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Creating a medical school for Malawi: problems and achievements

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A decade after developing a medical school from scratch and devising a curriculum appropriate to local conditions, Robert Broadhead, a founder member of staff and the present principal, and his colleague Adamson Muula describe how the problems have been successfully surmounted in Malawi

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In a poor country, developing a medical school is a major undertaking. Malawi, with no medical school of its own, depended on expatriate doctors, missionaries, and the uncertain return of its own nationals perforce sent abroad to qualify. The cost of not having a school had to be balanced against that of investing in setting one up. We describe how Malawi founded its own medical school with the help of donors and sponsors, especially the United Kingdom.

Malawi's dilemma

Before Malawi—formerly Nyasaland—was created in 1963, its medical students had mainly been going to the well established medical schools in Southern Rhodesia (now Zimbabwe) and Northern Rhodesia (now Zambia). After 1963 this became more difficult, and many students were sent to Britain with British sponsorship. Sending young students abroad immediately after their secondary education and in their formative years risks their not coming back when they qualify. This proved to be the case. By the 1980s, the joke—ironically true—was that there were more Malawian doctors practising in Manchester than in the whole of Malawi.

To solve this problem, the Malawi government, after some hesitation, decided to build its own medical school and looked to British institutions for help. After a series of three separate commissions to outline the feasibility and manner of development, the government committed itself to establishment of a medical school.[1 2] In 1986 a tripartite commission (so called because the British, (West) German, and Malawian governments agreed to co-sponsor the project) mapped out the future development of a college of medicine.[3]

The commission recommended that the school should be firmly based in the disciplines of community medicine and public health and that it should train doctors appropriately for the country's needs. The British government agreed to help by immediately taking 25 students for four years of firstly preclinical basic medical sciences training at St Andrews University in Scotland or University College London followed by one or two years' clinical training at Bart's, the Middlesex, St Mary's, or University College hospitals. In the meantime Malawi would develop training facilities, firstly for the clinical years and thereafter for its own basic medical sciences programme; all the 25 students returned to Malawi for their final clinical year and to qualify.

Just as students in the first group were completing their studies at St Andrews, the German government withdrew its sponsorship because a Malawian neurosurgeon who had been sponsored by and trained in Germany was summarily jailed without formal charge or trial. The World Health Organization stepped in to replace Germany and with the British government agreed to continue the sponsorship.

Curriculum development

By 1991, teaching facilities and a students' hostel were ready at the Queen Elizabeth Central Hospital, Blantyre. A first curriculum conference was held in July 1991, sponsored by the British government and attended by the 15 newly appointed academic staff and with a wide representation of medical interests from both Malawi and abroad.[4] The conference agreed that the teaching programme was to be based in the community, with at least 25% of student-teacher contact time allocated to community medicine; introductory clinical teaching should be as far as possible integrated into the basic medical sciences courses; and self learning should be encouraged.

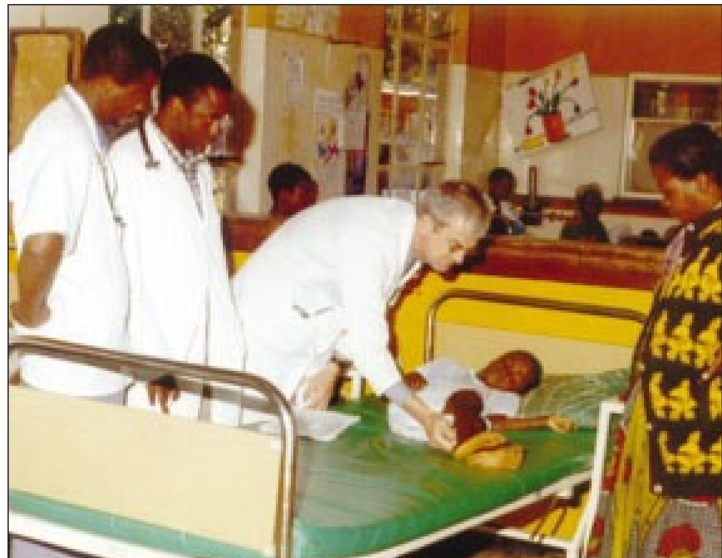
The immediate task was to harmonise the four separate teaching programmes of the London hospitals where the first batches of students had received their initial clinical training. The students had had little exposure to tropical medicine, and teaching of community health was Western oriented. It was tacitly agreed that the department of community health would be considered "first among equals" in order to achieve the right balance and to encourage the teaching of the principles of community health as a means by which different departments would achieve a measure of integration.[5]

The support of the British government and other sponsors was of critical importance at this initial stage. As anticipated, there were difficulties for both the students and their teachers. The students had to readjust to limited resources, cultural and social changes, and the high performance expected of them. At the same time the first intimations of political change were appearing, leading within 18 months to a referendum for a multiparty political system and Malawi's first democratic elections.

The first group of medical students qualified in Blantyre in July 1992 and then immediately started 18 months' internship. Between 1991 and 1995, some students were sent for preclinical training in Australia and South Africa as well as Britain. To harmonise their return for clinical training in Malawi, five further curriculum conferences were held to resolve the difficulties of marrying three different basic sciences courses to subsequent clinical studies.

Problems of relying on support by external donors

Throughout the first three years of the school's existence, the British government, through its Overseas Development Agency, continued to support the medical school. From 1994, however, all British government support was abruptly stopped. The philosophy for providing overseas aid had changed and individuals, experts or otherwise, were no longer to be sponsored. Instead, development programmes with defined aims and objectives, performance indicators, and outcome measures, were introduced. Academic institutions in the United Kingdom and elsewhere were asked to submit health intervention programmes in special areas for competitive consideration. The school submitted such a proposal but it was unsuccessful, partly because within the Overseas Development Agency there was little support for tertiary care and training for health in developing countries. The emphasis had shifted to primary health care programmes and to strengthening delivery of health care by less expensive and less highly trained health workers at community level. This policy had obvious merit because the truly appalling health indicators in some countries required urgent action, and community based programmes, such as the safe motherhood programme, can meet this urgent need.



Teaching on the wards at the Medical College of Malawi

The British government was not alone in withdrawing sponsorship. The German government's withdrawal has been mentioned, and in 1995 the Australian government, after either fully or partially sponsoring 20 medical students for preclinical training, also withdrew its sponsorship as part of a general redirection of its development aid to Asia.

In this respect the Dutch government, which has long supported Malawi's health sector, serves as a good example of a government prepared to give aid but with a planned strategy for exit. Since the 1970s the Netherlands had sponsored doctors for Malawi both directly and through church missionary agencies. In 1997 this was stopped, but after urgent representations the Dutch agreed on an "exit strategy" over three years—from the end of 2000 when existing contracts for Dutch specialists expired—allowing for an increased investment in the medical school to enable a sustainable development to take place before aid is

Curriculum development for a developing country medical school

- Medical curriculums should be firmly based on community and public health, to reflect the medical problems of the country
- Joint teaching by different departments, especially in the basic medical sciences, allows for more economic and flexible use of staff and teaching facilities
- If possible, the clinical disciplines should be introduced to students during their study of basic medical sciences
- Wide access to information should be provided, and self learning should be encouraged

withdrawn. This programme is being implemented at present.

Successful strategies for development

Despite economic and other constraints, the medical school has flourished in its first decade of existence and, by and large, has achieved its objectives. Community health remains the cornerstone of the curriculum. There is a degree of integration of teaching between the basic medical sciences and the clinical disciplines. The academic achievements of the school have been considerable. It has been awarded several international prizes for its innovative undergraduate teaching programme. The department of community health received the Association of African Universities prize in 1994 for the introduction of a community based objectively structured clinical examinations (OSCEs) for the final MB, BS assessment. From 1998 to 2001, six students have won first or second prizes given by the Tropical Health Education Trust with Reuters for their research projects. In 1999, one of the final year medical students won the first prize for the best student project from the Royal Society of Tropical Medicine and Hygiene.

The school actively seeks collaboration with other academic institutions and agencies. It has cultivated this outward looking approach in the areas of research and in bilateral aid sponsorship. In academic research collaborative partnerships have been formed with Johns Hopkins University in the epidemiology of HIV infection and mother to child transmission of HIV; with Michigan State University and its malaria research project; with Liverpool University through becoming a Wellcome Trust research unit; and with other academic centres in Europe and America. These collaborations provide contact with expertise and academic excellence.

The College of Medicine is supported by the World Health Organization in recognition of its high standard of training. As a consequence it is favoured by foreign medical students for their elective periods.

These initiatives aim to sustain the College of Medicine in the future and place it in the centre of medical academic developments. New technological advances in communication have favoured the college. It will soon receive its own satellite link through collaboration with a consortium of American academic institutions. This will allow staff and students to have firsthand access to up to date medical advances and information.

The new medical school

The school has received several international prizes for its undergraduate teaching programme

Postgraduate training

Currently 57 Malawian doctors are receiving or have received part or all of their postgraduate training abroad. For the future it is planned that either all or most general specialist postgraduate training will take place in Malawi. The school hopes to develop its own postgraduate training programme in Malawi from this year, after a transition period. The Royal College of Physicians in London, through the Tropical Health Education Trust, has been willing to help set up this programme. Funds are available to strengthen teaching and clinical experience by reciprocal visits for British specialists to Malawi and Malawian graduates to the Britain. Meanwhile training in Malawi is gradually being strengthened so that most of the postgraduate training will be in Malawi. The United Kingdom remains uniquely placed to contribute to this development.

The present and the future

Since July 1992, 168 doctors have graduated in Malawi. Where are those doctors today? This is an important question because from the start cynics, principally expatriates, have doubted whether local graduates would stay and practise in Malawi once they were trained as doctors, a doubt also expressed in donor countries. Fingers could point to the experience of other countries in Africa and the developing world, and even to Malawi's record in the 1960s and 1970s,

Strategies for academic survival and development

- Encourage wide linkage with other academic institutions at home and abroad. A broad range of collaborators limits dependence on any single partnership
- Encourage research collaboration with other academic centres of excellence. This will help maintain standards and help funding. Postgraduate training programmes should be linked to research
- Encourage the admission of fee-paying students from home and abroad in order to generate income
- Generate income by running conferences and parallel courses in the academic facilities
- Postgraduate training programmes should include an elective period of at least a year at a centre of excellence to provide exposure to others' standards and to different medical issues

when many of the brightest graduates had sought opportunities outside their country of training. Previously there was little political, social, or financial incentive for graduates who had been entirely trained abroad, and who were usually fully registered in the host country, to return to Malawi when they qualified. But times have changed, and graduates who go for further training abroad now are older than their earlier counterparts who left Malawi straight from secondary school. Today's postgraduates going overseas are usually married with family commitments and they do not wish to remain in permanent exile. Of Malawi's first 168 graduates, 112 are working in Malawi; 43 are in postgraduate training programmes abroad but expected to return; 9 have left the country; and 4 have died.

At present we train only 18-22 students per year, because initially staff and teaching resources, such as library facilities and laboratory space, and also hostel accommodation, were limited. A new student hostel and five new laboratories have allowed the intake for 2002 to rise to 38. As set out in the original tripartite agreement, students from neighbouring countries without medical schools of their own, especially Botswana, Namibia, Lesotho, Swaziland, and the Seychelles, are encouraged to apply to train in Malawi. Their fees are welcome additional income.[6 7]

New faculties of pharmacy, dentistry, and physiotherapy are planned. They will share much of the basic medical sciences curriculum before developing their own clinical training programmes. A flexible and pragmatic approach to development has allowed successful development of the school despite a difficult economic climate. The college faces its second decade with the expectations of sustained growth and development. Without underestimating the challenges ahead, the future of the College of Medicine in the University of Malawi looks assured.

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When I use a word

Patient centred verbs

It is not surprising, in these patient centred days, that some verbs that refer to inanimate objects associated with the patient, are used to refer to the patient instead. I have come across the following uses:

- The patient was diagnosed with the disease
- She was explained the seriousness of the diagnosis
- She was prescribed a course of chemotherapy
- She was administered vincristine.

However, it was not the patient but the disease that was diagnosed, the seriousness that was explained, the chemotherapy that was prescribed, and the vincristine that was administered.

The problem lies in the misuse of the construction known as the indirect passive. Verbs can be either transitive or intransitive—a transitive verb governs an object, whereas an intransitive verb does not. Now some transitive verbs have the luxury of governing two objects, a direct object and an indirect object; let's call them ditransitive. For example, in the sentence "The nurse gave her vincristine" the verb "gave" governs the direct object "vincristine" and the indirect object "her." Ditransitive verbs can be converted from the active to the passive voice in two ways, with either the direct or the indirect object as the subject of the new sentence: "Vincristine was given to her" or "She was given vincristine." Since in the latter the indirect object has become the subject of the sentence, the construction is called the indirect passive.

However, some transitive verbs take a prepositional phrase instead of an indirect object. Thus, although you can say "He gave her vincristine," you cannot say "He administered her vincristine." Instead you have to say "He administered vincristine to her," where "to her" is a prepositional phrase. And verbs that do this cannot be part of an indirect passive construction. In other words you cannot say "She was administered vincristine."

Diagnosing and explaining also take prepositional phrases that deny the use of the indirect passive:

- The disease was diagnosed in her
- The diagnosis was explained to her.

Those who use these incorrect forms may take heart from the fact that Shakespeare once did so too: "His ancient knot of dangerous adversaries/Tomorrow are let blood at Pomfret Castle" (*Richard III*, act 3: scene i: line 179).

However, some verbs (including prescribe) can take a direct object and either an indirect object ("He prescribed her a drug") or a prepositional phrase ("He prescribed a drug for her"). Examples of the indirect passive construction with prescribe include "He was . . . prescribed a . . . Ptisan" (1758, from John Sparrow's translation *Le Dran's Observations in Surgery*) and a couplet from Robert Browning's poem *Ned Bratts (1879):*

"And ten were prescribed the whip, and ten a brand on the cheek,
And five a slit of the nose—just leaving enough to tweak."

So, grudgingly, I concede that "She was prescribed vincristine" is acceptable. And no doubt in time we shall come to accept the ditransitivity of diagnose, explain, and administer, and hence, ugly though they are, their indirect passive forms; but not yet.

Recently, a different type of passive transformation has been rearing its ugly head. First, the intransitive verb consent ("She consented [to the operation]") has been tortured into transitivity ("The surgeon consented her") and then the direct passive has been applied ("She was consented"). I haven't yet heard the even uglier quasi-indirect passive form of this—"The operation was consented"—but I expect to before long.

This stresses, were stress necessary, that in the use of language, as in so many other walks of life, it is better to be active rather than passive.

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I thank Edmund Weiner of the *Oxford English Dictionary* for helpful comments.

We welcome articles up to 600 words on topics such as *A memorable patient, A paper that changed my practice, My most unfortunate mistake,* or any other piece conveying instruction, pathos, or humour. If possible the article should be supplied on a disk. Permission is needed from the patient or a relative if an identifiable patient is referred to.