

Pattern of Spread of Medical Schools in Nigeria

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Abstract

The pattern of spread of medical schools in Nigeria has an effect on the general availability of doctors nationwide and their retention in their primary area of training.

Using statistics from the National Population Commission and the Medical and Dental Council of Nigeria, we determined the pattern of distribution in the geo-political zones in Nigeria.

There were 25 fully accredited and 6 partially accredited medical schools. There were 15 Federal, 12 State and four privately owned medical schools, nine in the South South zone with a population of 21,044,081, seven in the South East zone with a population of 16,395,555 and seven in the South West with 27,722,432. In the North Central zone, there were 4 medical schools with a population of 20,369,956, three in the North West with 35,915,467 and only one in the North East with a population of 18,984,299. In each geo-political zone, the mean distribution was 5 medical schools, 3 federal owned, 2 states owned.

Medical schools are not evenly distributed in Nigeria. While the North East, North West and North Central zones have below the National average of the total medical schools, the South East, South West and South South zones have above the National average. Also, the number of medical schools in each zone had a linear relationship to the percentage population that completed secondary school education.

The Governments especially States should develop more medical training institutions especially in the geo-political zones below the National average of medical schools (Northern part of the country). In addition, secondary school completion rate should be improved so also creation of more medical schools and expanding of current capacity of existing medical schools to increase doctors in North East, North West and North central geopolitical zones.

Keywords: Medical schools, Nigeria, geopolitical zones

1. Introduction

Medical schools are tertiary educational institutions—or part of such an institution—that teaches medicine and thus necessary for training doctors.(Microsoft Encarta,2008). Since 1948, when the first medical school opened in Nigeria in Ibadan others have been situated in many part of the country owned by Government at Federal and state levels and also private ones.(UCH,2013)

Medical training institutions produce medical doctors and these products take care of the health needs of the people. The distribution, location and total capacity of the training facilities have effect on the doctor retention in the locality, general availability of doctors' nationwide and general ability to attract candidates for training (Thomson et al,(2013) ;Bangdiwala S.I. et al.(2010)). Training Schools' location has effect on accessibility to potential trainees and retention of doctors in the area etc.

Due to multifactorial reasons the spread of medical training facilities are not even across the country. Some of the reasons include prior prevailing policy of British colonialist to the successive indigenous leaders whose governance were subjected to various economic, political and socio-economic factors which determined the pattern of siting of medical training facilities across the country.(Anyanwu 2013)

Presently doctors in Nigeria are inadequate and there is mal-distribution across the country. There is presently 4 doctors per 10,000 population in the country.(WHO 2012).This figure compared to United Kingdom is 27/10,000 population or as against 1 doctor recommended for every 5,000 population is inadequate.(WHO 2012). Shortage of any health manpower has real or apparent effects on the health well-being of the population.

Altering the output of medical school would enhance national medical doctors' supply. (Olubo 2012). The increase of input into the training schools or number of training school is likely to increase the output, the attrition rate notwithstanding. Increasing the number or location of medical school have been found to enhance accessibility of indigenous population to healthcare in society they are located. (Thomson et al 2013). In addition, the spread of training institutions can influence mal-distribution of her products. A skewed distribution of training school is likely to lead to geographical mal-distribution of practitioners.

Nigeria is divided into six geo-political zones, which includes South West, South South, South East, North West, North East and North Central. These institutions are distributed in favour of southern parts of the country due to a lot of factors.(Labiran et al 2008)

Currently study of the pattern of spread of these institutions in terms of total number, patterns of ownership, accredited status and space across geopolitical zones was not seen by the authors. A study which lay bare the pattern of the medical school across Nigeria would help the planners and policy makers plan new development. It would help give institutional insight into where medical doctors production can be scaled up i.e. partially accredited institutional which have limited training space which can easily be enlarged than outrightly building new schools.

The study was undertaken to determine the pattern of medical schools across the six geographical zones in Nigeria. Nigeria is a West African country with largely rural population of about 48% residing in rural area.(NPC,2013)(Stock 2008). In addition, 70% of the population is divided between major tribes of Yoruba, Ibo and Hausa. (Stock 2008).

There are six geopolitical zones of North-East, North Central, North West, South East, South-South and South West. (NPC 2013).The southern part of the country had earlier contact with the Europeans and by extension has more educated individuals.

2. Study Methodology

2.1 Study Area

The study was done on Nigeria, a country located in Sub Saharan Africa along the Gulf of Guinea with a population (140,431,790) according to 2006 census from National Population Commission. (NPC,2013).

Total population in each geopolitical zone was used (male and female, adults and young) based on 2006 national census. In addition, only accredited medical schools by the Medical and Dental Council of Nigeria (MDCN) which is the regulatory body for medical training and available on the organization's website was used. (MDCN,2013) Such institutions have potential of awarding Master of Medicine and Bachelor of Surgery (MB; BS) degree. Non-accredited and those training facilities in formative phases or not listed on the MDCN website were excluded.

2.2 Study Materials

The national census of 2006 conducted by National Population Commission (NPC) and with the results currently available on the NPC website, also the accreditation status of medical training institutions available on the Medical and Dental Council of Nigeria website.

3. Results

The percentage population distribution across the geopolitical zones varies with the lowest being South-East being 11.68%,North-East-13.52%,North-Central-14.51%,South-South-14.99%,South-West-19.74% and the largest being North-West-25.58%(See Table 1).(Fig 1)

North-East, North West and North Central zones all have below National average accredited space while the South East, South West and South-South have above national average. This pattern is similar in fully accredited Medical schools and state owned Medical schools. North East and North West zone do not have any State owned Medical schools or private/Mission owned Medical school.

However, only North West, South-South and South West have above mean number of Federal owned Medical schools. While only North Central, South-South and South-West have private/Mission owned medical schools. 50% of Medical/Mission owned Medical schools are in South-South. The zone also account for bulk of the national total accredited medical school (full or Partial) of 29.03% but South West account for bulk of the accredited space with 24.95%.

North West with above national mean population does not have above national average of accredited medical

schools and accredited medical space.

North East, North West does not have partially accredited medical schools but among those that have partially accredited Medical schools, North Central zone have the highest percentage of 50%, South-West-28.57%, South East-14.29% and South-South 11.11%.

Partially accredited space constitutes 8.33% and 8.69% in South South and South East respectively, while it is 14.71% and 25% in South West and North Central respectively.

Base on the National Health Demographic survey 2008 of average percentage in each zone that completed secondary education. It could be seen that North East zone with least number of medical schools and accredited space have the least percentage that finished secondary school. Relating this together is based on the assumption that to be able to enter into a medical schools for training require an individual to must at least finished secondary school. Other zones include North West-9.45%, North-Central-18.15%,South-West-29.8%,South-East-29.8% and South-South-32.45%. (See tab 2).

4. Discussions

Medical schools across Nigeria are not evenly spread out with implication on the number of medical doctors practicing in such location. North-East, North-West and North Central have below national average of total medical schools (below 5). This is similar to what Labiran A et al found. (Labiran et al 2008). Even though North-West and South-West have above national average of population (National average-23,405,298) it is only South-West geopolitical zone that have above average number of total number of medical school, Federal owned medical schools, state owned medical schools and accredited training spaces. This would have implications on their getting doctors to practice in their North-West zone i.e. using higher incentive to draw and retain graduated doctors in the zone. Instead of the output of doctors from the zone's institutions staying back due to familiarity with environment, if they are trained in same zone.

South-South, North West and South-West geopolitical zones have above National average of numbers of Federal owned Medical training schools while North-East, North Central and South-East have below average of same. However this deficiency was made for by the South-East zone having the highest number of 5 states owned medical schools thereby filling the aforementioned deficiency and making her have above average total schools. The deficiency in North zones are actually also related to the state government and private individual/organisations lacking behind in creating medical schools in the three Northern zones. Deficiency of training schools owned by Federal Government in any zone can actually be filled by State Government and Private organization or Missions.

The total medical schools in the geopolitical zone have a near linear relationship to the percentage of population that completed secondary education. This relationship is not likely to be intentional on part of the planners but may subtly be a reflection of training demand in the locality over a period of time. Since secondary education is a prerequisite for university education.

These findings have serious implications on planning for new medical schools i.e. showing planners where there are needs for medical schools. Less percentage of secondary school completion rate would likely impact on demand of medical schools. The study also suggests the need for improving zonal secondary school completion rate which can likely improve input into the medical schools.

This study is just to look at the pattern of spread of medical and not the factors for such spread although the percentage completion rate of secondary education made reflect a cultural and socio-economic affecting toward education generally.

Factors responsible for the pattern of spread of the medical schools, comparative study in pattern and total number of schools and accredited space with other country that have achieved adequacy in doctor/population ratio are potential future researches.

This study has potential limitation inherent in the accuracy of the primary data used. Revalidation and review of accreditation status of the institutions is a continuous process.

We would recommend that Government particularly those in the zones with below national average to develop more medical training institutions which have admission open to students across the country since they have below average secondary school completion rate. Furthermore, effort should be made to get the partially accredited schools accredited to improve zonal accreditation rate since all accredited institutions have 50 spaces only. Finally the overall education should be improved generally across the country but more especially the zones with below nation average numbers of medical schools.

In addition, efforts should be made at developing the accredited spaces not just accredited centres. As it can be seen South-South geopolitical zone have higher accredited centres but less accredited space compared with South-West geopolitical zone with lesser space but higher space.(see Tab 2).

5. Conclusion

Medical Schools which train doctors are not evenly spread in Nigeria. North-East, North-Central and North-West geopolitical zone have below national average of total medical schools, total accredited training space and state owned medical schools.

South-East, North-Central and North-East geopolitical zones do not have the mean up to the mean total medical schools, however only South-East zone compensated with State owned institutions to have above average total numbers of medical schools.

Total number of medical schools is related with the secondary school completion rate. South-South geopolitical zones have highest completion rate so also highest number of total medical schools while North-East zone have lowest completion rate and lowest total number of medical schools.

More medical schools would be needed in North-East, North-West and North Central zone so also improvement in secondary school completion rate in the zone.

Accredited medical spaces would be needed to be improved in South-South geopolitical zones. Furthermore training capacity can be improved by improving accredited space and status.

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Figure 1. Showing the population in the geopolitical zones

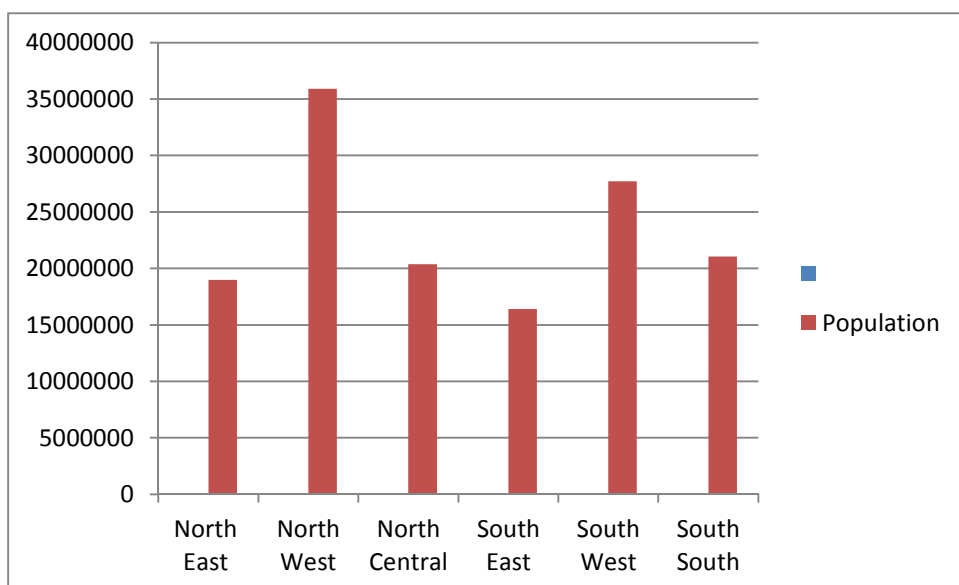


Table 1. Showing geopolitical zones with population and number of medical schools in each geopolitical zone with ownership.

Geopolitical zones	Population	%population	Number of Medical Schools	Federal owned medical schools	State owned medical schools	Private/Mission owned medical schools
North-East	18,984,299	13.52	1	1	0	0
Nort-West	35,915,467	25.58	3	3	0	0
North –Central	20,369,956	14.51	4	2	1	1
South-East	16,395,555	11.68	7	2	5	0
South-west	27,722,432	19.74	7	3	3	1
South-South	21,044,081	14.99	9	4	3	2
TOTAL	140,431,790	100	31	15	12	4

Tab 2: Showing geopolitical zones with population and number of medical schools with accredited space

Geopolitical Zones	Full accredited schools	Partially accredited Schools	Total accredited Schools	Accredited training space	% of population that completed secondary education
North East	1	0	1	150	5.90
North West	3	0	3	320	9.45
North Central	2	2	4	400	18.15
South East	6	1	7	575	29.35
South West	5	2	7	680	29.80
South South	8	1	9	600	32.45
Total	25	6	31	2725	100

Table 3: Table 3 : Mean variables in each geopolitical zone

	Mean
Accredited space	454
Number of medical schools	5
Federal government owned Medical schools	3
Stated owned Medical Schools	2
Full accredited medical schools	4
Partially accredited Medical Schools	1
Population /zone	16.67%

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