

# Doctor Shortage and Health Services\*

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## SUMMARY

There are about 130 Bantu medical graduates to serve a Bantu population of over 15 000 000 for which there is so far only one 'shared' medical school in Durban. In contrast there are over 10 000 White doctors for a White population 3 700 000 served by 4 established and 3 new medical schools. The historical evolution of Bantu education is one reason for this disparity which is discussed as well as the effects of the shortage of Bantu doctors in the Bantu community.

The general conservatism of the medical profession and the traditional resistance to changing medical curricula is implied. Opinions on experimentation with, and alterations to, the curriculum appearing in papers at conferences on medical education in western countries are presented.

A scheme to remedy the present situation urgently in South Africa by instituting a separate Bantu Medical Council, a separate Medical Register and a separate Medical Examinations Board with training facilities at certain recognized Bantu hospitals, is proposed.

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This article places a different accent on the figures which represent the availability or shortage of medical practitioner services in South Africa and suggests steps to improve the situation.

## NATURE AND EXTENT OF SHORTAGE

Various types of the shortage have been defined such as absolute, relative, regional and racial. In an interesting paper given at the Conference on Medical Education in South Africa in Durban in July 1964, Wright<sup>1</sup> gave the ratio of doctors to population in South Africa as 1:2 000 and the medical schools as 1:32 164 000 of the population. He also gave the figure for the Congo as 1 doctor per 63 000 of the population and 1 medical school per 7 070 000 of population.

In view of traditional attitudes in South Africa it is necessary also to analyse the figures on a racial basis when it is found that there are over 10 000 White doctors for a White population of about 3.7 million and with the recent announcement of 3 more medical schools to be established, there will be seven medical schools for a white population of 3.7 million. Compared with this there are some 130 qualified Bantu doctors in practice for a population of over 15 million Bantu and part of one medical school in Durban for the training of Bantu doctors. This school trains more Indian and Coloured students than Bantu students. Furthermore there is an insignificant number of Bantu medical students compared with the number needed by the Bantu community.

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## CAUSES OF SHORTAGE OF BANTU DOCTORS

It is axiomatic that a community must educate sufficient primary and secondary school pupils from which their students for university education and training can be drawn and Professor Snyman<sup>2</sup> produced a very enlightening figure for the White population and showed that from a given number of White births only about 16% of matriculants and 0.5% of doctors were produced. Such a complete follow-up for the Bantu is not available but in a publication by the Bureau of Statistics, *Union Statistics for Fifty Years*,<sup>3</sup> it is shown that for the year 1963 there were 208 723 Bantu male scholars in Standard Sub-A at an average age of 8.69 years as compared with 38 841 Whites in Sub-A at an average age of 6.48 years and 12 685 White scholars in Standard 10 at an average age of 17.62 years compared with only 609 Bantu scholars in Standard 10 at an average age of 19.38 years.

In his paper delivered at the Durban Conference, Brandford<sup>4</sup> showed that 41 Bantu schools entered 731 Bantu candidates for Standard 10, of whom 109 (14.9%) obtained matriculation exemptions. For this examination a pass in higher standard English is required! He thinks the Joint Matriculation Board should have altered the regulations to remove the stumbling block of English Higher standard for African (Bantu) candidates.

Historically the education of the Bantu became possible only after settled and stabilized peaceful conditions were established at the end of the various Bantu tribal wars during the 19th century. Bantu education was started by missionaries who had to carry the full financial burden, because it was viewed with much suspicion by the public. From 1850 to 1925 the view was held that the State should only control Bantu education by subsidizing missionary and other Bantu educational institutions. Rapid urbanization with consequent overcrowding, lack of housing, breakdown of family life and juvenile delinquency led to a public demand for more schools and better education of the Bantu. The need for Bantu education, however, far exceeded the funds available for the purpose and the so-called Eiselen Commission was appointed in 1948 to investigate the matter. Its report led to the Bantu Education Act No. 47 of 1954 which transferred all Bantu education to the unified control of the Central Government. The guiding principle was that 'in Bantu education the Bantu must themselves participate in its control and administration as well as contribute substantially to its financial requirements'. Application of this principle to Bantu medical education is recommended in this paper.<sup>4</sup> With this slow evolution of Bantu primary and secondary education it is not unexpected that in 1965 only 323 scholars obtained the matriculation certificate and 504 the school-leaving certificate although it is estimated that in addition nearly 5 000 scholars wrote the examination or parts of it after private

study. From this small number had to come among others, not only medical and law students but also inspectors of education, principals of large schools, professors at the various Bantu university colleges and ministers of religion.<sup>5</sup>

In 1966 a Government interdepartmental committee produced an unpublished report which recommended that two medical schools for Bantu students should be established at Umlazi near Durban and at Ga Rankuwa near Pretoria after the necessary accommodation had been provided for study of preclinical subjects as well as hospitals for clinical studies. This committee also considered that the medical schools should start with 100 students to produce 40 - 50 final year medical students after presumably completing the standard 7-year medical course. The committee stated that the main wastage in medical students occurred in the preclinical years. Yet the committee did not, for Bantu medical students, visualize any deviation from, or amendment to the standard medical curriculum accepted for Whites as prescribed by the South African Medical and Dental Council. This committee further was of the opinion that training of first-year medical students should start at the beginning of 1968 at the Bantu University Colleges and that Bantu students should then gradually be withdrawn from the non-White medical school attached to King Edward VIII Hospital in Durban. Financing of these schemes would depend on the State Departments concerned. The Ministers of State concerned have not rushed to implement this committee's recommendations, which did not include a profound study of the financial implications or the special needs of the Bantu people.

In 1968 the so-called Mönning Commission strongly recommended that three more medical faculties for Whites be urgently established as announced in May 1969 in Parliament. The recommendations regarding Bantu medical education have not been revealed by the Minister of Planning.

In Durban at the Conference on Medical Education in 1964 only 6 out of some 56 papers referred directly to Bantu medical education. If any Bantu medical practitioner had been invited to present a paper at this Conference, none ventured to avail himself of the opportunity or to ventilate his opinion on the subject in the medical press.

Strating<sup>6</sup> stated that for the Bantu Homelands medical practitioners should be trained who will be very conscious of the importance of preventive medicine, who could act as 'integrated' practitioners. He said that medical students were socially orientated at the beginning of their studies but that this had vanished by the end of the course. The student's social conscience should therefore be developed right from the very moment he entered the medical school. He did not recommend a change in the present 7-year curriculum.

Gordon<sup>7</sup> appeared to accept the present medical curriculum for Bantu medical students and related training to existing training facilities and to the numbers who passed the matriculation examination in the appropriate subjects needed for medical training. He said there would be no difficulty in placing the additional Bantu graduates—in fact there was an urgent need to train 80 Bantu medical practitioners per year.

In an interesting study of the supply and demand of medical practitioners, Wright<sup>8</sup> concluded that the supply of medical practitioners was related to the gross national product or income *per capita* of the community. But in practice, demand is the criterion which is more likely to affect the supply of physicians since demand is a function not only of need but of the economic support necessary for sustaining the need. Concerning the wastage of professional services he said that a considerable amount of time, effort, money and professional training was wasted through misdirected use of the time of professionally trained persons for tasks which could be performed by other persons with less skill, knowledge and training. (The question that could be asked here is whether the Bantu could meanwhile not be trained to do these lesser or general and non-specialist medical tasks.) He posed the question whether South Africa should be considered as an African country with a favourable supply of one physician for 2 000 of the population as compared with other African countries, as a western or European country where she compares poorly with countries where there is one physician to as few as 700 of the population in New Zealand, 860 in Australia, 900 in the Netherlands, 910 in Canada and 930 in the United Kingdom. Unfortunately Wright only analysed the potential of White pupils in South African schools to produce university students. However, as already mentioned, the reports of the Bureau of Statistics give interesting figures on Bantu education in this respect.

Snyman,<sup>9</sup> in another paper, concluded: 'rapidly developing industries, rising standard of living, development of Bantu Homelands and rapid growth of population, particularly the Bantu section, led to an actual shortage of doctors for optimal service. The production potential of the White section will probably decline while the production of Bantu doctors is inadequate. Attention has to be given to the training of Bantu medical assistants on a short course for restricted purposes, to assist in bringing the basic medical services to all sections of the community.'

It is suggested that the short course should be one of 4 years and should be of a predominantly clinical nature and almost untrammelled by the scientific or preclinical subjects presently prescribed for White medical students during the first 3 years of medical training. These pre-clinical subjects are apparently intended to make the student scientifically minded before he becomes a clinician. The need of the Bantu people is for clinicians who can assist them now in times of sickness and anxiety while scientists can be trained later when their immediate needs have been satisfied to some extent.

### EFFECTS OF THE SHORTAGE OF BANTU DOCTORS

The presence of considerable numbers of *azanusu*, *izangoma*, *izinyanga* or so-called witchdoctors in every Bantu community of any size is a clear indication of the need or demand of that community for a service which the highly trained western-orientated doctors do not provide. It is a challenge for those who presume to know better what is right and good for the Bantu, to replace the witchdoctor with other doctors drawn from the Bantu ranks and

trained in western methods as clinicians, who know the Bantu languages, cultures, social structure and history better than any White doctor. Dearing<sup>10</sup> quoted Columbine who found in Ceylon that the people there availed themselves mainly of the services of the traditional or indigenous practitioner unless the patient was considered to suffer from a condition which the western trained practitioner was known to be able to alleviate.

A further indication of the shortage of Bantu doctors is the large number of hospitals solely for Bantu patients, viz. 216 hospitals with 49 743 beds in 1960 as well as 230 hospitals serving both or all races. In these hospitals the medical cover consists almost exclusively of White doctors. Baragwanath Hospital, one of the largest Bantu hospitals in Africa, is staffed by White doctors, and no Bantu students are trained there. A large number of posts in clinics in Bantu townships have to be filled by White doctors due to the shortage of Bantu candidates. The absence of Bantu doctors in the larger Bantu townships leaves the Bantu youth uninspired to follow the medical profession as there are no living examples and insufficient incentives or encouragement for the youth in the form of vacant posts which are usually easily filled by White doctors. The Bantu community is in need of family physicians who can be called on for advice and assistance at any time of the day or week and especially when the clinics are closed and the White doctors are, through social or economic circumstances or through legal provisions, unavailable to the Bantu in their respective group areas. The doctor shortage leads to deferred diagnoses of illness with the consequently more frequent admission of advanced disease cases to already overcrowded Bantu hospitals. No wonder more White medical faculties are started to meet the demand for more hospital doctors although the training of White doctors is more expensive in every respect for the taxpayer.

This shortage of Bantu doctors also leads to interference with preventive and promotive and even curative medical practice. In the Bantu community there are not sufficient Bantu doctors whose influence could lead the Bantu community to accept western medicine more freely. In emergencies the sick Bantu must resort to the witchdoctor or sometimes to the nurse or midwife in the neighbourhood. Health education of the Bantu could only be done effectively by persons of the Bantu community and the advice of a doctor or medically trained person would carry more weight than the numerous posters, pamphlets and other health education media which are now found to have limited persuasive effect. The influence of the Bantu doctor could go further and provide a medical service to territories outside South Africa and perhaps promote favourable attitudes and goodwill. An adequately manned Bantu medical profession could diminish the demand for White doctors and more White students could be made available for engineering, commerce, industry, law and academic professions.

There is often heard the objection to the training of 'second-class' doctors and even the Nursing Council announced the unwillingness of nurses to work for 'inadequately trained doctors'. In this respect policy prescribes that White nurses shall not work under direction of any

kind of Bantu doctor at all. Furthermore, the training of Bantu should be controlled by a Bantu Nursing Council. Here it may be observed that one of the implications of the insistence that Bantu doctors and nurses be given the same training and qualifications as White doctors and nurses is the logical demand that they receive the same salaries. The only reasonable answer is that in accordance with the policy of parallel development Bantu personnel should have the salary scales which their community can afford, provided they have separate Bantu Controlling Organizations, separate registers and examinations in conformity with the needs of their communities.

### DEMAND FOR A CHANGE IN MEDICAL CURRICULUM

Sinclair<sup>11</sup> said at the First World Conference on Medical Education in London in 1953: 'as the science of medicine advances new subjects have to be incorporated in the curriculum. Instead of shedding the old subject which is hallowed only by tradition and so give place to the new, the new is grafted on to the old. The medical curriculum therefore becomes a crusted structure with subjects once vital now dead and useless. Medical students are taught by eminent specialists each of whom tends to regard his own subject as being outstandingly important to the student and insufficiently represented on the curriculum. Xylem and phloem is taught like a drowning person clutching at flotsam and jetsam. The student is taught minutiae of anatomy and structural chemical formulae of no educational value, doses of drugs before he has reached the patient and details of advanced pathological technique as if he were primarily a technician'. In *Medical Education Reconsidered* Cope and Zacharias<sup>12</sup> consider: 'the rate of change in medical knowledge is altering the composition of the medical profession rapidly and group practice takes the field. The pressures on the physician to effect immediate cure is increasing and it is necessary to remedy this by a long all-purpose medical education. The length of the course is to be shortened to attract more students and provide a more satisfying medical training course. The medical student must be introduced to the wards early while he is still strongly motivated and interested. He must acquire understanding and not facts. An extended course makes it less attractive and other professions absorb the promising students. The student faces an unbearable task to master an overwhelming range of knowledge and skill which he may never utilize in his career. The purpose of medical education is to understand disease and be able to manage sick people. The course should, therefore, be altered accordingly.'

The World Health Organization<sup>13</sup> is studying medical education and a study group have reported from time to time on internationally acceptable minimum standards of medical education. The Study Group considered 'that the minimum period of medical curriculum should be four years of full-time study extending over at least three-quarters of each year. The period is exclusive of a year's internship which is essential for those who enter clinical practice.' They consider that this medical curriculum should follow a period of preclinical study.

Meredith<sup>14</sup> at the second Annual Conference of the Association for the Study of Medical Education in October 1959, quotes Professor Hemingway who at a Conference in Leeds drew attention to a 'number of curricular defects like the over-all length of the course and the tendency for every specialist to teach in too much detail, the task of balance and co-ordination between different parts of the course and the rigid separation between preclinical and clinical parts of the course. He believes that the last presents a serious psychological difficulty to the medical student who more than any other student enters the University with the strongest vocational urge. No other faculty gives him less opportunity to liberate this urge in his early university years than the Medical Faculty.

Sir Norman Wright<sup>15</sup> says the use of auxiliary personnel does seem a possibility, certainly in undeveloped countries, simply because much of the medical attention in these countries is now preventive rather than curative, due to the very lack of doctors and the difficulties of communication. Clearly the number of doctors and midwives is utterly inadequate to face the enormous problems presented if family planning is to be introduced on a large scale. The problem of population will not be solved unless we can develop sufficient medical manpower. Auxiliary personnel can do the job but they cannot do it without proper supervision<sup>16</sup>.

Lambo<sup>17</sup> of the Ibadan University considers that 'the long term investment need for Health and Medical Educational programmes is almost beyond the normal economic power of many developing countries. What is needed may be a modest beginning by flexible experimentation in medical education. Many countries in Africa still cling to their colonial traditions for fear of not being recognized internationally and because they are economically tied to their colonial past.'

The introduction of a new service may itself lead to the consciousness of the need for that service just as the introduction of a crystal in a supersaturated solution leads to mass crystallization.<sup>18</sup> Medical training is now prolonged and based on mathematics, physics and chemistry but the higher standards required are by no means fully justified. The best brains are attracted to pure science, while secondary education tends to direct the less gifted student to medical and general practice because the student cannot visualize what medicine means as it is so multi-faceted, with no standard picture. Academic measures offer most promise for a remedy of the problem of too few general practitioners and too many specialists. A return to clinical studies in contact with patients should be the point of departure for all medical studies. Take the benefits derived now from investments made 50 years ago, so the future health services will depend on the efforts now made to prepare future physicians for practice and research.

Ellis<sup>19</sup> said at the Durban Conference on Medical Education: 'students are so frustrated in the preclinical years that it makes them too critical and unteachable in their clinical years. Preclinical subjects are taught by scientists whose thinking and approach is entirely different from that of the empirical clinicians and therefore students have difficulty in their clinical studies.'

Daubenton<sup>20</sup> at the Durban Conference in 1964 said: 'a system of medical education following the same evolutionary trend as shown by the history of medicine and completely inverting the present order of the curriculum would certainly hold the attention of the students. To fit in what the student needs and still reduce the length of the course requires integration and the experiments of Western Reserve, Harvard, Durham and Glasgow are examples of radically reconstructed courses where committees rather than departments arrange interdepartmental training. The greatest challenge of all is that the curriculum should be taught in such a way that the student's interest is maintained at all stages.' The history of medicine shows that doctors were clinicians long before they were expected also to be scientists, and to start the Bantu student with clinical training would therefore historically be a most natural evolution.

The conclusion based on the opinions presented here and also on many not presented here, is that if the economic position of the Bantu student, his social and cultural background and legal disabilities have been duly considered, studied and kept in mind, it should be agreed that he at first should follow a radically different curriculum from that prepared for White or western students, until such time as the Bantu student and the Bantu medical profession have so evolved from the different curriculum that they can follow the more advanced scientific curriculum presented in most western medical schools. Such a different curriculum is suggested below.

## A DIFFERENT CURRICULUM FOR BANTU MEDICAL STUDENTS

The reasons why a different curriculum for Bantu medical students should be considered are as follows:

1. The dire shortage of Bantu doctors has already been mentioned. This acute shortage actually demands a 3-year course but the World Health Organization has recommended a 4-year course which should be acceptable internationally.
2. The complete lack of suitable medical training facilities and teaching personnel which exists.
3. The fact that few Bantu students, if any, can afford a 7-year course and if a 4-year course could make them useful practitioners of preventive medicine from where they could later proceed to graduate status by further study, they should be given that opportunity.
4. The social and legal disabilities which few Bantu students can overcome, provide very few encouragements, incentives or openings into a medical career.
5. Bantu people need great assurance and tangible evidence that they are actually welcome to follow a medical course free of the many possible restrictions on the freedom of choice of a professional career fully in accordance with the philosophy of parallel development. The disabilities of Bantu students were described by MacQuarrie<sup>21</sup> at the Durban Conference in 1964.

It is proposed that 'Licentiates' trained in clinical medicine for 4 years can be the forerunners of an efficient

Bantu medical profession in the same way as the pioneers in medical practice in Southern Africa, many of whom obtained their licences to practice medicine from the Society of Apothecaries in London or from various other Colleges and Examining Bodies overseas at the turn of the century or earlier, were instrumental in establishing the present medical profession in South Africa.

A first step to encourage students to follow a medical course and establish a Bantu medical profession is to open a separate Bantu Medical Register controlled by a separate Bantu Medical Council who should lay down regulations for the conducting of medical courses and examinations, the standards to be maintained and the ethical code to be observed.

A separate Examining Council could also be established to conduct clinical and other examinations for the 4-year course on the same pattern as the Royal Colleges of Surgeons or Physicians in England, Edinburgh or Dublin or like the Nursing Council in this country. Training of students could be undertaken at selected large Provincial and mission hospitals for the Bantu. In view of the very high cost of establishing medical schools or faculties with sufficient accommodation, equipment and personnel, it would be far more expedient and economic to train students at these large Bantu hospitals where with a small addition to their existing facilities and personnel a large number of students could start training in clinical medicine, surgery, obstetrics and preventive medicine. The various hospitals can then enter their students when considered ready for the various examinations in the same fashion as the Nursing Council now train and examine nurses and midwives from various recognized hospitals for the qualifying examinations. In training and examining, the newer methods of programmed instruction and teaching by machines and models mentioned at the Durban Conference<sup>22-24</sup> as well as the methods of evaluation discussed by McGuire,<sup>25</sup> should be kept in mind. When the student completes 4 years of clinical training and succeeds in all the prescribed examinations he is granted a licence to practise medicine. If he aspires to obtain a degree equivalent to the present M.B., B.Ch., he will have to undergo further training and examination required for higher qualifications. Careers for the Licentiates can be provided in the first instance in the numerous medical posts in Government, Provincial, mission and other Bantu hospitals and in municipal Bantu clinic services. They will largely be under supervision of a hospital superintendent, a medical officer of health or a district surgeon who can recommend candidates for further training.

The curriculum should therefore be swung from a horizontal to vertical presentation of the same subjects that are now included. For chemistry, physics, biology and psychology, now presented in the first year, there would in the suggested curriculum be provided a sufficient number of hours tuition in every clinical lecture course so as to give the students adequate insight in their importance in their work. In the 5th to 7th years intensive instruction and examination will be given in all the subjects before the Licentiates are allowed to take their final Bachelor's degrees in medicine and surgery, obstetrics and the special subjects. Although Licentiates will work under supervision,

their progress could be subject to regular review by the Registering Authority and subject to compulsory refresher courses at regular periods.

### Suggested Curriculum Suitable for Bantu Medical Students

What the young Bantu doctor or Licentiate should be taught at this stage of development of his community are the things that he will need to know in order to conduct an efficient practice as a family physician and health adviser. Because the present medical course is almost wholly orientated to hospital practice which is totally different from general or family practice it is necessary to give this aspect of medical training special consideration. The curriculum should therefore lay particular stress on the following aspects:

**Public health.** The infectious, contagious and communicable diseases, their causes, treatment and prevention because these diseases for various reasons still occur frequently in Bantu communities. This will include an introduction to microbiology, parasitology, entomology, environmental hygiene and the social causes and effects of the diseases concerned.

**Medicine.** The common medical conditions met in the family circle with particular stress on the metabolic, nutritional, industrial and mental diseases as well as geriatrics.

**Obstetrics.** It is essential to know obstetrics which will include an introduction to genetics, embryology, ante- and postnatal care, paediatrics and population control.

**Surgery.** Anaesthetics, minor surgery including orthopaedic conditions as well as conditions pertaining to eyes, ear, nose, throat and skin diseases commonly seen in family practice.

The first, second and third-year subjects in the present course for Whites are therefore to be integrated into the clinical subjects throughout the suggested 4-year course. As each clinical subject is discussed the basic subjects of the present first 3 years must also be dealt with and it will require that each of the professors and clinical lecturers should know enough of the relevant basic scientific subjects to be able to present his own clinical subject comprehensively.

In view of the shortage of at least 13 000 Bantu doctors at the moment the scheme suggested here would probably serve as a crash programme to reduce the Bantu doctor shortage and afford the authorities an opportunity to develop and establish well-equipped hospitals with medical schools and trained personnel for advanced Bantu medical education. After running this scheme for 10-15 years it could be amended and reviewed in the light of developments and experiences.

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