My Africa

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Every Country or State Needs Two Medical Schools

In 2004, a private medical school, the Notre Dame University Medical School, was opened in Perth, Western Australia. It seemed that the time for changes had arrived. However, there were some people who were disturbed by the ethos and outlook of this Catholic medical school. How will the Catholic school resist the temptation of indoctrinating non-Catholics? Will the private medical school keep up to the high standards prevailing at public institutions in that country, such as Monash, Melbourne, Adelaide, and Flinders? The *Medical Journal of Australia* reported diverse viewpoints on the issue. After reading all that was written about the Notre Dame medical school, I came to the conclusion that every country which has a public medical school should seriously consider of having another, if possible, private medical school.

Who needs a medical school?

Despite the need for physicians in every country of the world, not all countries have a medical school. There are many reasons for this. In some cases, it is the gross national product (GNP) that is called on to justify why a country should not have a medical school and the argument like "this country is too poor to afford a medical school" is presented. So in essence, one would say that countries like Afghanistan, Malawi, and Zambia should not have a medical school. However, they have medical schools and Afghanistan has more than one. Ironically, in southern Africa, there are countries like Botswana, a middle income country as defined by the World Bank, which does not have a medical school. And since Botswana is not a poor country, opponents of establishment of medical schools resort to the argument of population size.

Namibia is stated to be an example of such a country. The country relies on medical schools in South Africa (with 8 medical schools) which has quotas for Namibian students. These quotas are insufficient to cater for the needs of physicians in Namibia. Interestingly, people still argue that Namibia, with an estimated population of about 2.4 million in 2005 is too small a country to justify the establishment of a medical school of its own.

Zimbabwe is, on the other hand, an example of a country

which had a medical school in Harare (then Salisbury) in the early 1960, when the population of Southern Rhodesia (now Zimbabwe) was nowhere near what it is now. This medical school is the home to the *Central African Journal of Medicine,* a respected journal, indexed in MEDLINE.

How small should a country be not to have a medical school of its own? Table 1 presents a list of arbitrarily selected countries in the world, demonstrating whether they have a medical school or not, the number of medical schools they have, the population of the country, and million population of inhabitants per medical school ratio.

One of the limitations of Table 1 is that it does not show the annual physician output from the medical schools. For instance, in the period from 1992 to 2004, the only medical school in Malawi had an annual output of 12-25 physicians, while the only medical school in Singapore had an output of 230 physicians annually. Also, if a country has a medical school, it does not mean that the physicians will remain in the country after attaining their qualification, which is the second limitation of the Table 1 (1). In some cases, medical schools can have sizeable production of physicians. In the whole of the United States, the annual number of medical students enrolled in the first year has remained fairly stable from 1994 to 2004, ie, between 17 048 and 17 109 students (2), thus producing a mean of about 119 students per medical school.

Table 1. Number of medical schools in selected countries (WHO directory of medical schools)

Region	Country	Population	Number of medical schools	Milion population per medical school
North America	Canada	32 248 600	16	2
	United States	295 734 134	144	2
Europe	Croatia	4 495 905	4	1.5
	Germany	86 689 518	37	2
	The Netherlands	16 407 491	8	2
	Norway	4 593 041	4	1
	United Kingdom	60 441 457	27	2
Middle East	Israel	6 276 883	5	1
	Iraq	26 074 906	12	2
	Iran	69 018 924	46	1.5
	Jordan	5 611 202	2	3
Asia	Singapore	4 425 720	1	4
	India	1 027 015 247	202	5
	Vietnam	86 689 518	10	9
Africa	Botswana	1 640 115	0	0
	Egypt	77 505 756	11	7
	Kenya	29 549 000	3	10
	Malawi	12 158 924	1	12
	Namibia	2 030 692	0	0
	Nigeria	128 771 988	16	8
	South Africa	44 344 136	8	5
	Sudan	40 187 486	14	4
Australia and New Zealand	Australia	20 090 437	12	2
	New Zealand	4 035 461	2	2

The first and the last 4 states in alphabetical order were selected to indicate the number of medical schools in that state, the population of the State and the population/medical school ratio (Table 2). It is interesting to notice that in some states in the United States the population per medical school ratio is worse than in some developing nations. This could be one of the reasons for the "brain drain" of physicians from developing nations in Africa to the US (1-4).

Private medical schools

The training of physicians in many countries remains a duty of the state. State universities and medical colleges with various levels of autonomy are still chief institutions for the production of physicians. Even in developed countries like the UK, a private medical school, Buckingham Medical School, is a new venture. In 2004, Australia opened the first religiously-affiliated medical school which incited a huge debate (5-7).

When the Catholic University of Notre Dame opened its medical school, it was met with harsh criticism, suggesting that it will not contribute to the quality of medical education and health care services in Australia. One of the major problems was that the university had a compulsory subject of theology within its curriculum. This made some people uncomfortable and led

Table 2. Number of medical schools in selected states compared to population in the United States (3)

Name of state	Number of medical schools	State population	Milion population per medical school
Alabama	2	4 447 100	2
Arizona	1	5 130 632	5
Arkansas	1	3 673 400	4
California	8	33 871 648	4
Virginia	3	7 078 515	2
Washington	1	5 894 121	6
West Virginia	2	1 808 344	9
Wisconsin	2	5 363 675	3

to calls for Australian Medical Council to revoke its accreditation to the medical school (5-7). It is important to note that the medical school had met most of the requirements set by the Australian Medical Council.

The United States perhaps has more experience with private medical schools than many other counties. Institutions like Loma Linda University in California or Duke in Durham, North Carolina have been present for decades, and today their presence is not seen as anything unusual. Moreover, Duke University Medical School is among the top medical schools in the US, ranking 6th as the recipient of grants by National Institutes of Health (NIH), a major funding government agency for health research, in 2004.

There is no doubt that in some countries private medical schools may have certain negative effects. However, state medical schools may also have negative effects as well, especially if regulatory mechanisms are poor. Given independence or autonomy without reciprocal duty for integrity, the results can be disastrous. India has had a fair share of its private medical schools that border close quackery. Sanjay Kumar (8) has described the situations when an inspection by the Medical Council of India in the state of Maharashtra, found medical school hospitals with no patients for inspectors, or a patient in bandages without any wounds requiring dressings.

Why a medical school?

What should drive the pursuit of establishing a medical school? For countries like Namibia, Botswana, and Lesotho, opening a medical school should be a matter of extreme urgency. Of course, excuses like poverty of the country, the size of the population, or the possibility to train medical doctors in South Africa or Malawi, can always be found, but medical schools in other countries should better be considered as complementary. The physician workforce can hardly be built up by relying on other countries. I am not saying that it is wrong to train non-nationals, but in order to provide proper health care to its citizens a country should seriously consider having a medical school of its own.

Now, some people can argue that it is expensive to establish a medical school. I would agree with that assessment, but it is equally, if not more, expensive not to have a medical school at all. Medical school faculty not only teaches, but provides valuable service to the society beyond the laboratory or the bedside. I can say, without fear of compromise, that the paucity of medical literature published in Lesotho, Namibia, and Botswana can partly be explained by lack of a medical school. MEDLINE indexes fewer than 300 publications from Lesotho since 1966. The quality of health care is likely to be equally compromised.

Problem of having one medical school

As already stated above, having only one medical school in a country or state brings with it the baggage of a monopoly ie, there is no other alternative for students, faculty and the community. There are no comparisons to be made. There is no sharing of expertise and other resources within the country between medical schools. There can never be an association of medical schools, neither an association of medical school deans ie, there is just one dean eligible

to be a member of that association. Comparisons of faculty remuneration between one school and the other cannot be made.

To compete or not compete?

Healthy competition, however you may wish to define it, seems to be good for medical education. A medical school that has a monopoly over health education in a country stands the real risk of accepting mediocrity. The public and the students have nothing else to compare the performance of a medical school to. If the Ministry of Health wants to collaborate or seek advice from academia, it will be from that single medical school, even though they would have gotten better value for their money if there was another medical school around. Hwang (9) has presented several arguments why Singapore, with just one medical school, opened in 1905, and a country population of about 4 million should seriously consider opening another medical school.

In the United States, research institutions, including medical schools, compete and are ultimately ranked according to the amount of money they get from the NIH (10). This can serve as a measure of the quality of the research conducted at a particular medical school. The top 5 medical schools funded by NIH are presented in Table 3. Of course, medical schools may differ in number of students, size of faculty, and many other factors. A large medical school may have more staff and more facilities to conduct research than a smaller medical school. However, this may not be the only explanation, because there were medical schools in the USA with less than 20 NIH grants.

Conclusion

Medical schools are an important part of health care landscape in a particular country. Although there are many obstacles to establishing medicals schools, African countries which do not have a medical school should realize the importance of their establishment. For those with a single medical school, a second school may be the solution to prevent mediocrity.

Table 3. Top 5 ranking of US medical schools based on 2004 National Institutes of Health research grants (11)

Name of medical school	State	Number of awards	Amount in million US$
Johns Hopkins	Maryland	878	404
University of Pennsylvania	Pennsylvania	841	364
University of California San Francisco	California	719	327
Washington University School of Medicine	Missouri	738	345
University of Washington School of Medicine	Washington	597	265

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