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## **Spatial Distribution and Provision of Rural Medical Services in Ekiti State, Nigeria**

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### **Abstract**

*A good health is a pre-requisite to socio-economic and political development. Provision of essential social services especially, medical services, contribute directly and indirectly to human well being hence, it must be accorded priority at any level of government. Where they were inadequately provided, citizenry are subjected to high incidence of morbidity and mortality from the prevalence of preventable and infection disease. The study employs data from primary and secondary sources and use facility model and public location theory as basis for its theoretical underpinning. Results from the study show that though medical facilities were available in most of the settlements but were inadequate to cope with the population. The study suggests provisions of more medical services be provided in the state. The study of benefit to researchers and policy makers in the health systems.*

**Key Words:** Medical Services, provision and distribution, conceptualization, Ekiti State.

### **Introduction**

Good health is basic to human welfare and fundamental objectives of social and economic development. It involves all and sundry not minding the socio-economic, cultural and religions background. Provision of medical

facilities will contribute to the promotion of the fulfillment of full life objectives of man. A healthy population will be a productive population and a productive population will be a growing economy (Aregbeyen, pg 91). The importance of health in development cannot be over-emphasized. As a result of this great importance of health, governments at all level and international organisations have striven to improve the health status of the people especially at the grassroots yet, the basic health needs of vast numbers of the world's people remain unsatisfied. In many countries, less than 15 percent of the rural population and other privileged groups have access to health services. More serious still, these people are both particularly exposed and particularly prone to disease (WHO, 1975). It is noteworthy that in most of the developing countries, Nigeria inclusive and Ekiti State in particular, the health of most of the population in this region have remained unstable, poised between infections diseases and poverty..

Besides, mortality is high with the majority of deaths due to infections disease and complication of pregnancy and child birth (Stephenson, 1997). In a research carried out by World Bank (2000), it was shown that Nigeria lagged behind other low income economics talkless of high income economics in the vital task of improving health. Infact, morality is 20% percent higher and average life expectancy is ten years less in Nigeria than the rest of World's low income developing countries. Maternal mortality at 800 women per 1000 live births is more often double that of other low income economics and moreover, statistical figure in rural Nigeria where a majority of the people live are worse.

Furthermore, in Nigeria today, few people could have access to better medical treatment while few who are rich and in higher authorities do patronize foreign medical services on a minor ailments at the detriment of the larger populace. No wonder, health situation has changed profoundly over the years, and those charges, have led to very high cost medical treatments and consequently, Nigeria has thus become, a fertile ground for fake drug peddling.

The situation could have been averted if medical services are provided at an affordable cost and spatially distributed. As a result of the high cost, inaccessibility and their unreliable services, it is quite unfortunate that, people now meet their health needs through alternative options like the traditional healers, itinerant drug sellers and local remedies. It is on this note the research work is out to examine the spatial distribution and provision of

rural medical services in Ekiti State, Nigeria with the objectives at examining the various location of medical facilities in the study area; examining the hierarchies of the medical facilities in the area, examining the staff strength and adequacy of medical facilities and examining the health indicators in the area

### **Theoretical Background and Literature Review**

In examining the theoretical framework for the study, the study views medical services from an angle of a facility and its provision as postulated by Teitz (1968). Oxford Advanced Learner's Dictionary (1980) gives the meaning of facility as the quality, fact, or condition of being easy or easily performed. In another form, it views facility as freedom from difficult or impediment, ease, an instance of the same. It is an unimpeded opportunity of doing something. In social sciences, the word "facility" could be used interchangeably with the word 'services' (Onokerhoraye, 1982). Facilities are often linked with infrastructures and called infrastructural facilities (Idachaba, 1985). Infrastructured facilities, according to him could be physical, social and institutional.

The main component of physical infrastructures are: transportation facilities (Federal, State and Local Government, roads, bridges, ferry services, canals, ports and foot paths); Storage facilities (Silos, Warehouse, cribs, open air facilities etc); Processing facilities (Machinery, equipment, building etc), irrigating, flood control and water resources development facilities (dam, irrigations and soil conservation facilities. (Idachaba, 1985).

On the other hand, social infrastructures include health facilities (hospitals; dispensaries; maternities and health centres); education facilities (primary, school, secondary school, teacher training college, technical schools, vocational schools, adult education facilities etc and rural utilities (electricity and water supplies). However, institutional infrastructures are: co-operative societies, farmers union groups, financial institutions (credit societies and institutions, banks, post-offices, saving banks etc); agricultural research facilities (research sub-stations and experimental farms, demonstration plots etc); agricultural extension and training facilities, marketing, crop and animal protection services and post and telecommunication services (post offices, portal agencies, telephone etc). (Idachaba, 1985).

From Idachabu (1985) analysis by facilities it could be that facilities are services either privately or publicly provided to meet the private and social

needs of the people (Onokerhoaraye, 1982). They are essential things to cater for the welfare for man anywhere in the world either rural or urban areas.

On health facility provision, public facility location theory postulated by Micheal Teitz (1968) is applicable. According to Teitz (1968), Public facilities are those whose primary function is to deliver goods and services, which fall wholly or partly, within the domain of government. The basis for public facility location theory lies in the fact that decisions regarding such facilities are political decision on public spending in response to a social welfare criterion in a mixed market/non market setting. Teitz (1988). Put into consideration the distributive impacts of the facility system and the influence of political dimension on public decision. He equally considered dynamic interaction within multiple facility system having employed simple static model aimed at consumption maximization of a zero priced good supplied from a given distribution of services facilities.

He was of the opinion that provision of good and public facilities can only be explained as a consequence of two distinct components: first, a substantive component which is solely concerned with the characteristics of demand and supply of a particular good or service, a procedural component which emphasize, the political and administrative procedures which given decision about the provision of goods and services.

On literature review, it is noted that the provision and maintenance of medical services falls under concurrent list of the constitution of the Federal Republic of Nigeria, the external medical relations such as quarantine and the control of drugs and provision are the responsibility of the Federal Government (FGN, 1997). That is the major reason why specific agencies such as National Agency for Food, Drug Administration and Control (NAFDAC) and National Drug Law and Enforcement Agency (NDLEA) were established.

On location of medical facilities, numerous factors of public facilities (medical inclusive) have been given. For example, Reid (1984) displays that in recent times, the issues of access, equity and efficiency criteria that considers the distributional aspect of public facilities have been receiving attention. Filani (1992) shares the same idea when he asserted that accessibility questions are assumed greater importance among researchers and policy makers in recent years because it is now recognized that the actual is to them, who gets what depends on where one lives complying that

location on a transport network is an important determinant of the availability of public facilities (medical services inclusive).

Maro (1987) in his study of the location of health facilities in Tanzania has used the distance of within 5 kilometers, within 10 kilometers and beyond when 10km as reasonable measures of proximity to health facilities Kettel (1986) however, suggests that the core of the problem of allocation is that which practices access to health is highly influenced by proximity to supply, the provision of services will be equal. Minimal provision of free hospitals at widely separate location has the effect of transferring the real cost of health to patients through additional transport cost.

Population of an area has been a criterion in most of the areas in allocating and distribution of medical services. For example, Okafor (1989) carried out a close-fit test between population distribution and the distribution of health facilities in Nigeria. He found a high positive correlation coefficient indicating that large populations have number of health facilities and vice versa. He however, noted that there was a positive correlation between total population and all variables, which are reduced to health facilities. This implies that highly populated areas have more facilities than areas with low population. It shows that the higher the population of an area, the larger its share of hospital facilities.

In Nigeria, the locational behaviour of doctors in the small but growing private sector is influenced by monetary consideration (Omotoso, 2007) one implication of this is the ability to pay, rather than need, is the basis for service provision in Nigeria. Andrew (1977) in his study of health distribution in Australia found that both profit and non-profit health centres, were distributed principally on an ability to pay basis. Therefore, the distribution of services showed little regards for needs.

Other parameter of considerable importance decision of public service has been found to be political. For instance, Steven (1981) in his study of hospitals in Tanzania found that the rugged Northern region was well serviced while the three neighbouring hospitals in the Southern region were overloaded. The most ill served people were in the area of notorious for opposition to the president. He therefore concluded that patients of ill health and the need to seek medical care depend on other factors than accessibility. Access to social and productive resources are said to be determined not only by access to capital or credit but also by an individuals position with respect to bureaucratic rules and procedures that allocate public facilities. Therefore,

distribution and provision of medical services could be determined by various factors.

### **Participants and Procedures**

The study area is Ekiti State, situated in the South/Western part of Nigeria and carved from the old Ondo State in 1996 with twelve local government areas that made up of the Ekiti zone of the old Ondo State . However, additional four local government were carved out of the old ones and today, the state is made up of sixteen local government and Ado-Ekiti, is the capital (Ekiti Government, 2004). The research work was carried out in the rural areas of Ekiti State and data were collected from the sampled areas for both quantitative and qualitative analysis. Ekiti State consists of three Senatorial Districts namely: Ekiti North; Central and South Senatorial District. Six rural communities were purposively selected for the study and the six rural communities include: Awo and Ikoro in the central; Ijesu-Isu and Orin in the North, while Ogotun and Ogbese were selected in the South.

Data for the study were collected from both primary and secondary sources. Two principal actors were involved in the collection of data. These are the medical consumers and the medical operators. A double random sampling include: a stratified sampling include which entailed a hypothetical division of the community into zones. The zones are: core, intermediate and periphery

In a community where it was difficult to identify the zones, respondents were drawn from the existing streets and quarters within such rural settlements. In most of the rural communities existing transport networks were used to demarcate the streets and quarters. The respondents to the medical consumers questionnaire were majorly the household heads or elderly persons met at home while the sampling frame was upon the residential building. 1500 copies of the questionnaires were distributed to the medical patrons while 1257 copies were retrieved representing 83.8% and this was analysed. In selection of medical operators, this involved both the private and public medical establishments of different ranks; tables, and simple percentages were used to analyse data.

### **Results And Discussions**

Health is a social service which is essential for good economic production (Osibogun, 2002). The good economic production is necessary for sustaining a good health programme. From the study, the location of major health

services in Ekiti State is presented in table 1

There are three hundred and sixty one (361) medical facilities spread across the state. These were made up of University Teaching Hospital, State Specialist hospitals, General hospitals, comprehensive health centres, the primary Health Care (PHC) which is entry point to the health care delivery system. It is at this level that the grassroot people at local governments are treated daily at the comprehensive Health Centres, and health posts. From these health clinics and health posts, there are free minimization for children between 0-5 years against six killer diseases; free immunization for women of child-bearing against the deadly disease of tetanus and free supply of micro nutrient supplement to children between 0-5 years and pregnant women.

Also available at the primary Health Care (PHC) are free mass immunization against the deadly disease of yellow fever and cerebro-spinal meningitis during epidemics, treatment for ailments like malaria, acute diarrhea and acute respiratory tract infection with essential drugs and provision of health education and communication materials for effective prevention control and management of communicable diseases.

On hierarchies of medical facilities in the state, three major hierarchies of medical facilities are recognized in Ekiti State. These are Tertiary, Secondary and Primary. They are represented in table 2

From the table 2, it could be seen that there only two tertiary medical service in Ekiti which is the Federal Medical Centre (FMC, Ido-Ekiti) and University Teaching Hospital, Ado while there are forty-nine (49), Secondary medical centres in the State. These include the four major specialist hospitals in Ado-Ekiti, Ikole, Ijero and Ikere, the General hospitals and the comprehensive health centres while the primary centres include all the primary health centres in various settlements across the state.

On medical staff strength in the state, the study examines the staff strength in the state between 2001 and 2006 the result is presented in Table 3. From Table 3, it could be seen that there are sporadic increase in the staff strength of personnel in the government hospitals in the state. The increase might be as in result of some medical establishments being upgraded to higher order medical centres. Besides, the influx of personnel to the University Teaching Hospital, Ado, Dental Headquarters, Ado and Hospital Management Board (HMB) were noticed during the period.

On health indicators for both public and private medical establishment between the periods, table 4 gives the detailed health indicator from 2000 to 2006.

From the table 4, it is noticed that even as at 2006, the total number of medical doctors in the state was 75, to cope with population of about 2 million! This is highly ridiculous! The situation needs to be addressed.

On the perception of the populace concerning the distribution of medical facilities in the rural areas of the state, opinion 176 (14.1%) claimed that the distribution of the medical facilities in the state was even while 1981/85.920) indicated that the distribution was uneven. Table 5 gives the tabular information. Hence, it could be deduced that the distribution of medical facilities in the state is not evenly distributed and cannot cope with the teeming population.

### **Conclusion**

Health is wealth. A healthy labour force will make meaningful contribution to the economic growth and development of a nation. The better the state of health of any society, the better able it is, to mobilize, develop and utilize the minds, energies and resources of the people for the task of development consequently, provisions of medical services must be given adequate priority in any society.

Besides, in the provision of such medical services, they should be evenly distributed so that no community or settlements should be made to suffer health facilities.

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**Table 1: List of Government Hospitals in Ekiti State**

S/N	HOSPITALS	TOWN	LOCAL GOVERNMENT
1.	University Teaching Hospital	Ado	Ado
2.	Specialist Hospital	Ikole	Ikole
3.	Specialist Hospital	Ikere	Ikere
4.	Specialist Hospital	Ijero	Ijero
5.	General Hospital	Iyin	Irepodun/Ifelodun
6.	General Hospital	Ijan	Gbonyin
7.	General hospital	Efon-Alaaye	Efon-Alaaye
8.	General Hospital	Ifaki	Ido-Osi
9.	General Hospital	Otun	Moba
10.	General Hospital	Ilawe	Ekiti South/West
11.	General Hospital	Omuo	Ekiti East
12.	General Hospital	Ilupeju/Itapa	Oye
13.	General Hospital	Ayede	Oye
14.	General Hospital	Emure	Emure
15.	General Hospital	Ijesa Isu	Ikole
16.	General Hospital	Aramoko	Ekiti West
17.	General Hospital	Ise	Ise/orun
18.	General Hospital	Iye	Ilejemeje
19.	General Hospital	Ode	Gbonyin
20.	General Hospital	Okemesi	Ekiti West
21.	General Hospital	Oye	Oye

*Source: (Hospital Management Board, 2006)*

**Table 2: Hierarchies of Medical Facilities in Ekiti State**

<b>Ado-Ekiti</b>	<b>Ownership Type</b>	<b>Tertiary</b>	<b>Secondary</b>	<b>Primary</b>	<b>Total</b>
Ado-Ekiti	Public	1	0	18	19
	Private	0	9	19	28
	<b>Total</b>	<b>1</b>	<b>9</b>	<b>37</b>	<b>47</b>
Efon	Public	0	1	12	13
	Private	0	1	3	4
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>15</b>	<b>17</b>
Ekiti East	Public	0	1	8	9
	Private	0	1	9	10
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>17</b>	<b>19</b>
Ekiti South West	Public	0	1	12	13
	Private	0	2	14	16
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>26</b>	<b>29</b>
Ekiti West	Public	0	2	19	21
	Private	0	2	1	3
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>20</b>	<b>24</b>
Emure	Public	0	0	9	10
	Private	0	1	3	3
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>12</b>	<b>13</b>
Gbonyin	Public	0	2	10	12
	Private	0	0	8	8
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>18</b>	<b>20</b>
Ido-Osi	Public	1	1	12	11
	Private	0	2	7	8
	<b>Total</b>	<b>01</b>	<b>2</b>	<b>19</b>	<b>20</b>
Ijero	Public	0	1	15	20
	Private	0	0	6	6
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>25</b>	<b>26</b>
Ikere	Public	0	1	6	7
	Private	0	5	9	14
	<b>Total</b>	<b>0</b>	<b>6</b>	<b>15</b>	<b>21</b>
Ikole	Public	0	2	12	14
	Private	0	2	6	8
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>18</b>	<b>22</b>
Ilejemeje	Public	0	1	9	10
	Private	0	0	0	0
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>9</b>	<b>10</b>
Irepodun/Ifelodun	Public	0	1	12	13
	Private	0	3	14	17
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>26</b>	<b>30</b>
Ise/Orun	Public	0	1	11	12
	Private	0	0	5	5

	<b>Total</b>	<b>0</b>	<b>1</b>	<b>16</b>	<b>17</b>
Moba	Public	0	1	12	16
	Private	0	1	5	3
	<b>Total</b>	<b>0</b>	<b>2</b>	<b>17</b>	<b>19</b>
Oye	Public	0	3	16	19
	Private	0	1	5	6
	<b>Total</b>	<b>0</b>	<b>4</b>	<b>21</b>	<b>25</b>
TOTAL	Public	0	21	197	219
	Private	1	28	114	142
	<b>Total</b>	<b>1</b>	<b>49</b>	<b>311</b>	<b>361</b>

*Source: (Author's Field Survey. 2006)*

**Table 3 Staff Strength in Government Hospitals Between 2001-2005**

S/N	Name of Hospital	2001	2002	2003	2004	2005	2006
1.	Ado	405	510	520	555	597	585
2.	Aramoko	31	39	39	39	39	41
3.	Ayede	40	42	42	42	43	43
4.	Efon	31	33	30	28	27	28
5.	Emure	28	29	29	29	29	29
6.	Ifaki	53	54	54	54	54	54
7.	Ikere	142	153	160	162	168	170
8.	Ikole	127	145	140	140	137	138
9.	Ijan	52	48	46	47	47	47
10.	Ijero	88	100	100	98	97	97
12.	Ijea-isu	23	25	25	27	28	28
13.	Ilawe	34	36	35	36	37	38
14.	Ilupeju/Itapa	37	41	42	43	45	45
15.	Ise	17	21	30	36	40	40
16.	Iyin	78	80	82	84	86	86
17.	Iye	10	15	18	21	25	26
18.	Ode	15	16	20	23	27	27
19.	Omuo	33	29	40	42	44	45
20.	Otun	28	31	30	31	31	32
21.	Okemesi	31	22	30	38	40	40
22.	Oye	14	30	31	33	36	36
23.	Dental HQ	49	57	65	71	76	76
	HMB	120	133	176	196	262	284
<b>TOTAL</b>		<b>1,486</b>	<b>1,688</b>	<b>1,814</b>	<b>1,814</b>	<b>1,937</b>	<b>2035</b>

*Source: Hospital Management Board, Ado-Ekiti, 2006)*

**Table 4: Health Indicator for Ekiti State for Government**

**Medical Establishment between 2000 and 2006.**

<b>Indicator</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
Percentage Hospital	570	570	556	605	607	645	665
Percentage Hospital/Bed	682	782	782	987	1112	1160	1250
Percentage Medical Doctor	46	46	50	57	60	65	75
<b>Total</b>	<b>1,298</b>	<b>1,398</b>	<b>1,520</b>	<b>1,649</b>	<b>1,789</b>	<b>1,870</b>	<b>1,980</b>

*Source: (Hospital Management Board, (HMB) 2006*

**Table 5** Adequacies of Medical Facilities in the Rural Areas of Ekiti State

	Ijesa Isu		Orin		Ogotun		Ogbese		Ikoro		Awo		Total	
	Freq	%	Freq	%										
Very Adequate	21	8.6	18	10.4	10	4.3	13	8.6	35	12.5	13	7.4	118	8.8
Very inadequate	63	25.8	35	20.1	31	13.4	44	28.9	55	19.6	40	22.9	286	21.3
Average	146	59.8	103	59.2	189	81.5	91	59.9	179	36.9	100	57.1	808	64.3
Inadequate	14	5.7	18	10.3	2	0.9	4	2.6	11	3.9	22	12.6	71	5.6
<b>Total</b>	<b>244</b>	<b>100</b>	<b>174</b>	<b>100</b>	<b>232</b>	<b>100</b>	<b>152</b>	<b>100</b>	<b>280</b>	<b>100</b>	<b>175</b>	<b>100</b>	<b>1257</b>	<b>100</b>

*Source: (Author's Field Survey, 2006)*