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**Dual Health Trap: The face of Hospitals Market and
Competition in Nigeria****Chris Ofonyelu & Felix Alaba**Department of Economics, Adekunle Ajasin University
Akungba Akoko, Ondo State, Nigeria**Abstract**

The roles of competitions in health care markets have given rise to wide debates in health economic literature in the last two decades. In the consensus, country specific differences in the markets are important determinant of outcomes. This study examined the cost of inefficient competitions in the health care market using Akoko North East Local Government as the case study. By using a combination of statistical methods, with data from 15 private and 10 public hospitals, competition was found to be inefficient by raising idle capacity accumulations and costs. Capacity utilization was observed as 40.2% and 36.3% for the private and public hospitals respectively. The cost of the inefficiency per annum in Ondo state and Nigeria were estimated at N1.3025 billion and N56.006 billion respectively.

Keywords: *Competition, efficiency, dual trap, idle capacities*

I. Introduction

A major agreement in economics literature is that competitions lead to welfare improvements. In healthcare markets, there has not been a general consensus (Kessler & McClellan, 2000; Dash & Meredith, 2010; Cooper et al, 2011; Goddard, 2015). The lack of consensus and uniformity in outcomes arise because of many country-specific characteristics and institutional factors which interplay to influence the outcomes across the market. In

general, more countries across the world have increasingly adopted market oriented competitive policies in their health care industry over the last two decades (see Gaynor, Moreno-Serra & Propper, 2013). For the countries, competition is seen as beneficial because it helps to contain costs, improve treatment quality and encourage innovation. However, these claims of efficiency cannot be made about the Nigerian health care market for three main reasons. First, the health care system is structurally dualistic and conflicting (Lomgurum and Godowoli, 2008). There is the coexistence of the private and public health care outlets in a fashion that is rivalry, predatory and uncomplementary. As a consequence, the system lacks appropriate coordination in terms of synergy in output improvements and capacity accumulation to combat and overcome the prevalence of communicable and preventable disease. For competition to benefit consumers, it must create incentives for continuous product improvements and/or encourage a higher level of service performance. The market is not driven along these lines. The market is driven by incremental prices rather than quality, and the private sectors are leading this trend.

Second, the system allows too much fragmentation and duplication of services. Two main implications arise from this. One, there becomes increasing concentrations (and sometimes overconcentration) of medical services in the urban areas but with stark unavailability of quality medical services in the rural. Two, with the duplications, the hospitals lose their capacity and focus on specializations. Instead, each want to provide all medical services to ensure wider market for survival and being limited by resources, they remain small. With this development, a pool of small, poor and low capacity hospitals is duplicated almost everywhere. Across the health care market, the market is dominated with secondary health care services and leaving out patients who suffer from specialized and chronic diseases with little or no choices at the hand of the few tertiary participants in the market. With the duplications, too much capacities are accumulated in the treatment of common diseases while specialized treatments (such as organ transplants and surgeries) are scarcely available at the tertiary market. With efficiency, the capacity of the market should upwardly grow such that demands of specialized and chronic diseases are increasingly met and overcome, so that more categories of patients can be captured by the market. Health care transition suggest that the market will progressively grow in capacities such that diseases which were formerly not curable or treatable will now be overcome and will be available for the wider coverage of the population (Fasoranti and Ofonyelu, 2013). In effect, each entrant of new hospitals should be to drive up innovations, raise supply and force price downwards. The situation whereby growths in the size of the hospitals do not translate to transition in health care is not good for the economy. All of the hospitals accumulate medical staffs and instruments as well as builds structures, but for the wrongly skewed competition, a transition rarely occurs. By implication, hospital owners are pushed to raising the cost of health care not mainly to maximize profits but also to cover the dead weight loss which arises from inefficient competition. The consequence of all of these lead to a paradox, the hospitals increase in number but access to health care and quality of treatment declines. It is this phenomenon that we have termed the dual health care trap for Nigerians. A principal ingredient of competition is that it offers consumers choices. A patient with a cancer or kidney problems for instance will have to travel far into the cities or the scarcely distributed tertiary health care centers before he can access healthcare. With the limited availability, the choices of price or terms of treatment is precluded.

In the third, the competition in Nigerian health care market is marked by poor government regulation. Had government intervention been effective, the resultant market failure would have assuaged. The financing of health care is centered more on private out-of-pocket payment than the need for universal coverage or access which requires huge government intervention. The cost of this resultant market failure is that the majority of the population is serviced by the private outlets. With the worsening economic fortune of the country, more portion of the population loses access to modern health care.

A competitive market will be able to maximize consumers’ welfare under three main conditions. The first is that the market must operate at (near) full capacity utilization. What this implies is that underutilization, idle capacity accumulation and duplications are absent in such market. The second is that prices are forced perpetually on a downward trend to reflect the improvements in the production process or that firms will have to reduce price to increase coverage. In the third, prices are expected to become sticky or downward sloping as more hospital joins the market. Contrary to this, there seem to be a positive correlation between increases in the price of medical treatment and increase in the number of hospitals.

In all of these three premises, the Nigerian health care market represents a major departure. On the contrary, health care providers and hospital owners thereby view their fellows less as members with a common purpose of saving and promoting life but more as agents seeking to capture a market for own private hospital and gain. In effect, the strength of the growth of the private hospitals therefore derives from the poor performance of the public hospitals and the growing pool of unsatisfied patients. Had the competition been healthy and fruit-bearing, the hospitals, private or public will be forced to innovate and offer superior services to attract clients and the economy benefits from this development. It is lack of this possibility that is the cause of the dual health trap that an average Nigerian faces: poor quality but with increasing health care cost.

The rest of this paper is structured as follows. In the next section, we provide a further clarification of the dual trap and the linkage with inefficiency. In section III, we describe the data and discussed some of the results. In section IV, we attempted to quantify the cost of the inefficiency and concluded in section V.

II Materials and Methods

The data for this study was got from the authors’ visits and assessments of 15 private and 10 public health care institutions in Akoko North East Local Government Area (ANELG) of Ondo state between March 2, and August, 2019. Ikare Akoko is a commercial town in Ondo state of about 91km from Akure. It is located in the northern senatorial district of the state and has a population estimated in 2018 to be about 235905 people. A total number of 15 private hospitals (and/or medical centers), 9 primary health care centers and a state specialist hospital (SSP) are located in the study area and were all visited and observed.

Table 1: Capacity utilization among selected hospitals in ANELG

Hospitals/Health Centers							
Private				Public			
Name of hospital/Clinic	Bed space capacity			Name of hospital/ Clinic	Bed space capacity		
	Max Bed Space	Ave Used/day	Ave Unuse d/day (%)		Total Bed space	Ave Used/Day	Ave Unused/day (%)
(a) Kolawole Clinic	8	4	50	(A) State Specialist Hospitals	36	21	58
(b) Total Medical Care	5	3	40	(a) Basic Health Centre, Ugbe Akoko	6	1	83
(c) Morak medical Centre	4	1	75	(b) Basic Health Centre, Market base, Jubilee	3	2	33
(d) B. B. Medical Centre	5	1	80	(c) Basic Health Centre, Alapata	3	1	67
(e) Graceland Med. Centre	5	2	60	(d) Basic Health Centre, Ilepa	3	1	67
(f) Favour Specialist Clinic	8	3	63	(e) Basic Health Centre, Oyinmo	3	1	67
(g) Raggae Hospital	5	2	60	(f) Basic Health Centre, Okoja/Oorun	6	2	67
(h) Olugboja Hospital	10	3	70	(g) Basic Health Centre, Okegbe			
(i) Inland Med. Centre	25	11	56				
(j) Abubakar Mt. Zion Hospital	12	4	67				
(k) Trebor Hospital	11	6	45				
(l) Oke Royal Hospitals	16	5	69				

(m) Alhuda Medical Center	12	5	58	(h) Basic Health Centre, Iku	3	1	67
(n) Kolawole Hospital	7	2	71	(i) Basic Health Centre, Iboropa/Isse	3	1	67
(o) Aliu Clinic	3	2	33		3	1	67
Average	9.07	3.6	59.8	Average	6.9	3.2	64.3

Source: Authors' compilation (2019)

Note: (i) The estimations from table 1 were arrived at using the bed spaces in the hospitals as the measure of capacity. There are indications that the reality may be worse if other measures of capacity utilizations such as the ratio of medical doctors to patients, number of patients' room used per day in each of the hospitals, etc. are used for the computation.

A common feature of Nigeria's health care market is that nearly all of hospitals operate far below their full capacities. In our examinations of a cross section of 25 hospitals in Ondo state, capacity utilizations hovered around 40% for the private hospitals and 36% for the public hospitals (see table 1). Public health establishments are known to exhibit higher levels of inefficiencies in Africa (Bertrand and Sikod, 2013). However, empirical evidence from the United States and Europe showed that more public hospitals to be efficient (see Epple and Richard, 1998; Hollingsworth, 2003). Despite the investments of the governments, the public hospitals still harbored higher idle capacities due to poor attitude and maintenance culture. The larger idle capacities in the public hospital arise mainly because of two main factors. One, in that segment of the market, through oversight and maintenance culture is generally poor. For instance, an ambulance in good working condition may be grounded for many months because of delays in release of money for replacement of worn out tyres or spare parts. A damage in the spring of a bed or a furniture may cause a bed or furniture to be put into disuse for a long time even when the cost of the repair is insignificant. These and other factors join to worsen the inefficiencies in public medical establishments. In the state specialist hospital for instance, two out of the four ambulances had been grounded for over a year without any hope that it may still be repaired for future use. Two, most of the equipment and capacities built in the hospitals remain unutilized or not fully maximized due to administrative and official procedures. With increase in idle capacities, the costs of hospital's operations are spread on the existing capacity utilization and indirectly raising the cost of health care. Usually, hospitals are built with inherent spare capacities to be able to accommodate and/or optimize occasional surges in demand which usually take place because of uncertainties in demand. The private and public hospitals operate with average idle capacities of 59.8% and 64.3% respectively. In many of the rural towns, there is absence of private clinic or hospitals, except for the public basic health centers. A look at table 2 showed two interesting perspectives to the nature of the competitions. One, the concentration and localization of the private hospitals were asymmetric and skewed towards the places of demand (urban centers). In the study areas for instance, 11 out of the 15 private hospitals were located in the heart of the land. The implications of this is that majority of the rural population do not have close proximity to the hospitals even when they have the ability to pay. An average person in Ikare Akoko will have to travel about 355m and 1.38km to access private and public health care respectively in the town. Despite a seemingly even distribution across the local government wards, the mode of localization of the public health care establishments also offers people in the urban centers closer proximity and access than those in the rural. There is the presence of more private hospitals than the public in the urban. In fact, it is not uncommon to find the hospitals clustering around a major location of the town. One can find hospitals located beside each other within distances of less than 50metres around the heart of the town. The public health care institutions are seemed to be targeted to be closer to at each of the towns.

Table 2: Distances in-between hospitals in Ikare Akoko

Private Hospitals			Private Hospitals	
Name of hospital /clinic	Distance to the next nearest hospital/clinic	Year of Establishment	Name of hospital /clinic	Distance to nearest H/C
(a) Kolawole Clinic	100m	2013	(A) State Specialist Hospitals	---
(b) Total Medical Care	70m	2005	(B) Comprehensive Health Centre, Akunu	---
(c) Morak medical Centre	80m	2008	(a) Basic Health Centre, Ugbe Akoko	1km
(d) B. B. Medical Centre	50m	2004	(b) Basic Health Centre, Market base, Jubilee	1km
(e) Graceland Med. Centre	600m	2018	(c) Basic Health Centre, Alapata	800m
(f) Favour Specialist Clinic	20m	2017	(d) Basic Health Centre, Iyometa	500m
(g) Olugboja Hospital	300m	1978	(e) Basic Health Centre, Auga	3km
(h) Inland Med. Centre	200m	1985	(f) Basic Health Centre, Ikakumo	2km
(i) Abubakar Mt. Zion Hospital	500m	1995	(g) Basic Health Centre, Ilepa	600m
(j) Trebor Hospital	250m	1981	(h) Basic Health Centre, Oyinmo	500m
(k) Oke Royal Hospitals	500m	1990	(i) Basic Health Centre, Okoja/Oorun	800m
(l) Alhuda Medical Center	200m	2009	(j) Basic Health Centre, Okegbe	350m
(m) Aliu Clinic	100m	2014	(k) Basic Health Centre, Iku	250m
(n) Kolawole Hospital	2km	2006	(l) Basic Health Centre, Iboropa	5km
			(m) Basic Health Centre, Isse	3km
			(n) Basic Health Centre, Isakunmi	450
Average	355		Average	1.38km

Source: Authors' compilation (2019)

Cursory assessments of the health care market showed that competition across the industry exist at two levels. On one side, the private hospitals compete internally among themselves for treatments at one side of the market using price and quality of treatment as their tools of competition. On the other side of the market, the private hospitals compete with the public hospitals for patients who are crowded out of treatment. There is no such internal competition among the public hospitals for performance and exceptional innovations. In effect, what is supposed to be the third level of competition among the public hospitals are lacking in the market. In recent years, this gap has become a leading motivation for the localization of private health care outfits. Across the health care markets, the pharmacists, diagnostics centers and other health supporting markets tend to localize around the public hospitals than the private. Due to the absence of competition among the public hospitals, the inefficiencies are bound to continue. Competition by nature is punitive, and when a hospital offers less quality than averagely obtainable in the market, patient will desert it and it will close down. It is this disciplinary act of the market that is lacking in the third form of competition that is the cause of the inefficiency of the Nigerian health care market. Unlike in the private versus private hospitals competition, individual firms work had to attract persons to visit their hospitals by building relationship, beautifying the hospital environment and offering quality care. If they fail to do this, they know that people may not call again and they will lose the market. The fear of losing the market and money thereby becomes a motivation for improvement. Except for the cost, more people like to patronize the private hospitals because of quick attention and care they get them. The argument in this paper is that lack of intra-competition among the public hospitals is a major reason for the market inefficiency. Since the public hospitals do not feel pressure from the market forces to improve quality, they are bound to be inefficient. The punitive effect of the market forces put the private hospital on the toes of continuous improvement.

Table 3: Growth rate of private versus public hospitals

Years	Private	Public	Both Private and public	Population
1990-2000	1.67	1.55	1.61	2.57
2001-2010	0.82	0.63	0.73	2.68
2011-2018	0.83	0.77	0.80	2.65

Source: Estimated

Table 3 showed the rate of entry into the private and the public health care markets in Nigeria. Since the years 1990 to 2000, there have been more private hospitals joining the market than new public health care centre. In the main, the competitions have been driven by the proliferation of the private hospitals. In the last three decades in the study area, private and public hospitals have grown averagely at the rate of 1.1% and 0.98% respectively. This can be compared with average growth in population of 2.63%. Despite the growth in populations being more than double that of the average growth of the hospitals, the health care market cannot be said to be increasing in efficiency. The deadweight loss arising from idle capacity accumulations raises the price of health care such that a great number of persons desiring health care are price out. Rising health care cost in Ondo state is strongly related with the inefficient market. The argument in this paper is that lack of intra-competition among the public hospitals is a major reason for the market inefficiency.

IV. How much Does the Inefficiency Cost?

To provide a quantitative value for the inefficiency, we did some simple estimation in monetary terms based on the structure of the market. The first is to estimate the forgone profits lost in terms of the idle bed spaces that are accumulated by the hospitals. We simply calculate the value of how much each of the hospital will make additionally if their hospitals were fully utilized. On a general note, a private hospital charge N1000 per bed space for the open rooms and double for the private rooms. Across the study area, private hospitals are used to having private rooms except for Inland medical center. Among the public hospital, it is a common practice. Based on the estimates from table 1, the private and public hospitals lose N164000 and N37000 respectively per day as the value of idle capacities they have harbored. On monthly terms, this amount is equal to N6.030 million per month and approximately N72.36 million per year for the hospitals (see table 4). It worrisome to know that this estimate is just for one local government area and was computed using only the bed spaces as the measure of capacity for the computations. When we estimate these for all of the 18 local governments in Ondo state, the cost of idle capacities among the hospitals stood at N1.3025 billion per annum. A reduction in idle capacities will help in reducing negative externality of communicable diseases that will have been created if more people are not allowed access to health care. An idle capacity cost of N72.36 million in each of the 774 local government areas of Nigeria is equivalent to an expenditure burden of over N56 billion. Nigeria's continuous neglect of this action is a major drag for the progress of the health care market. With hospital beds of 5 per 10,000 persons, and still more than half of the capacities being unutilized, the health care market still need increased market centered reforms to develop.

Table 4: Cost of the Un-used capacities among selected hospitals in ANELG

Private			Public		
	Average Unused /day	Cost of bed space = N2000		Average Unused /day	Cost of bed space = N1000
(a) Kolawole Clinic	4	8000	(A) State Specialist Hospitals	15	15000
(b) Total Medical Care	2	4000	(a) Basic Health Centre, Ugbe Akoko	5	5000
(c) Morak medical Centre	3	6000	(j) Basic Health Centre, Market base, Jubilee	1	1000
(d) B. B. Medical Centre	4	8000	(k) Basic Health Centre, Alapata	2	2000
(e) Graceland Med. Centre	3	6000	(l) Basic Health Centre, Ilepa	2	2000
(f) Favour Specialist Clinic	5	10000	(m) Basic Health Centre, Oyinmo	2	2000
(g) Raggae Hospital	3	6000	(n) Basic Health Centre, Okoja/Oorun	4	4000
(h) Olugboja Hospital	7	14000	(o) Basic Health Centre, Okegbe	2	2000
(i) Inland Med. Centre	14	28000	(p) Basic Health Centre, Iku	2	2000
(j) Abubakar Mt. Zion Hospital	8	16000	(q) Basic Health Centre, Iboropa/Isse	2	2000
(k) Trebor Hospital	5	10000			
(l) Oke Royal Hospitals	11	22000			
(m) Alhuda Medical Center	7	14000			
(n) Kolawole Hospital	5	10000			
(o) Aliu Clinic	1	2000			
Total	82	164000	Total		37000

Source: Authors' compilation (2019)

V. Conclusion

This paper appraised competitions among hospitals in Ondo state using Akoko North East Local Government Area as the case study. The efficiency of the competitions was examined in terms of how the competitions drive on capacity utilizations, health care accessibility and fragmentation of health care services. Attempt was made to cost the inefficiencies arising from the competitions. An average individual has to travel about 355m and 1.38km to access private and public health care respectively in the study area. Health care and treatment costs was observed to rise with the inefficiency. The cost of the inefficiency per annum in Ondo state and Nigeria as a whole were estimated at N1.3025 billion and N56.006 billion respectively. With an inefficient competition, an average Nigerian faces a market offering health care at incremental cost and with poor quality, - a dual trap for the citizenry.

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