital. Surely this training, which is recognised around the world as being amongst the best, will enable him to cope with problems closer to home......

The Alma Ata Declaration of the World Health Organisation (WHO) and Unicef to achieve "health for all by the year 2000" was a challenge to the medical schools of the world to ensure that the education they offer is relevant to the health needs of the societies they serve. I believe that most of the faculty boards of our medical schools have not seriously addressed this issue through adequate evaluation of the health needs of the majority of the people of Southern Africa. This does not suggest, though, that some departments have been tardy in this regard.

What are some of these health needs which should be addressed by the medical schools, especially for undergraduate education?

The need to understand and control factors affecting one's health

The role of doctors in illness is much easier to define than their role in health promotion and education. The role that the profession has created for itself has little to do with health but a lot to do with medical intervention when disease occurs. As Morgan (1) has written, "the depth of illness treated rather than the heights of health promoted, have traditionally measured the physician's prestige". Patient education, particularly, is a sorely neglected area in the undergraduate medical curriculum. This is particularly important as society itself may not perceive health education and promotion as a priority.
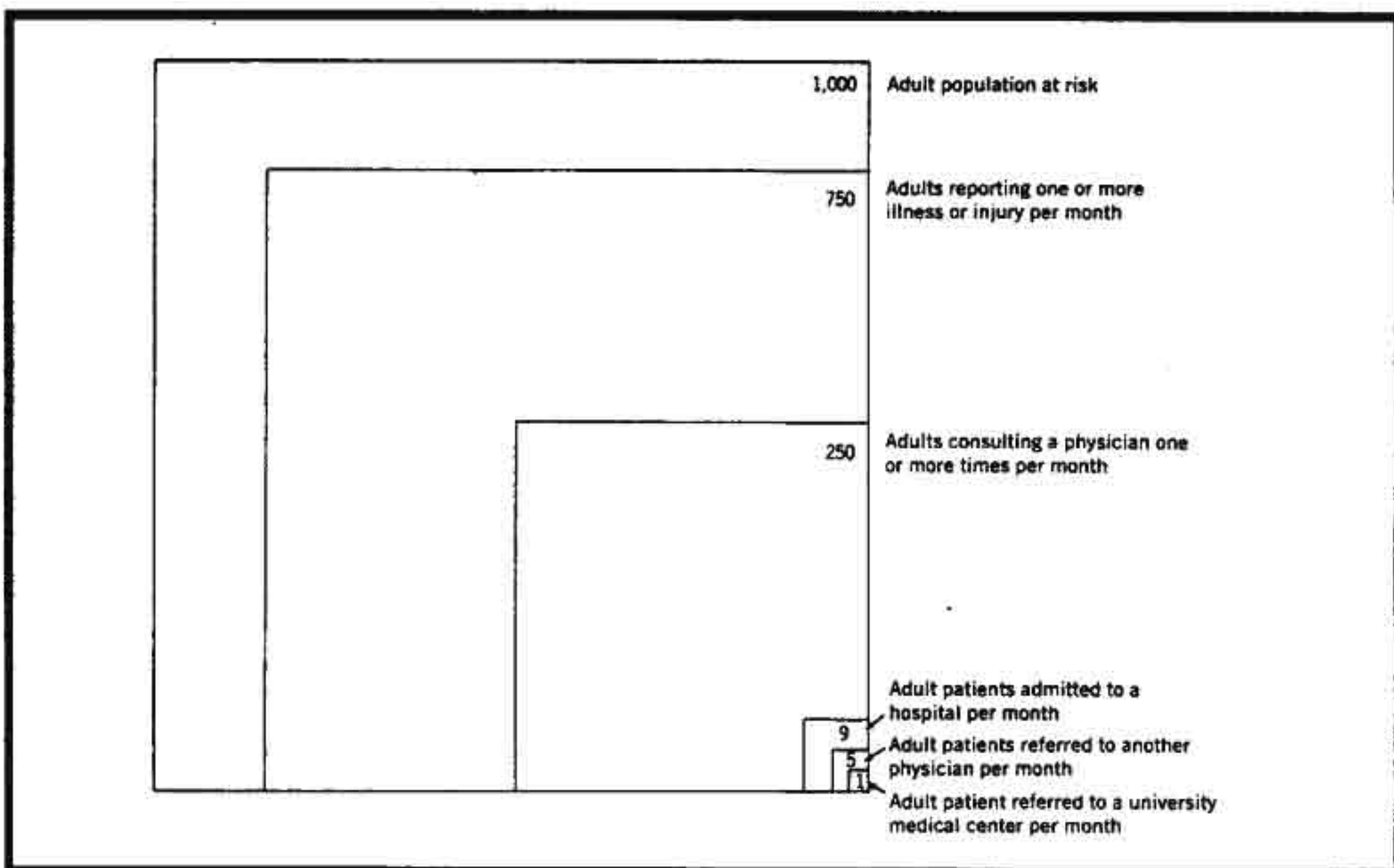
Fig 1: Prevalence of illness and utilisation of medical resources among 1 000 adults in the United States and Great Britain (from White, Williams, and Greenberg, 1961)

White et al (2) have studied the utilisation of health services in the United States and Great Britain (Figure 1). One significant aspect of this study indicates that 500 of the 750 adults with illnesses or injuries in a month, (i e half of the adult population over the age of 16 years) were assessing and managing their problems without the assistance of health professionals. The consultation rate in South Africa

is probably less than 1 in 4, so possibly the number practising self-help is much greater. Our students are, in general, not taught the skills and attitudes required for patient education. One only has to listen to our medical experts on 'Radio Today' to realise that their vocabulary is inappropriate to a non-medically orientated audience!

The need for access to personalized, safe, efficient and effective health care geared towards common problems

Access to health care includes not only physical access, but also attitudinal acceptance by health personnel. Such access should not be tempered by prejudice or discrimination of any kind. In South Africa, however, access to primary care is still largely racially and economically determined.
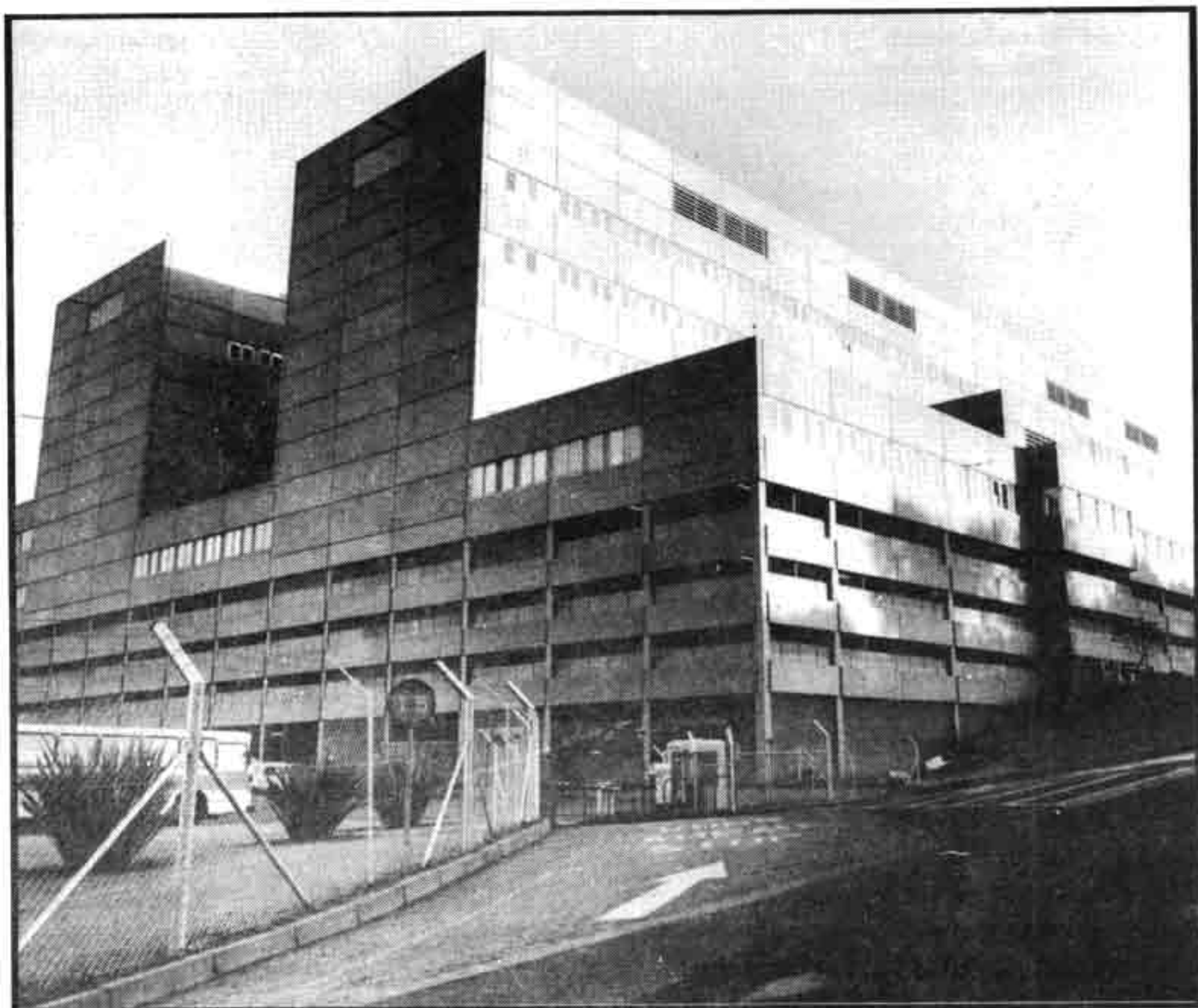
Most of the medical student's training occurs in teaching hospitals although only a very small percentage of the adult population reach these facilities

Disease	Number of years
Meckel's diverticulum	1
Pyloric stenosis (boy)	4
Congenital heart	5
Spina bifida	6
Klinefelters	10
Intussusception	12
Hydrocephalus	12
Cleft palate and hare lip	12
Cystinuria	15
Mongol	16
Pyloric stenosis (girl)	19
Cot death	20
Anencephaly	25
Hypospadias	25
Congenital dislocation of the hip	37
Fibrocystic disease of the pancreas	37
Encephalocoele	50
Cleft palate alone	62
Oesophageal atresia	75
Exomphalos	80
Renal agenesis	87
Pseudocholinesterase deficiency	120
Imperforate anus	120
Situs inversus	180
Intestinal atresia	240
Phenylketonuria	240
Muscular dystrophy	480
Cri du chat syndrome	480
Achondroplasia	480
Haemophilia	600
Hirschsprung's disease	600
Pierre Robin syndrome	720
Retinoblastoma	825
Waardenburg's syndrome	1050
Pentosuria	1200
Ectopia vesicae	1200
Osteogenesis imperfecta	1200
Galactosaemia	1725
Fructosuria	2400
Mucopolysaccharidosis	2400
Retinitis pigmentosa	2400
Maple syrup urine disease	6250
Glycogen storage disease	7000
Wilson's disease	100 000
Double penis	137 000

Fig 2: Expected number of years in which one new case will enter an average general practice of
2 500 patients

Safety, efficiency and effectiveness of health care are primarily dependent on the standards and scope of health care training. Undergraduate medical training occurs mainly in teaching hospitals, and yet, according to White et al (2), only 0.1% of the adult population reach these facilities. These patients are usually the elderly, chronically ill, or those with exotic or gross signs and symptoms. In South Africa most children attending the white teaching hospitals are in the chronic and exotic category. The early undifferentiated illnesses, venereal diseases, family and social problems and problems affecting working people, which in all account for 25% of the adult population in the United Kingdom, are seen in the community by generalists. The figures for this country may well be similar.

The content of training medical undergraduates also requires analysis. Students are shown patients with rare diseases and are provided with theoretical training which is often inappropriate. Few students would fail a question on Wilson's disease, or pass a simple test on Rubella (German measles), and yet it would take about 100 000 years for a new case of Wilson's disease to be detected in a practice of 2 500 patients (Figure 2). The table also shows the incidence of many rare conditions which are stressed in the curriculum as if they were commonplace in the community.

Holistic care involves sensitivity to patients' psychological and social needs as well as attention to their physical problems

It must not be assumed from the above that clinical acumen and standards and an understanding of the pathogenesis of diseases should be discarded in favour of socially orientated problems and conditions. More time and teaching should be allocated to the conditions that affect the majority of our people! It is interesting to note that about half of South African graduates enter Family Medicine, either in private practice or clinics, and yet there is only limited exposure to the discipline. At Wits each student spends only seven and a half days of their entire six years in Family Medicine! Cape Town and Durban universities have still to establish chairs in Family Medicine.

The curriculum should place greater emphasis on producing appropriately trained primary care generalists who can work in integrated teams within the community, instead of a plethora of specialists who aggregate around high-technology hospitals. Unfortunately, the predominant exposure to specialists sets role models for the students to follow. This primary care training should take place in the community. Verby et al (3) have said that "learning primary care medicine in a university is like trying to learn forestry in a lumberyard".

The need to be trained as a whole person through personalized care

Every person who is ill, or who believes him/herself to be ill, wishes to be treated with dignity, confidentiality and caring through personalized consultation with a health worker whom s/he trusts.

Holistic care encompasses physical, psychological, social and spiritual aspects of health. This can only be achieved if one takes the time to discuss these aspects with the patient. It also requires the practitioner to understand the family influences on the illness or problem. These perspectives are difficult to achieve in our fragmented specialized clinics and hospitals. It is also a problem facing overburdened 'primary care clinics' where the load of patients is said to preclude continuity and holistic care.

I believe that with the proper training ALL doctors, wherever they are, can be more sensitive to these issues. Some have suggested that this can be overcome by teams of health workers in practices with whom the patient can identify. However, no one wishes to be treated by a team; one needs an individual whom one can trust and with whom one can share one's innermost thoughts. This moment of sharing and trust is the consultation, the basis of any doctor-patient interaction. The tragedy is that students are taught how to take a history and conduct an examination (often of single systems) but are rarely taught the consultative process and the essentials of patient-centredness.
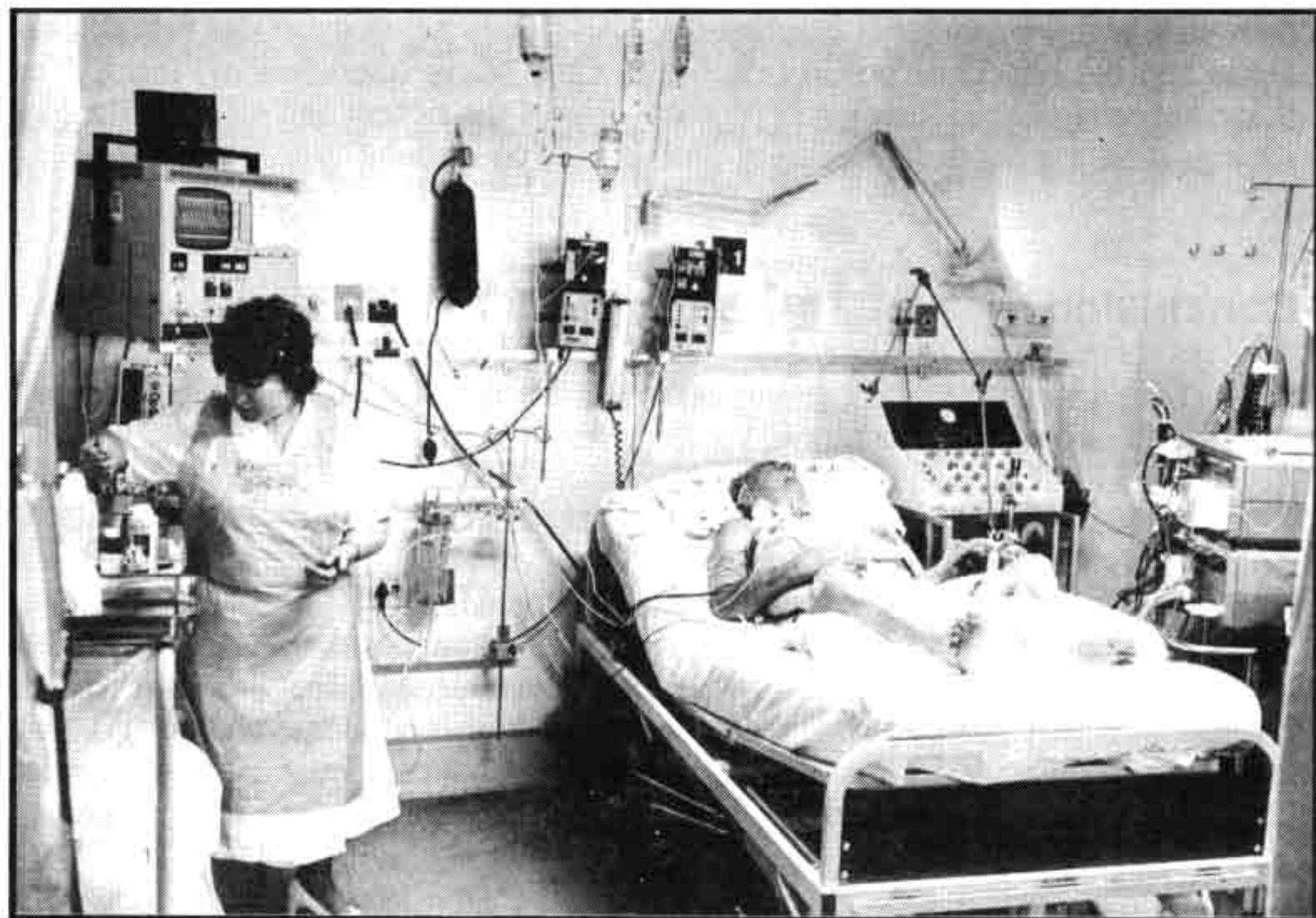
Families may be devastated by the illness of a relative. Doctors should be taught skills to enable them to cope with these situations

The need for a happy, well-adjusted healthy family

The burden of a physically, or psychologically ill family member can have devastating effects on a family. Bereavement, too, can have far reaching effects on survivors. Every patient who consults a doctor is admitting that he or she is not as self-sufficient as before and is usually fearful of the outcome of the meeting.

The student who has to cope with individual and family problems requires a knowledge of the elements of general systems theory, family dynamics, sociology, psychology, the family life cycle, deviant behaviour and many other aspects of the behavioural sciences. Unfortunately, too few students have a working knowledge of these aspects nor do they have counselling skills. Some have 'done' basic courses in first year as soft options. There has been very little input from the medical school departments to establish some clinical relevance for these subjects, nor has there been extension into the subsequent years.

Words such as 'community', 'family' and 'psycho-social' are met with groans and grimaces. Mennin et al (4) have observed that "in traditional curricula many students skim over the psychological aspects of case problems in the classroom. But when the students are involved with the care of real patients in the community

then they become genuinely engrossed in such issues as occupational health, child abuse and the effects of poverty on health care. Many (members of) faculty feel that community-based learning is probably one of the richest and most challenging settings for applying the elements of problem-based learning".

Conclusion

In this brief article I have not attempted to address the many other aspects of health needs such as housing, sanitation, feeding, water, mental health nor the GOBIFFF (growth monitoring, oral rehydration therapy, breast-feeding, immunisation, family spacing, female health education and food supplementation) strategies relating to child health. These aspects are of great importance too and are also given little or no place in the present medical curriculum. My personal preference would be for a problem-orientated programme and appropriate community-based education. Our medical schools must seriously address these issues for the sake of the communities they serve. This should occur at both undergraduate and postgraduate levels. Unfortunately, as someone once said, "to change a medical curriculum is like trying to move all the graveyards of England".

.... *Paul looks out to the open door and the courtyard beyond. Shuffling towards the door is an elderly man in tattered clothes. He has obvious Parkinson's disease. This Paul can handle .... or can he?*

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Community based education of health personnel

This article is a summary of documents collated by a World Health Organisation (WHO) study group, (Technical Report Series 746, 1987) on community-based medical education (CBME). The report deals with the principles of CBME, the need for curriculum change and the various obstacles to its implementation.

Introduction

An important aspect of the policy of the World Health Organisation (WHO) is to encourage the development of training programmes which are more responsive to the needs of the community served than are the vast majority of current programmes for the training of physicians.

CBME is based on the needs of the community and is committed to health care for all

Community-oriented education is education that is based on a determination of the needs of the community in which it is located, focuses on both population groups and individual persons and has a commitment to health for all. Community-based education is a strategy used to help develop community-oriented education. It is education provided in an environment which closely resembles that in which the students will work after graduation and uses a process in which education and productive work are integrated. It aims to equip graduates to be responsive to the health needs of the people and who are able to contribute towards the improvement of health care systems. In a community-based programme for medical students a significant proportion of the educational experiences are located outside a tertiary care hospital. These community-based learning activities take place throughout the whole of the curriculum and may occupy anything from 10 - 38% of total undergraduate training time.

Guiding principles for a community-based education programme

- All student activities have clear educational goals and objectives.
- Activities are introduced early, continue throughout the educational programme and are an essential part of it.
- Student work is of benefit to both the community and the student.
- Students are exposed to the social and cultural environment of their patients and so come to understand the relationship of these factors to health.

Major problems and constraints in community-based education

- It requires the close collaboration of health and educational administrations, a collaboration which may be difficult to obtain.
- 'Curriculo-sclerosis' in conventional educational systems make change difficult so it may be necessary to create alternative tracks in established medical schools or begin new medical schools.
- New initiatives have to compete for funding often in the face of financial constraints.
    In comparison with traditional programmes extra expense may be involved such as extra staff, travel and insurance.
- There is a shortage of appropriately qualified staff for teaching.
- Control, supervision and assessment of the students is more difficult than in a traditional programme.
- The goal of providing more physicians for under-serviced areas may not be achieved.

Examples of community-based learning activities

- Assignment to a family and observation of that family over a period of years.
- Work in an urban, suburban or rural community designed so as to give the student an understanding of the social system and the relationship of the health sector to other sectors engaged in community development.
- Participation in a community survey, community diagnosis and action plan or in community health programmes such as immunisation, health education, nutrition or child care.
- Supervised work at a facility providing primary care such as a health centre, or a rural or district hospital.

Important issues in community-based education

The WHO document gives pertinent examples of the following issues, from a variety of international settings.

In CBME, students are exposed to the environment of their patients. This emphasises the relationship between living conditions and health

1 Co-ordination with health services

This is a crucial issue and may be attained by a variety of strategies. Possibly the most successful is to appoint one person as head of both health personnel development and health service activities.

2 An intersectoral approach

Primary health care involves health and all other related activities within community development, agriculture, education, housing etc. Ideally community-based education provides experience in collaborative ventures between all of these sectors. Up to the present there are very few practical examples of this.

The community is not a laboratory for students. It must be involved in the planning and evaluating of the CBME programme

3 Community involvement

Students cannot treat the community as they would a laboratory. Community involvement may take the form of either consultation or the sharing of power. In the former, the community is informed but also has the opportunity to react and express opinions. Hopefully there is true freedom of expression by community members, the community is adequately informed, it has sufficient time for consultations and its opinions will be taken into account by decision makers. When power is shared with the community there is likely to be conflict between professional interests and local initiatives. Such conflict has to be resolved as the

successful implementation of a community-based education programme requires the involvement of the community in planning, decision making, problem-solving and evaluation.

4 The health team concept

A health team is a group of people who share a common health goal and common objectives which are determined by community needs. Each member of the team contributes, in a coordinated manner, in accordance with his/her competence and skills and respects the functions of the other members. Community-based education can foster the health team concept by giving students experience in working with other students from differing disciplines. The benefits of team training in the community include enabling each member of the health team to understand the roles of the other members, allowing optimum utilisation of available resources and permitting a collective assessment, allocation and utilisation of educational resources according to needs and not according to chance or individual bias.

5 CBE and the competency-based concept

In competency based education, the functions, activities and tasks expected of each type of health worker are described and the most suitable settings for the attainment of these diverse competencies are then determined. So far, relatively few schools have successfully defined professional profiles and then based their curriculum accordingly.

6 CBE and problem-based learning

Problem-based learning is a process in which students are presented with a problem which motivates them to discover the information they need to solve that problem. CBE provides suitable conditions for identifying and helping solve the actual health problems of a community. Because of its reality and relevance, CBE provides very strong motivation for learning. The health problems dealt with include not only individual clinical problems but also the making of a community diagnosis which will help to identify the community's priority health problems. Obviously the problems identified will be linked with the competencies required to solve them.

7 CBE and performance assessment

It is well known that what students learn is strongly influenced by the type of assessment used. There are still too few satisfactory measuring instruments for determining optimum performance in a community setting. Where the result is

directly under the control of the student this can be used as a criterion of acceptable performance but usually numerous factors will influence the result, so that process rather than outcome will need to be assessed.

Recommendations on how to start a CBE programme

- Provide a justification for the introduction of a CBE programme;
- obtain information as to how to implement CBE and adapt it to the local situation;
- obtain clearance from supervising level(s) and promote political will;
- select colleagues to serve as a nucleus to start a programme;
- review the planning steps and identify possible obstacles to their implementation;
- set up a continuous teacher training programme;
- improve the institution's administration;
- identify the professional profile of the health worker(s) the institution is planning to prepare;
- construct instruments for assessing the performance of the students;
- set up a mechanism for selecting students for CBE;
- contact and consult with the community;
- select settings for community-based learning activities;
- improve the settings where required;
- train students to optimise the use of CBE;
- construct the sequence of community-based learning activities;
- construct a mechanism for evaluation of the programme.

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The faculty of medicine, University of Newcastle - A problem based, community-oriented medical school

This article provides insights into and ideas for a restructured and re-oriented medical education. The article sums up the experiences amd results of members of the Faculty of Medicine at Newcastle, New South Wales, Australia. The author, Professor John D Hamilton, is the Dean of the Faculty of Medicine.

A mandate for innovation

In the early 1970's the Commonwealth government of Australia undertook a review of Medical Education under the Chairpersonship of Professor Peter Karmel. The resulting report, "Expansion of Medical Education", noted three prevailing criticisms of medical education:

1 It was "too scientific", implying neglect of the humanitarian aspects of medicine. At the same time: "medicine without a scientific foundation cannot exist".

2 It was not interested in family care.

3 There was no innovation and no experimentation.

Its most important recommendation was that a new school be set up in Newcastle with a curriculum to reflect the needs and priorities of the community; and that above all it introduce innovations in curriculum and student selection. That was the

mandate for the Faculty of Medicine at Newcastle.

In 1975, Professor David Maddison, then Dean at Sydney, arrived as Foundation Dean and set about gathering an energetic and imaginative faculty to create a new approach to medical education.

Fifteen years after the Karmel Commission, the Commonwealth Government set up a new and more extensive review of medical education chaired by Professor Ralph Doherty. Our faculty made a large submission and undertook detailed consultations. Our own achievements and ideas are very prominent in the Doherty Report.

The Community of Newcastle

The City of Newcastle and the surrounding Hunter Region has a population of 600 000, occupied with heavy industry, mining, farming and a large commercial seaport. It is several hundred kilometres long and wide; large enough to require a full range of medical facilities, but with a population small enough to retain a community identity.

All health services, including the teaching hospitals, are organised under the Hunter Area Health Board. A new teaching hospital is under construction. As Dean, I am on the Board and I chair the Appointments and Credentials Committee responsible for all Specialist appointments. This brings together the health service and University to their mutual benefit.

Health Needs of the Community

Australia faces increasingly the health problems common to all developed countries. The population is ageing and therefore suffers from predominantly degenerative disease: musculo-skeletal, cardio-vascular, cerebro-vascualr and malignant diseases. These require expensive health care and protracted social support. Infectious diseases are largely under control with the striking new exception of AIDS. The new challenges are the rising morbidity and mortality from diseases of lifestyle. Those in Australia relate particularly to excessive sun exposure (with an increased risk of skin cancer), alcoholism, drug addiction and smoking, sexual behaviour, traffic accidents, violence and child abuse. Family life is changing with the appearance of more single parents. Unemployment is currently at 12% and presents a constant hazard to health provoking anxiety, depression, loss of self-esteem, alcoholism, troubled family life and poor parenting.

These social factors are at the root of much poor health in Australia and an increasing focus for government attention. Positive action for maintaining health through diet, exercise and appropriate lifestyle tends to be the luxury of those better off and better educated. For the rest, health promotion has had little impact.

The Newcastle medical school directs its education at the health needs of the community it serves, focusing on diseases of the increasingly aging population, lifestyle diseases and AIDS

Although the population of the Hunter Region is relatively stable, there is elsewhere in Australia a rising inward migration of young people, particularly from South-East Asia. The special needs and aspirations of migrant groups challenge us to prepare a generation of doctors for an increasingly multi-racial society.

Finally, the original inhabitants of Australia, the Aboriginal population has fared worst of all. They have suffered severely as a result of European colonisation and it is unlikely that their original stable culture will ever be regained. Rather late in the day Australia is addressing issues of equity and justice and here also is a challenge for medical education.

It is crucial that for the future health of Australia doctors be trained to be both sensitive and competent in organising an effective response to the social origins of health and illness with the same competence with which they must deal with the acute problems of individual illness. It is that challenge that provides the stimulus to the community orientation of our own curriculum.

The Newcastle Curriculum

The founding faculty had the advantage of a clean start. Our recent celebrations to mark our 10th year demonstrated how important the first foundations were. The original educational objectives still form the basis for curriculum, student assessment and programme evaluation. Working papers published during the first three years laid down the principle and practices of our curriculum and faculty

organisation. their importance lies not only in what they said, but in the fact that they were laid down, discussed in detail and adhered to.

The curriculum is tightly integrated and all academic disciplines contribute throughout the five years. Such a curriculum cannot be put together piecemeal. Its development and implementation is governed by a strong Undergraduate Education Committee. All staff work to the guidance of that Committee.

Principles and Innovations

Our curriculum integrates the basic and clinical sciences and the biological and social sciences. Since the curriculum is not based on isolated courses from individual departments, there had to be an alternative structure. This structure has two dimensions.

1 There is a succession of experiences organized in the first two years, around the study of successive body systems (cardio-vascular, respiratory, etc); year three explores selected sub-specialties (Ear, Nose and Throat, Ophthalmology etc) and initial hospital experience. Years four and five consist of rotations of hospital clerkships. Throughout the five years both the clinical and basic sciences form the foundation of study. This dimension determines the structure of Domain III (see below).

At an early stage in their training, Newcastle medical students learn how to counsel, interview and examine patients

2 The various experiences across the five years are also organised into five Domains of learning. These are each organised as a separate programme, but they co-ordinate one with the other with respect to topic. Each are assessed independently. Successful performance in each is required for onward progression from year to year. The Domains are as follows:

Domain I - Professional skills

From the very first week students begin to learn how to interview, examine and counsel patients. This also provides a backdrop of experience to classroom tutorial work. For example, while studying the respiratory system, they are also learning its physical examination and how to counsel against smoking.

Domain II - Critical Reasoning Skills

These are essential for independent learning and continuing medical education and are developed through analysis and evaluation of information, the application of scientific method to the practice of medicine and the critical analysis of scientific literature.

Domain III - Identification, prevention and management of illness

The structure of this Domain organises that of the others and provides the succession of experiences outlined in the preceding section (see 1 above). This deals with the main content of most medical curricula, namely the basic sciences, the mechanisms and manifestation of disease, the principles of health promotion and maintenance.

The main method of study in the first two years is problem-based learning. This is described below.

Domain IV - Population medicine

Here the principles and practice of individual medicine are applied to the community and to the population as a whole. This is described in more detail below.

Domain V - Self-directed learning

Students develop the skill of self-directed learning through all of the Domains, but in Domain 5 this is reinforced through structured exercises and projects, further refining their ability to develop and evaluate their own learning skills.

A number of other topics are contained in these Domains. These include health,

law and ethics, human sexuality, health education, Aboriginal health, counselling skills, care of the terminally ill and problem-based learning.

Community orientation in the curriculum

Our curriculum lays down a firm foundation of basic biological sciences and clinical skills in the management of individual patients. But to respond to the health priorities facing Australia as outlined above, the curriculum also has a special emphasis on health problems in the community. To that extent it is community oriented. And to the extent that at least some this study is undertaken within the community, it is community-based. Many of our academic staff have indeed been recruited with interests in these fields and have built research programmes to study strategies of preventive care, health promotion and risk factors for physical and psycho-social illness. Australia's future health will rest more upon preventive care through a change of lifestyle and the reduction of hazards than it will upon the delivery of curative services, important as they are. The high death rates from traffic accidents, alcoholism, smoking related disease, diet related malignancy, are an agenda for preventive care, more than they are an agenda for cure. Our research programmes establish a scientific basis for a rigorous curriculum. Key disciplines are Clinical Epidemiology, Biostatistics, Behavioural Sciences, Anthropology, Sociology, Health Economics, Occupational Environmental Health, Bioethics, Social Psychiatry and Geriatrics. We have put much effort into developing these disciplines to provide the academic rigour for our community-oriented curriculum.

Orientation of a curriculum to community priorities does not occur by chance. It was spelled out in our educational objectives and developed through working papers. It is implemented in the curriculum in the following ways, each with an illustrative example.

1 Orientation of study problems

The problems students study in Domain III are structured to lead naturally, not only to basic sciences, but also to wider community issues. When the patho-physiology of myocardial ischaemia is being studied, so also are issues of societal risk factors, strategies for preventive care, efficiency of health services for ischaemic heart disease and the efficacy of interventions.

2 Early clinical exposure

Students learn for themselves of beliefs and habits about health and the impact of illness. For instance, when studying the genetic basis of inherited disorders, they will meet a family with an affected child and learn the impact of that problem upon family life.

3 General practice

Students are attached to a General Practitioner during the first two years and have formal postings thereafter. They see patients in an early stage of illness, in their home circumstance and see at first hand, preventive and counselling strategies in action. They are also attached over a period to a family with a new baby, or a family coping with a frail, elderly relative. They have to write an analytical report of their experience.

4 Country hospital postings

In the third year, students are posted to country hospitals for eight weeks. They work directly with clinicians in hospital and general practice, getting to grips with the pattern of health services and needs in a smaller community.

5 Special programmes to meet community needs

These have included programmes relating to the health of Aboriginal populations, human sexuality, health, law and ethics and geriatrics. As new priorities emerge, we develop new programmes. An integrated curriculum avoids inter-departmental tussles over time.

Newcastle medical students are attached over a period to a family with a member who is elderly or to one that has a new born baby

6 Aboriginal health

We now take four Aboriginal students each year in an attempt to overcome the disadvantages in education and opportunity that have plagued Aborigines. All students gain a much better understanding of issues in Aboriginal health.

7 Population medicine

This Domain stretches across the five years and concentrates upon health problems in the population as a whole.

During the first years, students work within a defined district of Newcastle, learning how to explore health and social needs. They select one problem and then, with the community, mount a project to deal with it.

This last year we have tried something different. Students play the role of disabled people out in the streets and thereby have gained great insight into the implications and consequences of disability. From time to time we shall develop fresh approaches.

In the second year, the class as a whole does a comprehensive study of a subject of high importance to the community's health. Last year it was AIDS, this year alcoholism. This demands a very wide exploration of risk factors, epidemiology, public policy and community beliefs, together with an appraisal of health and community services and costs. The work is divided up within the class. They are taught the basic principles of the study of a population and then they learn practical skills in the field. The entire study comes together in a major half-day presentation from which each group is assessed.

In the subsequent years, students study the epidemiology, cause and risk factors of specific health problems and the effectiveness of community intervention.

8 Electives

Students design their own electives, subject to approval. Many take electives overseas, in both remote areas and major centres, gaining international perspectives upon Australia's problems.

9 Student selection

Members of the community from many walks of life assist us by interviewing applicants.

We seek students who would thrive in the independence of our programme and, as far as we can judge, have a commitment to the care of the community. Some of our students have already had a role in this way, through a prior career. This assists in consultation within the community.

Our interviews do, incidently, predict how well a student is going to do.

The administration and structure of the Faculty

With a radically innovative curriculum, the Faculty has developed an administration and structure to match. The Undergraduate Education Committee takes a commanding role and individual disciplines have to fit into that programme. Although they give up some autonomy, it has proved acceptable and practicable. Both the curriculum and the assessment system require close co-operation and co-ordination. To provide the large number of staff required, we have called upon many hundreds of our colleagues in general practice and specialities to complement the role of our small full-time staff of 48. All staff, full and part-time, are supervisors, tutors and assessors and it has required us to put much effort into staff development through training and orientation. The Dean has an important co-ordinating role maintaining and developing the Faculty which has, in many ways, the administrative characteristics of a single, large department. Key committees for education, research, student admissions, programme evaluation, space allocation and equipment all relate to the Faculty as a whole and respond to overall priorities developed by the Faculty as a whole. If the Faculty had been organised along traditional departmental lines, with individual department courses, many of the innovations would have been extremely difficult, if not impossible.
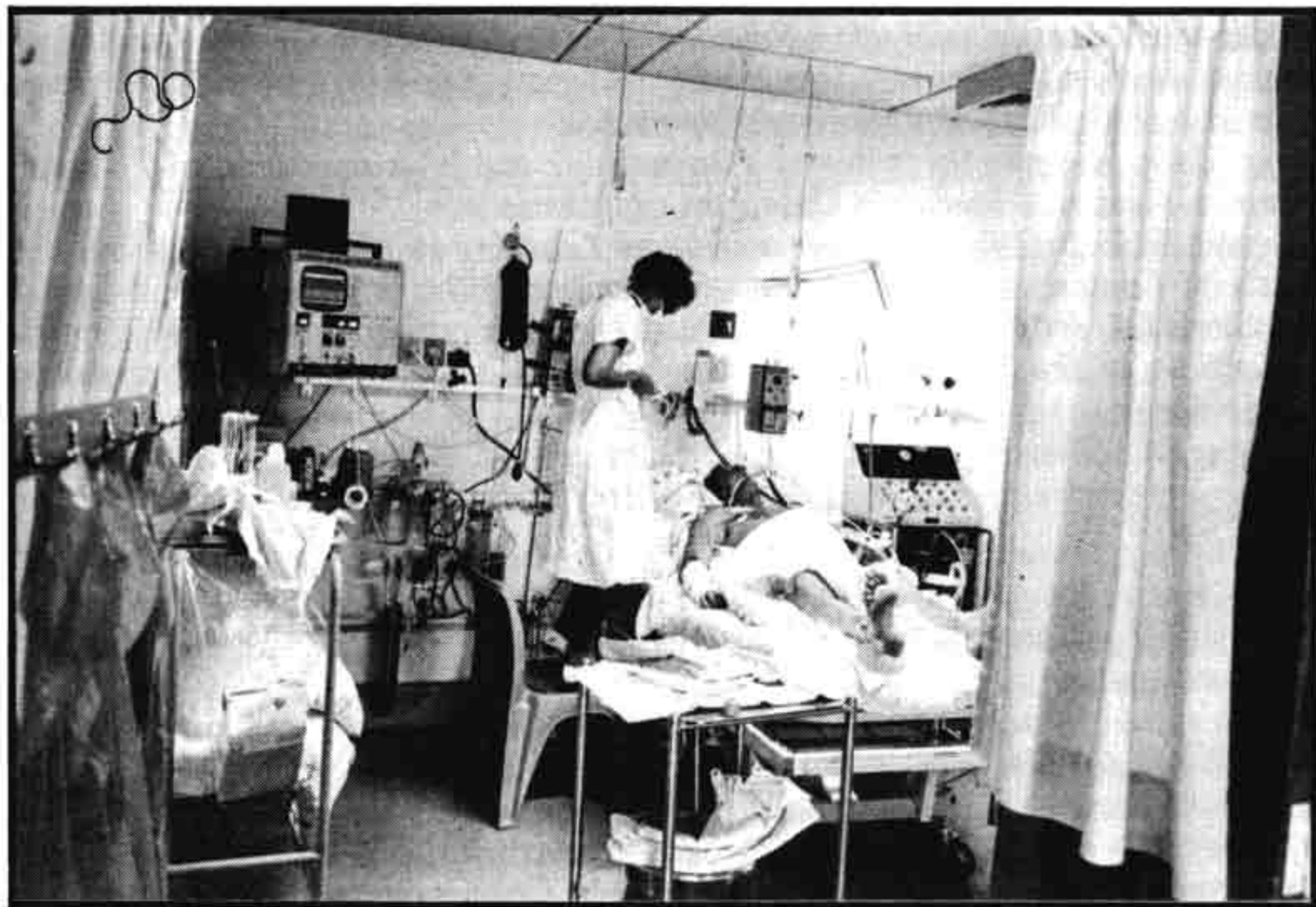
The Faculty of Medicine addressed the criticism that medical education was too scientific (neglecting the humanitarian aspects of medicine) whilst acknowledging that a scientific foundation to medicine is necessary

How do students fare?

Students enjoy the curriculum - the independence it offers, the active role they need to play, the early contact with patients and the obvious relevance of the curriculum to their future. Some have trouble with the lack of a rigid limit to what they may learn and a few would prefer to concentrate upon the hard facts of basic sciences and ignore the community orientation. Five years of students have now graduated and they have been well received. In many cases, they are the preferred choice for internship placements in competition with graduates of the other medical schools.

Our early impression of the doctors we have trained is encouraging, but we are not complacent. Only time will tell whether they will have a major impact on the development of health services in Australia and whether they will continue to adapt their practice to the needs of the community. There is no doubt we have fulfilled our mandate from the Karmel Commission and there is now no doubt that we are having a substantial impact on the pattern of medical education within Australia. Our task now is not to rest on our laurels, but to look to the future.

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Medical education in South Africa: diagnosis and treatment

This paper, by Mr J Lazarus, identifies five major problems of the graduate delivered by the South African medical schools and suggests possible ways of solving them. It must be emphasised that the ideas presented in this paper are not those of the South African Association for Medical Education; they are the author's personal views, based on a series of interviews with more than thirty medical educators in South Africa, the administration of numerous personal research projects in medical education, and ten years of experience as a facilitator of educational development within the seven South African medical schools.

Diagnosis of the problem

1 Ignoring the health needs of the majority of South Africans

The graduate emerging from our medical schools in South Africa suffers from five major problems. The first and most complex problem is that the medical graduate emerging from our medical schools is not suited to deal with the health needs of the majority of South Africans. The emphasis is on high technology hospital medicine. This bias is at least partly responsible for the maldistribution of medical practitioners within South Africa, resulting in a saturation of health care amongst advantaged urban populations and consequent poor health care for disadvantaged rural populations.The South African medical schools traditionally pattern themselves after the educational standards of Western Europe resulting, in part, in the relatively high emigration rate amongst young medical graduates. Ironically, graduates from the two most liberal white medical schools in our country, namely the University of Cape Town and Wits, suffer most severely from this symptom.

2 Specialist education

The second major problem is that the medical graduate is specialist rather than generalist in orientation. The educational process in our medical schools is overwhelmingly biased towards high technology specialist medicine.

3 Academic criteria

A third problem is the imbalance between academic and humanistic medicine. Despite overwhelming evidence that humanistic factors contribute substantially to patient recovery (1,2), the entire educational process, from student to staff selection and promotion, rests almost exclusively on academic criteria. While the teaching and learning environment may at times encourage humanistic factors circumstantially, these are seldom articulated and integrated into intentional learning experiences.

4 Narrowly defined curricula

A further problem is that the graduates are well trained but generally poorly educated. In the first instance, medical students do not benefit from a broader university education. They are subjected to a compact, intensive curriculum with little or no time to explore academic interest beyond the narrow confines of the traditional subject based curriculum. This is compounded by the fact that the teaching and learning environment of most medical school campuses within South Africa are detached from the main campuses of the universities. Students are therefore limited, not only in their academic subject choice, but in their student-peer relations.

In the second instance, the didactic teaching and rote learning methods encouraged by a subject based curriculum as well as current methods of student assessment are hardly conducive to integrative learning experiences, critical thinking or analytical problem-solving abilities.

5 Emphasis on curative medicine

The fifth and final problem is that medical education is geared towards curative rather than preventative medicine despite the fact that many illnesses in South Africa are preventable. Medical teachers are mainly curative specialists, teaching curative medicine in a curative environment and assessing their students on the curative components of medical care.

The unfortunate result of these problems is that medical graduates are inappropriately trained to meet the health care needs of our population. This situation should not be tolerated for much longer by the people of our country.

Possible solutions

How can the gap between the medical graduate, trained in this way and the health needs of the majority of our population be bridged? I would like to suggest two distinct but interrelated solutions. They are (i) the political, economic and social development of the disadvantaged communities in South Africa and (ii) affirmative action from the South African medical schools to address the training medical students to meet the health care needs of the South African population.

At present, six elements which together determine the nature of the graduate can be identified. They are:

1 The curriculum content and structure.
2 The assessment of students.
3 The method of teaching and learning.
4 The environment in which teaching and learning occurs.
5 The selection and development of lecturers.
6 The selection of students.

While each one of these factors constitutes a separate element of the educational process, their interdependence must be emphasised. It would be senseless, for example, to select students with a concern for rural health needs if this concern is drummed out by the remaining elements in the educational process. It would be equally senseless to change the content and structure of the curriculum, for example, from specialist subject-based to an integrated curriculum, without changing our methods of assessment.

A real example is provided by one of the medical schools in South Africa intending to train more students from disadvantaged educational backgrounds. Selection criteria were adjusted without adjusting the curriculum or methods of

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C urriculum content and structure

A ssessment of students

M ethods of teaching and learning

E nvironment in which teaching and learning occurs

L ecturer or staff selection and development

S tudent selection

Anatomy of the undergraduate educational process

teaching and assessment. The result was that the majority of students admitted by special criteria failed miserably in their first and second years. There are many other examples of medical schools internationally which have changed single elements within their educational process without adjusting the remaining elements accordingly. This has often led to the rejection of the innovation implemented within that single element. If a medical school is going to change anything, it must change everything accordingly if that change is to be meaningful and successful.

Anatomy of the educational process	Diagnosis and treatment				
	hospital vs community	specialist vs generalist	academic vs humanist	training vs education	curative vs preventive
Curriculum	differentiation multidiscipl relevant content	differentiation multidiscipl core content	differentiation multidiscipl biopsycho- social	content vs process broader education	differentiation multidiscipl
Assessment	differentiation	differentiation integration patient - based	differentiation integration patient - based/bio psychosocial	content vs process integration problem - based	differentiation
Methods	acad. support independent learning	integration patient - based	integration patient - based	integration independent learning problem - based	
Environment	decentralisation rural component	decentralisation community component	decentralisation		decentralisation
Lecturers	rural practitioners accountable staff development change agent	gen. practitioners accountable	accountability staff development	educators staff development	rural practitioner general practitioner accountability
Student Selection	health personnel needs differentiation bachelors degree	health personnel needs differentiation bachelors degree	health personnel needs differentiation bachelors degree	bachelors degree	health personnel needs differentiation bachelors degree

Treatment protocol for South African medical education

Proposals for change

Four fundamental proposals of a framework, aimed at addressing the six elements of the medical education process described above, are now discussed.

1 Student selection

The first proposal concerns the relationship between student selection and health personnel needs. It is suggested that those applicants most likely to meet the health personnel needs of the country be selected. While an appropriate educational process may contribute substantially towards meeting these needs, research suggests that its success is largely dependent on the kinds of students selected (3,4). Selecting students for this purpose is an attempt to influence, by means of the selection process, where, what and how graduates will practise (3,5,6). To achieve this, a medical school must identify and define:
- the community it intends to train doctors for;
- the health care needs of that community;
- the number and kinds of doctors required to fulfill those needs;
- the selection prerequisites most likely to identify the students who appear to have the greatest potential for becoming the kinds of doctors required (3).

Without these guidelines, the selection of students is likely to be arbitrary and patterned after a stereotyped image of the ideal student, which is essentially a projection of the roles and values of those responsible for selection (7). The inevitable result is a graduate who is mainly relevant to an elite community defined by the geography and ethnicity of the medical school milieu (3,8).

2 A differentiated educational process

The second proposal, flowing from the first, is that a differentiated graduate may be more appropriate to South Africa's health personnel needs than the traditional notion of a basic undifferentiated graduate. The notion of a differentiated educational process is not new (9) and has been recognised as potentially suitable to medicine (4). Today there are more than 10 differentiated or so-called dual (twin) track medical schools internationally. In response to the needs of local communities, these schools have introduced a community orientated stream alongside their traditional stream. Some schools, such as Harvard University, have introduced several streams (10, 11). These include a community stream, a traditional stream and a high technology research stream. If a differentiated educational system is considered appropriate to the health personnel needs of highly developed countries, is it not even more appropriate to South Africa with its diversity of needs?

It has been suggested (12) that differentiation, in the South African context, should not occur within a given medical school, but rather between the different medical schools. This notion of differentiation may be appropriate, provided that

every effort is made to ensure that the sum of graduates emerging from our medical schools is representative of our health personnel needs. It would not suffice if six schools generated specialists and only one produced community orientated graduates. All our medical schools must be accountable to the South African community for the kinds of graduates they produce.

3 Decentralisation of the teaching and learning environment

My third proposal concerns the need to decentralize the environment in which teaching and learning occurs. If the student's learning is limited to high technology teaching hospitals delivering curative medicine, it is inevitable that the graduate will feel most comfortable and may even be limited to practicing in a similar environment. Decentralizing the teaching and learning environment will enable our graduates to feel comfortable about practicing in community settings in rural and peripheral areas.

If the bulk of our service is decentralized to serve the community, it will be a matter of time before our research programmes and teaching follow suite.

4 Focus on health care needs

It is important that the entire organizational structure of our medical schools be examined in relation to the health care needs of the country. Medical schools should take responsibility for health care and not merely for medical care. Health personnel development and health services development should be co-ordinated. The importance of this integration is demonstrated by the results of a recent WHO survey (13) of six community-orientated medical schools. The survey indicates that a very small percentage of graduates from these schools enter into primary care careers. Indeed, the percentage of graduates from community orientated medical schools entering into primary care careers is not significantly more, and in some cases is less, than graduates from traditional medical schools. These disappointing results point towards the inadequate provision of primary care facilities in the health care system. The Beersheva medical school in Israel has recognised this and has moved towards integrating health personnel and health services development (14). The Dean of the medical school is both director of health services for the region and of medical education. Within the South African context, one might argue that the major disjuncture in the provision of appropriate health care lies in the nature of our health care system with its inadequate and inappropriate provision of primary health care services.

5 Selection of teachers

My final proposal concerns the kinds of lecturers responsible for the teaching of our students. The selection and development of our teachers is probably the single

Students are taught in an environment where sophisticated diagnostic techniques are readily available. They are often ill equipped to cope in areas where they cannot depend on these facilities

most important element determining the end product. They influence every other element in the educational process. They decide who the student will be, who the teachers will be, where teaching and learning will occur, what will be taught and learned, how it will be taught and learned and how it will be assessed. In addition to deciding about the nature of all elements within the educational process, the teachers shape the attitudes and values of impressionable students through the process of role modeling behaviour. If the bulk of our teachers are academic specialists practising curative medicine in high-tech hospital environments, it is highly probable that the educational process and the graduate emerging from it, will demonstrate similar characteristics.

Most medical school teachers have spent little or no time outside the high-technology teaching hospitals, in general practice or in rural areas

Most of the teaching staff within our medical schools have not seen much further than the corridors of high technology curative teaching hospitals. They progressed from student intern to senior house officer to registrar to specialist with limited, if any, exposure to the realities of general, and even less rural, medical practice. The result is that our medical teachers represent a "community of scholars" rather than "scholars of the community" (15).

Rural medical staff and other health workers should take an active part in influencing all elements determining the graduate. They should serve on student and staff selection committees, contribute towards designing an appropriate curriculum and take responsibility for much of the teaching and assessment.

Conclusion

Medical education in South Africa must move away from exclusive reliance on standards appropriate only to a small minority of its population. Standards of excellence within the context of the health care needs of the majority of South Africans are required. This would place the health worker in the role of an agent for social change.

I have considered what I believe to be the four most fundamental changes required in any serious attempt to contextualise the medical graduate delivered by the South African medical schools. If implemented, these proposals will, I believe, change the face of health personnel and health services development in South Africa.

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The educational challenges facing community-based education in South Africa

In South Africa, community-based medical education (CBME), will be concerned with providing relevant undergraduate teaching for the South African context. This means establishing an effective teaching and learning environment which equips students to experience and relate academic teaching to real-life health problems in their own communities. It is envisaged that this new educational environment will initially be established as a 'twin track' alongside the presently existing 'main track' of medical education. The mainstream medical track participates by contributing its knowledge, expertise and resources to this innovation.

Apart from curricular and methodological challenges, CBME faces the challenge of developing sites of learning 'in and about the community' (1). Developing an understanding of the social context as well as the rationale for CMBE are additional key concerns for CBME.

This article will primarily focus on the educational context which pertains to CBME. The experiences of the Academic Support Programme (ASP), the Wits Integrated Study Programme for Engineering (WISPE) and the Indonesian Educational Bureau model will be discussed.

Background

If CBME realises its aims, a large proportion of students, in all likelihood, will come primarily from Department of Education and Training (DET) schools. Apartheid education has, broadly speaking, resulted in stifling the potential and the rights of the learners. It has been particularly effective in promoting rote-learning and unquestioning academic attitudes; education is viewed as absorbing a set of truths.

This applies especially in black schools where:
- the majority of teachers are unqualified;
- there are high pupil-teacher ratios;
- there are inadequate facilities and shortages of basic books;
- science is taught as a body of fixed concepts and facts;
- virtually no practical, hands-on experience (lab work) is possible;
- most teachers are second or third language speakers of English;
- teacher authority is used to control rather than to promote learning;
- the syllabus is often not covered owing to political disruptions or lack of teachers.

This is by no means a full catalogue but gives us an idea of the poverty of instruction. The result is that matric results are generally acknowledged as unreliable criteria for the selection of black students.

It is, therefore, not surprising that successful black matriculants often crash academically when they enter into the university learning environment. Their learning histories militate against a deep-level understanding of the material. Cognitively, there are inadequate 'hooks' on which to hang new material since DET practices have encouraged them to devalue and negate their own knowledge and experiences.
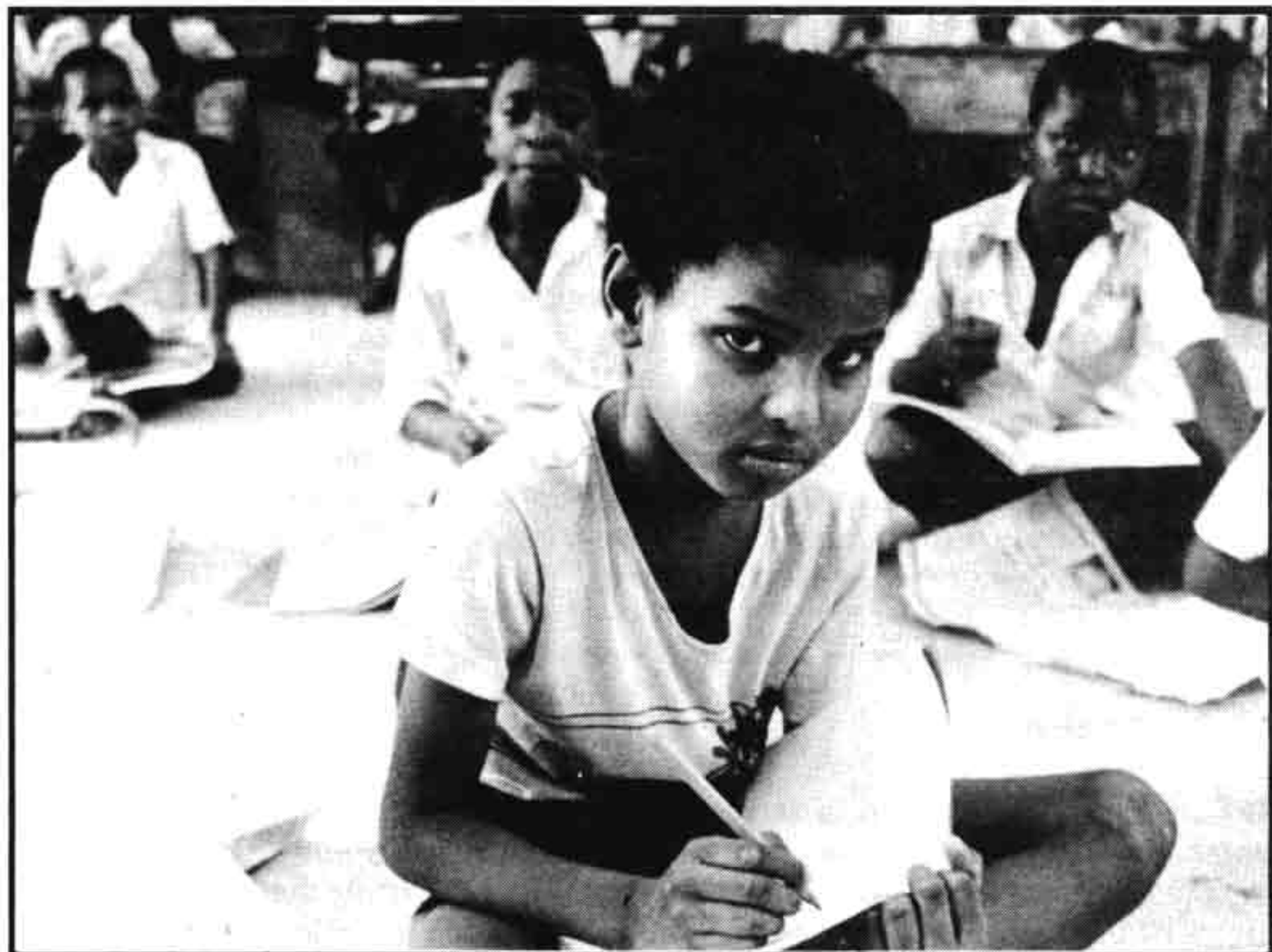
Apartheid has resulted in a maldistribution of resources within education. Many black schools are poorly equipped and the teachers are often unqualified

In addition, students find it difficult to carry out some of the higher-order skills such as formulating hypotheses, developing logical reasoning, drawing out inferences, making predictions, bringing background knowledge to bear on their work and arriving at their own conclusions, all of which are common requirements in tertiary education.

In an evaluation of the ASP tutoring scheme for medical students, it was found that 87,7% of the second language students found it problematic to make sense of the learning processes (2). This was in comparison with 40% of first language English speakers.

The major problems documented were:
"- inefficient studying, no exam technique, no coping skills, poor study habits;
- poor time management, pressure and volume of work;
- demotivation and lack of confidence;
- lack of understanding, lack of ability to know their own strengths and weaknesses;
- difficulty in applying theory to practice, distinguishing what is important and what isn't".

Although most white schools in South Africa are relatively well-equipped, the students are also taught rote learning and unquestioning attitudes

White students generally arrive with a fairly adequate knowledge base from which to build and refine academic concepts and skills, even though they, too, have been subjected to apartheid education, albeit on 'the other side'. They come from comparatively well-equipped schools and find themselves in a comfortable, relatively familiar university context which is often a natural extension of all they have been used to. They encounter a whole institution that caters for their needs.

It is only in recent years that large numbers of black students have been admitted to the historically white universities. For historical and political reasons, our present university structures are not geared to fulfill the role of providing an appropriate teaching and learning environment for students of a variety of educational and class backgrounds. The challenge for universities is to develop a perspective which includes a firm commitment to the needs of a changing learner population, accompanied by the professional competence to address differing needs.

At present, they find themselves hopelessly under-prepared as far as admissions criteria, the learning problems and financial and accommodation issues are concerned.

In fact, the present retention and pass rates of black students are an indictment of the university's present structures.

Clearly, a new vision, policies and implementation strategies which have long and short-term goals are required. The CBME twin-track approach is one strategy. Broader issues and the paradigm within which universities presently operate (3), however, will still need to be detailed and challenged.

Lessons and perspectives

Some of the pertinent issues facing institutional change are to be found in the experience of the Academic Support Programme (ASP). ASP has provided support for black students at the white universities for eight years and has developed invaluable insights into the academic challenges facing South African universities today.

The ASP's main contribution has been to develop separate study skills/language courses or content/approach support programmes that seek to help students cope with their studying problems. This was a viable response in the early days, but now has shortcomings as the intake of black students increases.

A truly successful teaching programme (one that takes into account the context, the learners and appropriate methodology) does not require an independent programme. Rather, it should provide an integrated curriculum. Eight years of experience in the area of study skills have shown us the limitations of separate study skills courses. Although the study skills courses can offer psychological relief and some general advice, the problems students face generally are rooted in the original teaching/learning environment. It is here that learning criteria must be made explicit and be internalised and processed by teacher and learner.

The 'Academic Support Phase Two Programme' reflects this understanding. The central role of ASP staff, in the future, is defined as devoting an increasing proportion of their time to consultative work and to the dissemination of ideas and practices in the teaching and wider support of disadvantaged students. The initial attempts made by ASP (phase one) were separated from the curriculum itself and support skills were not transferred to the teachers. Having learned from this, phase

two was instituted in which the support programme becomes integrated into the actual curriculum and into the manner in which it is taught.

It was this type of approach that enabled ten Indonesian medical schools to change their curriculum in three years. At each of these medical schools, an educational bureau was set up to look into all aspects of teaching and learning, content and method. The question of strategy, of establishing educational priorities, securing resources, involving and passing on skills to mainstream staff, and of team work were all contributing factors to the curriculum change. This was initiated and effected by 'a very small nucleus of teaching staff who were deeply interested in, or had a sophisticated understanding of educational science'. It is felt that ASP potential can be exploited in a similar way in our context.

Underlying principles

The following lessons should be taken into account when evaluating any curriculum innovation:

Firstly, "the fundamental test of an innovation strategy is: does it locate the responsibility for innovation with the main body of the faculty, or does it relieve them of this 'burden' by locating the responsibility with 'support services' or with a group of non-representative teachers who have been foolish enough to risk their careers by applying their talents to the problems of teaching and learning?" (4).
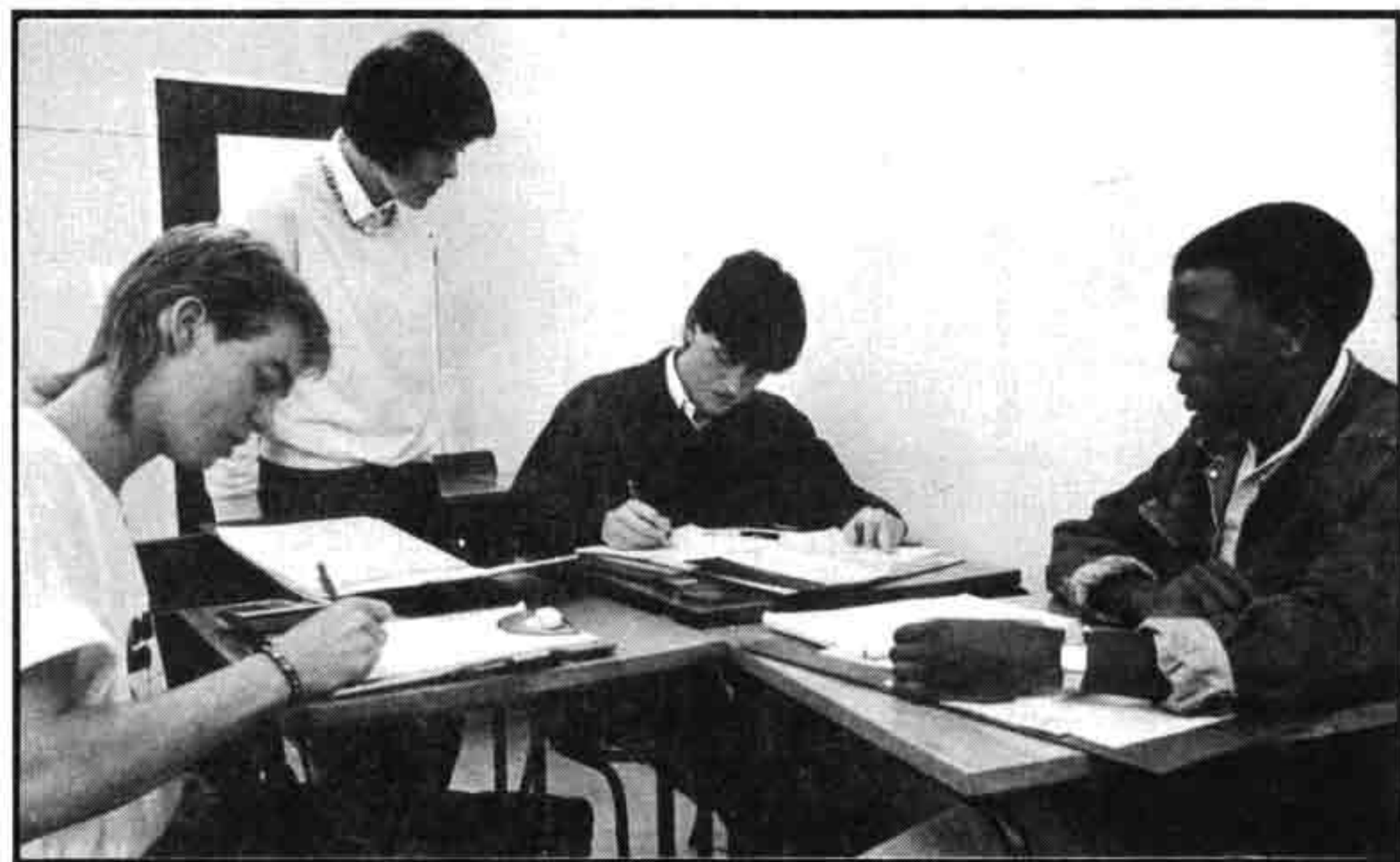
An ASP tutorial group - the programme encourages study skill training to be integrated into the curriculum rather than existing as a separate programme

Secondly, "the teaching faculty should not be handed a finished curriculum. A critical element in innovation is to involve, from the very beginning, those who will implement the innovations. It is the individual teacher who teaches the students (not the curriculum committee!)" (4).

This is of particular importance in working for change in large institutions.
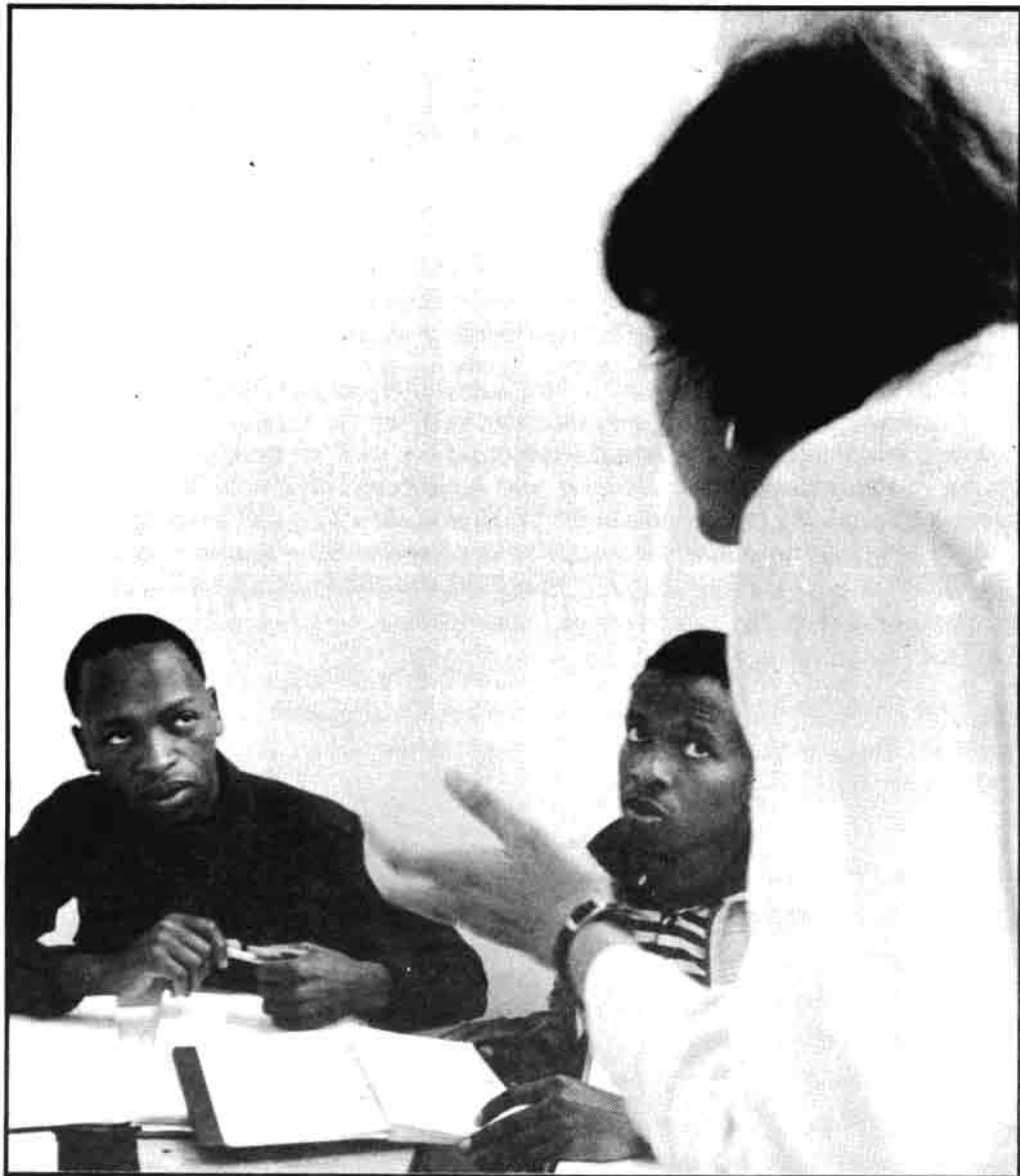
Lectures act as the backdrop of information while tutorials serve as problem-solving tools to facilitate a deeper grasp of the underlying principles

Work in progress

These principles informed the experiences of the Wits Integrated Support Programme for Engineering students (Wispe), a joint project for ASP and the Faculty of Engineering. The programme enables students to achieve mainstream credits whilst providing them with support of a problem-solving nature over the first three years of the Engineering curriculum. Structural re-organisation of the curriculum was necessary to allow for the incorporation of problem-solving courses. In effect, the four year Engineering curriculum has been spread over five years, thereby allowing students voluntarily to join a track which takes their cognitive, academic and personal needs into account. The following experiences are now presented as the core insights gained on the programme.

Structures

The important aspect of this programme has been the location of the responsibility of addressing the needs of black students firmly in the hands of the faculty but involving the critical experience and expertise of the ASP. In order to operationalise the collaborative venture, structures had to be set up at the highest level to facilitate and exchange developments on the project and arrive at decisions. Other advances to the location of educational projects in this established faculty include:
- mainstream staff are sensitised to the characteristics of the students' learning histories and the methods required to orientate a faculty to deal with them. A process is thereby set in motion so that the faculties involved in the teaching, learning and assessment context become natural;
- mechanisms are established for the smooth integration of the project within the faculty;
- it is possible to demonstrate to wider strata of staff and students that the existing system can be open to change. In short, this kind of transitional approach empowers the main body of staff to effect change in the curriculum, in methodology and attitude.

Psychological implications

Any attempt to address the needs of black students within a predominantly white university, no matter how the faculty integrates this effort within its own parameters, is bound to be perceived by students as the unwillingness of the system to change. However, even if the present pressure of "Africanising our Universities" (3) was translated into practice, we have to recognise that it entails the setting in motion of a process and that means work has to be started with present staff and

within present structures.

In the context of this process, a separate or parallel track will still be perceived by students as the unwillingness of the system to change. Any solution that visibly identifies the participants as a separate group will have psychological repercussions as, coming to terms with pressing academic needs at the cost of self-image, is unfortunately, often a consequence of the South African reality. This has been the Wispe experience, although it *is* a formative and changing process. Our second year students, this year, have 'owned' Wispe and emphatically stated that they are getting a better deal as far as the quality of learning is concerned. They are the ones who are passing whereas those who looked down on them, black and white, are struggling. By creating small opportunities which seek to address present inequities, both planners and clients become involved in a dilemma of contradictory pressures, a conflict that can't be resolved in micro terms. Therefore, positive discrimination is important but limited.

Teaching

Educational research has established two important principles which are particularly pertinent for us:
- "The most important factor influencing learning is what the learner already knows" (5).
- "When a person actively constructs knowledge he does so by relating incoming information to a previously acquired psychological frame of reference. This frame of reference allows the individual to go beyond the information given" (6).

Simply stated, the learner brings his/her worldview, perceptions and understanding to bear on his/her everyday and academic learning. The role of the educator is to provide a framework which allows this to be activated. The problem-based learning method utilised in the Medical Faculty at the University of Newcastle, Australia, not only introduces the medical students to the process of clinical reasoning but also enables the definition and structuring of their own learning in a peer group setting (7).

How can these principles be applied in practice?

The choice of a problem that allows the full engagement of the student is vital to the gains scored in learning. Our experience has borne out Bruner's point that "understanding of fundamentals makes a subject more comprehensible" and that "the mastery of the fundamental ideas of a field involves not only the grasping of general principles, but also the development of an attitude toward learning and inquiry, toward guessing and hunches, and toward the possibility of solving problems on one's own" (7). It is possible to delineate key components of the

curriculum and 'teach' them in an innovative way.

By implication, a learner-centred approach has to be adopted, one which places greater emphasis on process than product.

Our tutors play a key role as listeners to the spoken learning processes, thereby gaining a reliable understanding of each student's knowledge base. The lectures act as a backdrop of information whilst the tutorials serve as problem-solving tools to facilitate a deeper grasp of the underlying principles.

The students are expected generally to work in small groups often teaching each other, and articulating their level of understanding, their difficulties and worldviews. Of late it has been encouraging to see the extension of peer group learning taking place outside the normal academic hours.

This type of approach means that "the primary role of the teacher is making sure that the correct resources are available at the right time" (8). This sounds simpler than it actually is. In reality it requires experienced, often exceptional, staff who have a fine understanding of the discipline and more importantly, have the personality and educational know-how to mediate with a heterogeneous, ability learner group. Such staff are able to offer a theoretical perspective for their educational strategies. They are, however, rare in universities and the question is how to make the best strategic use of them. For an excellent exposition of learning theory as it impacts on medical education, see Kriel (10). It is interesting to note that tutors on the medical tutorial scheme cited their "lack of teaching ability" as a problem (2).

The methodology of teaching must take into account the problems associated with learning a subject that is not taught in the students' first language

Theoretically and, to a limited extent, practically Wispe and ASP seek to address this problem of staff development by involving faculty staff in a renewed look at the teaching and learning processes. The development of a core group interested in educational science at faculty level is a critical long-term investment. This is the most effective means by which the subject-specialist and the education-specialist divide can be healed. A demanding task has been posed for the new kind of academic tutor. What is required is the recognition of the cognitive demands of the particular discipline and the ability to convey these to learners in an interactive, meaningful way.

Language

The language needs of second language speakers have been well documented internationally and in South Africa. Language use can facilitate or block learning. Academic jargon and mystified language are common features of the lecture method and pose difficulties even for first language speakers.

The aquisition of terminology and core concepts of a discipline are also determined by the extent to which second language English speakers have been exposed to these in their own culture and environment. This is usually "acquired and assimilated from childhood, at first hand through schools, clinics, doctors' surgeries, illness or operation and treatment; and second hand through films, radio, television, books, newspapers and advertisements. Consequently, would-be doctors and nurses already have a firm and fairly broad foundation on which to build when they begin their studies" (11). These exposures through health care provision, media and culture may be limited in black communities in apartheid South Africa and the familiar vocabulary of the medical world should not be taken for granted.

Additionally, many of the linguistic features of English do not exist in the vernacular languages. There is also a discrepancy in the development of scientific terms in South African vernaculars and English. Linguistically, we need to be better informed as to where students are coming from. Moreover, each specialist discipline has its own linguistic characteristics and "communications in science is characterised by a specialist language and specialist ways of thought" (8).

These often remain inexplicit to students who are forced to adopt memorisation techniques in the absence of linguistic competence and at the expense of understanding.

Since most science and applied science academics in South Africa were taught in and speak English as a first language, they are not trained to recognise and deal with second language problems. Emphasis is placed on speaking and developing thought in the English language. The Arts/Science divide and the tendency towards increasing specialisation at university level exacerbates the inability of academics to meet the needs of second language speakers. These issues were addressed by:
- Team teaching, whereby the subject specialist and the language specialist work jointly in the tutorial;

- setting integrated problem solving tasks which necessitate the active use of the language of the discipline;

It has been necessary to motivate students to:
- give oral presentations, having solved specific problems;
- relate language work to hands-on experience, often exposing them to the relevant technology;
- probe for meanings of everyday, scientific and semi-technical words.

Medical education must train graduates to serve the health needs of the majority of South Africans

Conclusion

Clearly, the educational context pertaining to CBME is governed by exciting possibilities and challenges but also by real constraints.

It has been the line of argument that the primary role of an African university should be exploited to serve the wider society (9). This means ensuring that undergraduate teaching is relevant for the South African context, especially where

the basic needs such as health are concerned. The community role of universities has always been actively discussed in African universities. Where this has been implemented, it has been found that it has been difficult to promote high quality teaching and real community involvement. The tendency has been to create separate units which has often resulted in the main structures remaining intact (9). Political realities and cost-effectiveness have also disallowed extensive community links and development. There are small but significant exceptions, though, as demonstrated by projects like the Community Education Project for Soweto Youth (12).

"The social purpose of a university in Africa differs from its traditional social purpose in Europe. In Europe, universities have stood for continuity and conservation; in Africa, universities are powerful instruments for change" (9). In South Africa, it can be argued that the potential is even greater. It is up to educationalists to make their contribution in the crucial transition period.

The workshop to be held in December demonstrates that there is a will for change in medical education. Existing health bases offer enormous ground for effecting community participation in the mission of supporting the emergence of a new kind of medical graduate, one who is attuned, trained and willing to be part of a health team in the communities where they are most needed.

Thus, CBME, within a twin track programme, could play a vital role in forging new directions in health. This is provided that it does not remain as a separate track, but rather influences and changes the main track to become more appropriate.

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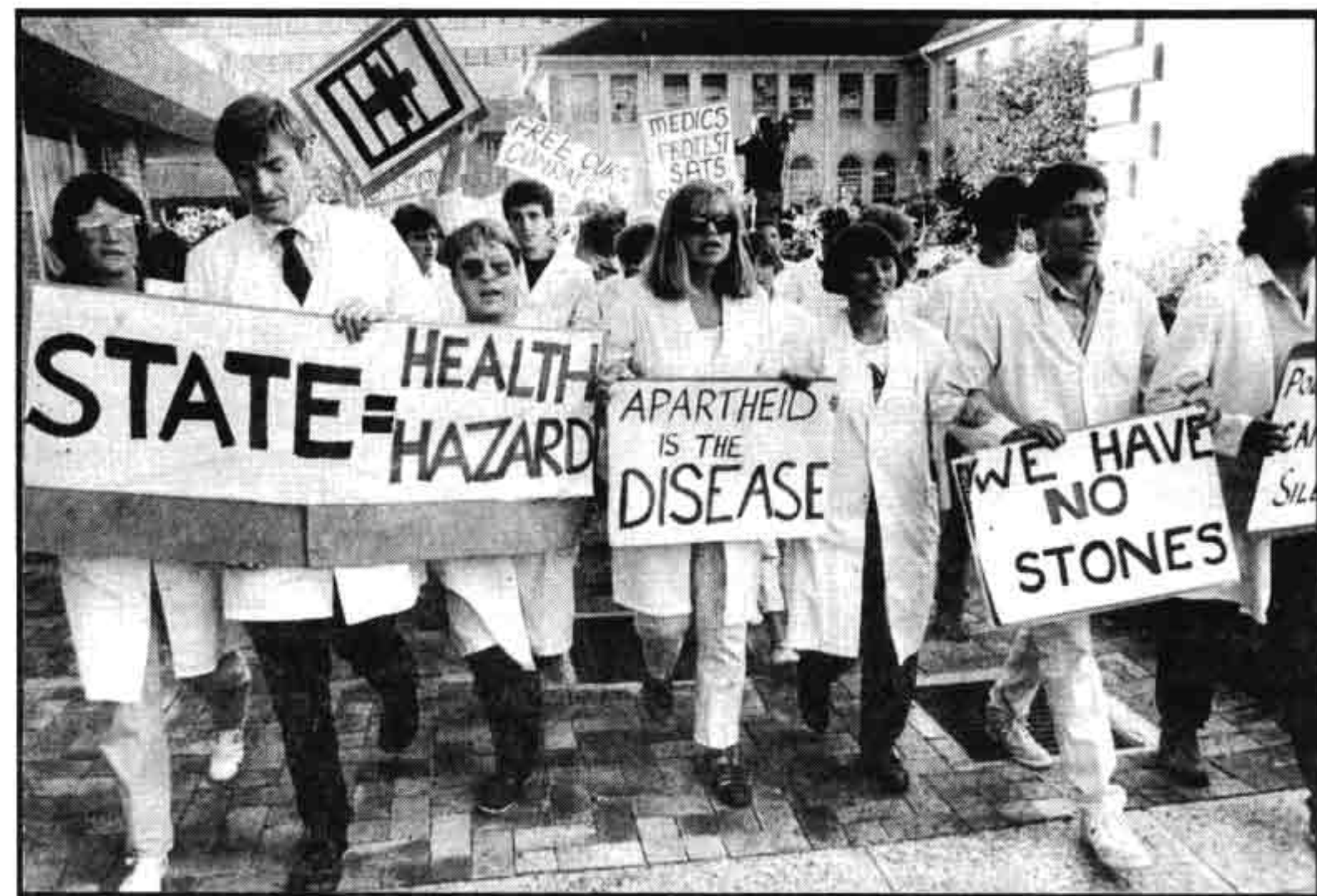
Medical universities can be powerful instruments for change both within the direction of education received as well as within society at large

A brief history of the National Medical And Dental Association (NAMDA)

NAMDA has been interested in the issue of medical education for many years. This interest and concern resulted in NAMDA initiating a workshop with the University of the Witwatersrand, to discuss the issues involved. The following article is a history of the organisation and outlines some of its activities and future plans.

NAMDA was formally constituted on 5th December 1982 in Durban. It is not fortuitous that this was the beginning of the most significant decade in the history of resistance to apartheid. In 1982 the first stirrings of mass resistance were in the air. The progressive trade union movement had been growing rapidly since the Durban strikes in 1973 and was heading towards the formation of COSATU. A number of community based organisations were emerging in Cape Town, Durban and Johannesburg; these were founded on daily community issues such as housing, rents and local government. Student boycotts had reappeared after Soweto 1976 and were spreading through the land in African, 'Coloured' and Indian schools. Universities were the focal point of intense debate and student unrest. Youth, both inside and outside educational institutions, were getting organised. In a word, NAMDA was born in a period of burgeoning social dissent and challenge. Cracks in the monolithic state apparatus were widening: legislation allowed the unionisation of Africans; influx control was being loosened; political institutions were being designed to accommodate Africans, Indians and 'Coloureds' and petty apartheid was crumbling.

At this time a Health Workers Association was already in existence in the Transvaal. It was in Durban, however, that a group of doctors was able to take the first few steps to establishing the forerunner of NAMDA. It is not by chance that these events occurred early on in Durban - this city has the largest concentration of black doctors; the University of Natal has the oldest and biggest black Medical

NAMDA was formed during a period of increasing mass resistance to apartheid

Faculty; doctors at the Medical School had the experience of an abortive strike over unequal salaries in 1968. This was the scene of the rise of Biko and Black Consciousness; Medical Schools had lived through the South African Students Organisation and were more politicised than their colleagues on other campuses; black private practitioners had an infrastructure of thriving Guilds and, most critically, a significant number of doctors had been involved for many years in political work and community organising. This convergence of different factors created the objective and subjective conditions for NAMDA.

Medical ethics under political repression

Two specific events acted as catalysts for bringing together health professionals to seek avenues for the expression of their discontent. These were the failure of the Medical Association of South Africa (MASA) to take prompt and appropriate action against Drs Lang and Tucker who had been accused of unethical behaviour in their medical management of Steve Biko who died in detention in 1977, and the effects of detention on health (especially the physical and mental deterioration produced by solitary confinement and torture). These made such a profound impact on the collective conscience of the Medical and Dental Fraternity that a wide range of individuals took up the struggle for a re-examination of medical ethics and responsibilities in this country and to speak out against unjust laws which had by then led to incalculable suffering and more than fifty deaths in detention.

Prior to the 1980's, this response by health professionals had been isolated, fragmentary and individualised. No systematic examination of the nexus between apartheid and health had been undertaken by doctors and dentists; little was done on an organised basis and there were no programmes of action.

Initiatives leading to the formation of NAMDA

The impetus came, surprisingly, from the guilds (Durban North, South and West Guilds and Pietermaritzburg Doctors' Guild). A decision was taken to hold a conference to go into the question of forming an alternative medical association. Representation was to be from as wide a group of doctors as possible. An interim committee organised such a meeting on 15th November 1981 at the TASA Centre in Durban. About 150 doctors from Natal and Transvaal attended.

The reasons formulated for a new medical association were the failure of MASA, the need for a forum for progressive doctors to discuss the wider issues on health, the commitment to work for democratic change in health structures, services and education, the necessity to take up people's health issues and finally, to counter state propaganda by revealing the true conditions prevailing in health in South Africa to the world community. The alternative medical association was formed. This body further canvassed the views of doctors in Durban, Stanger, Port Shepstone, Pietermaritzburg, Newcastle, Port Elizabeth, Cape Town and Johannesburg. There was considerable support for the new Association.

This mobilisation and consultation culminated in a National Conference held on 5th December 1982 at which NAMDA was named and formed. A Health Worker Organisation also appeared in Durban.

The goals of the organisation were enunciated for the first time and were broad and all-encompassing on health. The preamble to the constitution, accepts the World Health Organisation definition of health, affirms the belief in health as a basic human right and, above all, commits NAMDA to the establishment of a just society as a precondition for optimum health.

The guidelines for a programme of action drawn up at that time were primarily concerned with building and strengthening the organisation on a broad and secure base. There was not much hint in these statements of the central role in health that NAMDA was to play in the rising surge of popular dissent in the 1980's.

Controversial principles

Full membership was restricted to registered medical practitioners and dentists. Associate membership was open to students and "concerned health professionals", this was later changed to "such other persons as determined by the association". This restricted membership was used by critics of NAMDA as a crucial weakness

leading to control over health matters by professional elites. The NAMDA argument is that the deep class division in South Africa prevents the organisation of all health workers into one body.

Relations with MASA

The dealings with MASA have deteriorated from suspicion and distrust to outright hostility. As alluded to above, the creation of NAMDA was in some measure, though not entirely, a reaction to the failure of MASA. It was inevitable that MASA's actions would be opposed as it was perceived by NAMDA as being closely aligned with the ideology and practices of the apartheid state. After criticisms of MASA on the handling of the Biko issue, contact between the two organisations bristled with suspicion, but was still subdued in relation to later events. NAMDA's reaction to the report of the ad hoc committee of MASA (May 1983), which had the Minister of Health on the Medical Care of Prisoners and detainees, was gentle if not muted. NAMDA supported MASA on its initiative and affirmed that the report was significant. However, NAMDA believed that recommendations were limited and suggested that MASA improve their recommendations and "actively work for their implementation". Some of the reservations of NAMDA hinged on the dismal failure of the report to condemn the system of detention itself and demand its abolition and the right of access to detainees by an independent doctor of their choice.

Commemorating the death in detention of Neil Aggett . NAMDA condemns the system of detention and is concerned about the effects that it has on the people's health

The World Medical Association (WMA) had precipitated the breakaway of African, Scandinavian and British groups by its decisions to readmit MASA. In 1984 MASA planned to host the congress of the WMA in South Africa. The purpose of this would be to assist MASA in reducing the international outrage over conduct on the Biko issue and to project an unrealistically favourable impression of health and disease in South Africa. NAMDA, health worker groups and medical students councils formed a co-ordination body, the National Committee of Health Organisations (COHO) which spearheaded the opposition to this WMA congress. The campaign succeeded and the WMA congress was moved to Brussels. It was during this campaign that unity among health groups occurred in joint action and nascent international support was encouraged.

MASA continues to avoid significant action on crucial issues in health: effects of repressive state legislation, torture in jails, deaths in detention, the detention and abuse of children, the emergencies, security branch harassment of NAMDA, non viable and corrupt bantustans, the fragmentation in health services accentuated by the new tricameral constitution, the consequences of forced removals, the racist allocation of health resources, the crises in black housing and education etc ....

International support

NAMDA has built a powerful support network at an international level. A number of solidarity groups and individuals have been set up in the past few years. Primum inter pares is the Committee for Health in South Africa (CHISA) in the USA which has grown and now has an identity and a presence which promotes the anti-apartheid struggle in health. A close relationship exists between NAMDA and CHISA. A similar group "Health Watch" exists in Canada and there are less formalised groups (but no less supportive) in the United Kingdom, Europe and Australia. NAMDA is a member of the international commission of Health Professionals and has informal associations with UNICEF and other international agencies. In October 1986 a NAMDA delegation attended the Maseru conference of the Confederation of African Medical Associations (CAMAS). NAMDA was accorded permanent observer status with this body. The CAMAS link established a precedent on the exchange with and support of academics in South Africa.

Involvement in new initiatives

The rising momentum of change in this country has created its own imperatives. While liberation may not be imminent, it appears realisable. For NAMDA this means planning for the future. Accordingly, a number of seminars, publications and campaigns have addressed vital issues such as a nationalised health service, Primary Health Care (PHC), training of PHC workers, doctors, dentists and other

health professionals for a post apartheid South Africa, traditional medicine, role of nurses, privatisation, role of drug companies, appropriate research, etc. Except for NHS recommendations in the Gluckman commission at the time of the 2nd world war, this is the first systematic inclusion of these issues and discussions on the future shape of this country's health service.

The progressive direction taken by NAMDA was facilitated by leading members in its ranks with active involvement in political, community, youth, welfare and worker organisations. Up to this point, NAMDA has managed to balance the ability to provide leadership when necessary with the capacity to respond to the changing needs of people caught up in daily struggle.

Emergency services groups

The uprising in the Vaal triangle, which later spread throughout the country's black townships in 1984 increased requests for medical and psychological assistance. It was difficult for injured people to escape from townships ringed by a cordon of security forces and impossible for sympathetic outsiders to get in. A significant police presence was maintained at hospitals to arrest those seeking help for injuries. Access to doctors and clinics and even makeshift facilities at churches was

NAMDA played a role in the establishment of the Emergency Services Groups which train community members to deal with health related problems, especially those related to acts of police violence. The programme also provides counselling and rehabilitation of ex-detainees

limited. Furthermore, the number of political detainees was increasing daily. Many thousands suffered the after effects of their detention and torture on being released from apartheid prisons. NAMDA brought together detainee support groups and a few other organisations to set up the Emergency Services Groups (ESG). This programme entails training local members of community organisations to deal with health related problems, especially surgical emergencies and crises, which occur during times of unrest. Counselling and rehabilitation of ex-detainees is a major component of this project. This programme is now the largest health service provided by progressives to the community. While NAMDA maintains an abiding and important involvement in ESG, to a large extent the organisation functions independently.

The progressive primary health care network

NAMDA is committed to the building of a health system in a democratic South Africa based on sound and secure primary health care services. An imaginative move towards this medium term objective was the convening of a conference by NAMDA of PHC workers in Cape Town during April 1987. The minimum requirement we used for the invitation was a rejection of apartheid. From this meeting arose the Progressive Primary Health Care network (PPHC), which was formally launched in Johannesburg in September 1987. PPHC operates autonomously from NAMDA with its own projects, regional and national structures. NAMDA participates through its members elected onto PPHC committees.

Health worker organisations

Nurses comprise the largest group of health workers in South Africa. The organisation of nurses is therefore at the centre of any strategy for change in health services. The emergence of the National Education, Health and Allied Workers Union (NEHAWU) is therefore critical for all health organisations. NAMDA has had extensive discussions with NEHAWU and the Health Workers Association with regard to the organisation of health professionals into the union.

Community based medical education (CBME)

The urgent need to match medical education and training with the major health problems of all South Africans has been clearly understood by NAMDA from its constitution, article 3.5 of which reads: "To promote improved standards of teaching and training in health, medical and related professions, relevant to the

NAMDA believes medical education must match the major health problems of all South Africans

needs of the majority of the people". In accordance with this objective the National Council in 1988 mandated a sub-committee on education to look at the very complex nature of medical education and especially so in the South African context. It was on the strong recommendations on CBME, by the committee, that extensive discussions took place in various regions. The sub-committee further recommended that NAMDA initiate a major conference on CBME with one of the medical schools and it is in this context that Wits agreed to host this conference. CBME is an objective mentioned in all NAMDA brochures and discussed in virtually every annual meeting. With the experience of two senior members who have developed considerable expertise in this field of appropriate, medical education a special education sub- committee of the National Council of NAMDA was set up. Seminars on this subject have been given by NAMDA members in all

the English speaking medical schools of South Africa. A delegation from NAMDA was invited to attend a conference held at the medical school of Newcastle, New South Wales and Australia. The conference was devoted to examining the experience of the Newcastle School in Innovative Medical Education. The December workshop at Wits is a launching pad for a serious initiative into Community Based Medical Education.

Structures

The membership has fluctuated in numbers, at best there were about 1 000 members. The Annual Congress is the supreme policy making and decision making body. It is comprised of mandated branch representatives. The Annual Congress elects a National Council which manages the organisation. The National Executive Committee (NEC) is elected by the National Council. There are regional/provincial councils and local branches. There are at present 10 branches and/or regions.

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