REJUVENATING PRIMARY HEALTH CARE IN NIGERIA – THE IBARAPA EXPERIENCE*

by

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[+] Paper read at the symposium organized by the editorial board of DOKITA

Paul Hendrickse Lecture Theatre, University College Hospital, Ibadan. 9th November 2011.

INTRODUCTION

My teacher, Prof O O Kale, my other teachers and senior colleagues here present, Mr Chairman, colleagues and fellow students. I wish to thank the editorial board of our journal, DOKITA, for this opportunity to come back home to the only institution I know in my profession, the University College Hospital, UCH, Ibadan. The last time, on this scale, was 11 years ago when I delivered a lecture in this edifice, THE PAUL HENDRICKSE LECTURE THEATRE. The title of that lecture was THE PYRAMID AT WORK: SURGICAL RESEARCH IN RURAL NIGERIA[1] at the grand round of the Department of Surgery, when my teacher, Prof O Adebo, was the head.

I have decided to be part of this symposium for a few reasons which include

1. paying my respects and honouring my teacher, Prof Kale,
2. to inform and educate you, my students and
3. to task my junior colleagues at the helm of affairs in the college and the hospital why the situation has deteriorated so badly when it could be better.

Please, bear with me if I am too blunt or appear immodest but consider my views in the spirit of scientific investigation that modern medicine demands of all of us. At this twilight of my active career, it could not be otherwise.

I have chosen to print and distribute this lecture because our late teacher, Prof Emeritus T F Solanke, would say: ***"If you are sure of yourself, put it in writing".*** Another teacher of ours, Emeritus Prof A Adeloye would remind us of the old adage ***"The faintest ink lasts longer than the best memory".*** All these arose from the words of Francis Bacon, who said: ***"When you stop reading you are half dead, but, when you stop having challenges, you are completely dead."*** And, it is, time and again, derisively stated that if you want to hide some facts from the African, put it in a book because Africans do not have the habit of reading. So, please, come along with me on the memory lane I trod in this institution from 1970 to 1983. The ultimate objective is the title of this lecture: REJUVENATING PRIMARY HEALTH CARE IN NIGERIA – THE IBARAPA EXPERIENCE.

It is often forgotten and not well appreciated that Nigeria provided the blueprint for primary health care delivery to the world when the Faculty of Medicine, University of Ibadan, initiated the Ibarapa Community and Primary Health Programme in 1963.[2] This programme, based at the Rural Health Centre in Igboora, antedated the World Health Organization Alma Ata Declaration by 15 years.[3] I always seize the opportunity to say this is the only good thing Nigeria has given the world.

One of the founding fathers of the programme and the first director for 15 years, Emeritus Professor T O Ogunlesi, is alive and well in Sagamu, Ogun State. He was honoured by our alumni association six days ago in this lecture theatre. Although, a cardiologist, he is better known as a community physician. He holds many firsts in the medical history of Nigeria and has become the LIVING LEGEND OF MEDICINE IN NIGERIA.

In the book 25 YEARS OF THE IBARAPA COMMUNITY HEALTH PROGRAMME, Prof Ogunlesi wrote chapter 1: IBARAPA COMMUNITY HEALTH PROGRAMME - THE BASIC PHILOSOPHY AND FOUNDING OBJECTIVES.[2] I crave your indulgence to reproduce the short but very decisive chapter that outlined the thrust of medical training in Nigeria.

"The Book of GENESIS, which is the first book of the Bible, tells the story of how the world was created in six successive days, and how thoroughly satisfied the Creator must have been when, at the end of the sixth day, he looked over all that he had made and found that it was excellent in every way. If, by the word Genesis, we mean, the beginning or the origin, the starting point, then, it can be truly said that nothing else has happened in human history to compare with that first Genesis. Whether one is inclined to believe, or to disbelieve, the story of the first Genesis, the fact remains that all the things said to have been created in those six days have persisted to this day, and the degree of orderliness and perfection of that persistence is more than human knowledge or understanding can comprehend. Nor can such persistent orderliness or perfection be found in any human invention or idea, past or present, from the greatest to the smallest. It is either they fail to persist after a while, or they are full of imperfections. The Ibarapa Community Health Programme is an idea, which has persisted for only twenty five years and it is full of imperfections. Within that short space of time it has undergone several metamorphoses, but has managed to preserve the basic elements of its own genesis.

"The establishment of a new university often raises basic questions about the role of Universities in contemporary society, especially in the developing countries of the world, and whether Universities, as such,

should serve as agents of change in their societies. Those questions were particularly relevant in the case of Ibadan, being the first University to be established not only in Nigeria, but in any of the then British West African Colonies. Two major criteria are often used in the assessment of that role. One is the excellence of the academic programmes of the University in relation to the world of learning generally, ***the other is the relevance of its programmes to the needs and problems of its environment. The latter, namely, the factor of relevance, has gained increasing importance and recognition in recent years, particularly in the developing countries of the world where the need to prevent the "ivory tower" concept from gaining ground in the newly founded Universities has become increasingly urgent.***

"The need to relate the programmes of the various faculties of the University of Ibadan to the needs and circumstances of the African environment was well recognized from the very beginning, and in varying degrees, all the faculties have tried to reflect this awareness in their various programmes. One of the clearest examples of this was the bold step taken by the University's Faculty of Medicine to make far reaching changes and innovations in its undergraduate curriculum at the first opportunity, after the then University College has secured its autonomy from the University of London.

"In 1962, the University College achieved full university status as the University of Ibadan, and the gradual process of dissolving the 14-year old bond of association with the University of London began. For as long as M.B.B. S. degrees awarded at Ibadan were those of the University of London, the University College Ibadan was obliged to follow the same curriculum as that of other medical schools of the University of London. But with the attainment of a full University Status, the University of Ibadan acquired the freedom to determine its own curriculum, and to award its own degrees. That period of change provided the occasion for a reappraisal by the medical school of not only the pattern and content of the medical curriculum but also of the objectives to be aimed at in medical teaching in a developing country such as Nigeria. That re-appraisal had to be made, however, against the background of a well-established tradition, the world over, that the teaching hospital is the main focus for undergraduate medical education. There can be no doubt that teaching hospitals are ideally placed for the teaching of medical skills, for the development of specialized departments, and for the prosecution of clinical research. They are also well suited for the teaching of the basic and universal concepts of the practice of medicine, in a congenial atmosphere. But the adequacy of such teaching, especially in terms of relevance to the needs of contemporary society, has been increasingly questioned. The sick population of a teaching hospital has often been often been described as a centrifuged deposit, derived from the total world of illness. ***Even though that deposit may contain the more obviously weighty particles it is open to question whether it necessarily contains the most important elements.*** *It has become more and more obvious that the teaching complex should include a representative segment of the normal community in its catchment area, and must put itself in a position to study disease in all its guises and magnitudes.* ***Thus the medical teacher must, of necessity, be an ecologist.*** *He must realize that his patient has desires, beliefs, habit and patterns of associations with his neighbours and the environment, all of which influence his health. The sun which shines on him, the rain which falls on him, even the composition of the very ground beneath his feet-all have a bearing on the quality and volume of sickness which may assail him during his lifetime.*

"This type of approach is particularly important in an African setting, where the total burden and pattern of illness, the evolution of disease in the individual and the long term effects of apparently trivial complaints differ significantly from those in the more developed parts of the world. Not only this, ***but the problem of providing appropriate remedial measures has to be worked out in the field. Battles of this sort cannot be fought entirely in offices or hospital laboratories. If anything, the best laboratories for tackling such problems are within the community itself.***

"It was against this background that the educational philosophy of the Ibarapa Community Health Project was conceived and the following specific objectives formulated:

(a) To teach medical student and doctors, through practical work the principles and practice of community medicine.

(b) To study the problems of health care delivery in the Ibarapa Community and to develop the health services of the district into a model of what an integrated local health service should be, in collaboration with the government of Western Nigeria, in a manner which can be applied to other rural districts in Nigeria and other developing countries.

(c) To carry out research into various aspects of health and disease in the community, and thus to build up a body of knowledge on the various factors (social, economic, epidemiological, statistical) which are involved in health promotion and disease prevention in rural communities."

These objectives are exemplified in this case scenario:

> *"A pregnant woman, in a rural community, attends antenatal clinic regularly and gets all the necessary promotive and preventive care until she is due for delivery. But suddenly at term, she starts bleeding. She is rushed in the village ambulance to the nearest general/district hospital where the resident physician performs a Caesarean section to deliver a live healthy baby(ies) and a surviving mother."*

In other words, it is primary care surgery that makes all the difference in primary health care as typified in a short text in a secondary school book **"A minute in the theatre clock makes a great difference between life and death".** This was the statement that propelled Prof E F Alufohai, a former surgical resident at UCH, former provost, college of medicine and acting vice-chancellor of Ambrose Alli University, Ekpoma, to become the first professor of primary care surgery in Nigeria.[4]

There is often a misconception of what primary health care means. Most people believe it is executed by very junior health workers while others consider it inferior health care. On the contrary, as amplified by WHO, it is the care of the most common diseases found in the community, irrespective of their complexity, given as close to where the patients live, using scientifically sound and appropriate technology. In other words, as I often told medical students in the past, if brain tumours assume public health dimensions, the neurosurgeon must go into the community and deal with challenges as we and the Malawians have demonstrated with ventriculo-peritoneal shunt insertion for hydrocephalus that I will elaborate on later.[5]

In order to emphasize the inappropriate and wrong practice of primary health care within the walls of UCH, Dr Angela Cooke, the doyen of the general outpatient department of UCH, wrote in the book published on the proceedings of the conference/workshop on the training for general medical practice in Nigeria, again, permit me to quote:[6]

> *"Before 1957, when University College Hospital was officially opened, various Departments already functioned at Adeoyo Hospital, in the city of Ibadan, and as the Teaching Hospital was gradually completed, so units moved in.*
>
> ***"It became evident that the practice as carried out at Adeoyo prior to 1957 in the emergency Department was inimical to a teaching hospital.*** *Every patient who presented was seen and treated, or referred to consultant clinics or for admission. The over-whelming numbers presenting were too great for the resources available and there was a tendency to flood out the consultant clinics and the beds with cases unsuitable for a teaching hospital, and which could well be treated elsewhere.* ***This system was nullifying the effect of University College Hospital as being a specialist referral and teaching hospital.***
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> *"It thus became evident that a selection system would have to be imposed on patients presenting without referral letters to the teaching hospital. No hospital, however, can stand in isolation from the community and, a large part of the work done in General Outpatients Department is service to the general public.*
>
> *"Initially the Department was called 'General Practice Out-Patients Department' but this was changed to 'General Out-Patients Department' (GOPD) because it was realized, about 1963, that only a limited aspect of general practice is carried out there, and that* ***the Department does not aim to provide a general practitioner service to the community; for 'general practice' implies total patient care"***[5]

During the symposium marking the 30th anniversary of the University College Hospital, UCH, Ibadan, in 1987, Emeritus Prof Ogunlesi said: [7]

> *'It is no longer possible for one and the same health institution to be the centre of excellence at all three levels of health care, PRIMARY, SECONDARY and TERTIARY. There must be a division of labour with a well-coordinated health care system for a community as large as Ibadan, which is one of the largest in Africa. The services of University College Hospital, Ibadan may have to be restricted, in the future, mainly to the areas of Tertiary Care. It must also be adequately funded for this purpose. This may mean some load-shedding, coupled with better integration of its services with those of the various primary and secondary care centres around.'*[6]

Therefore, the philosophy of the founding fathers of the University of Ibadan, Faculty of Medicine and her teaching hospital, the UCH, Ibadan, has always been community-centred and oriented in the traditional functions of research, teaching/training and provision of service.

In 2013, Ibarapa programme will celebrate the golden jubilee and so, it is time to assess, reappraise and consider for amendment several aspects of the programme.

MEDICAL TEACHING AND TRAINING IN IBARAPA

From the inception of the programme, Ibadan medical students would spend eight weeks in the district including one week at the District Hospital, Eruwa where they learned the rudiments of secondary health care. We proudly call ourselves Ibarapa graduates on becoming doctors. A significant proportion of doctors in Nigeria today, including the two rural surgeons in Ibarapa, are Ibadan-trained.

At the UCH, the training of the surgeon which gave significance to the BS component of the degree, started at the undergraduate level because every medical student took part in the operation on his/her patient even in extensive procedures as abdomino-perineal resection of the rectum for carcinoma or colon replacement of the oesophagus for severe stricture. During his posting to the casualty department, he learnt to suture lacerations, incise and drain superficial abscesses and apply the plaster of Paris after manipulating closed fractures and reducing dislocations.

The acquisition of this hands-on experience continued during internship and residency training. In the first three years of the five-year residency training, he rotated through all the surgical specialties before gravitating into his specialty of choice. He also had three-month rotations in pathology (morbid anatomy) and anaesthesia in preparation for practice in resource-poor settings. During the rotation in pathology, the resident revised gross anatomy, performed various gastrointestinal anastomoses and inguinal herniorrhaphy before embalmment in requested cases. In addition, he undertook an in-depth study of surgical pathology.

The apparently comprehensive curriculum and the stiff examination processes resulted from the recognition that the poorer the available facilities, the greater the skills required in the practice of surgery. The surgeon working in isolation in a rural hospital with limited ancillary service triumphed only by a higher degree of technical competence, judgment and experience. He was well grounded and secure, more pliable, adaptable and improvising, that he might practise well not by surgery alone but also by active common sense.[8-10]

The other functions of the academic surgeon were not left out in the training programme. The resident regularly taught the medical students and junior colleagues attached to his unit and would present a dissertation of an original clinical work for the final fellowship examinations that conferred a consultant status on him. Some of these dissertations were published in journals and text books.[11-13]

The comprehensive education also explained the relative ease with which Nigerian-trained surgeons fitted into a more sophisticated practice after becoming familiar with new technology.[10] The battle cry was TRAIN THEM HARD!![8]

It was common for many residents who went to the UK for the optional one year abroad to write and pass the fellowship examinations of the Royal Colleges of Surgeons of Edinburgh or Ireland.

Grand rounds were held from 8.00am to 9.00am on Saturdays before everybody dispersed for social events. The proceedings were regularly published in the IBADAN SURGEON, an in-house journal, which was a veritable resource material for medical students who could not attend because of other postings outside Ibadan and also for incoming clinical students. The grand rounds were clearing houses for papers to be published in international journals and discussion forums for ongoing researches. They were antidotes against plagiarism.

The surgical textbook, COMPANION TO SURGERY IN AFRICA edited by Professor W W Davey,[14] a former head of the department, was truly a companion to the medical student and later the surgical resident in West Africa. The second edition, published in 1987, had senior registrars as authors of chapters.[15-18]

The standard of surgical practice, teaching and research at the UCH, Ibadan was comparable to the rest of the world culminating in open-heart surgery by an all-Nigerian team becoming a routine in the early eighties.[19] We were on the threshold of renal transplantation before the decline made it a mirage.

That was the UCH where I had all my professional training from 1972 to 1983 declining the optional training for one year in the UK three decades ago. I was the only resident that did not avail himself of that opportunity while it lasted.

This was a deliberate decision on my part because 26 of my 30 teachers (from senior registrars to professors) trained in the UK while the rest trained in the United States of America. They were all world renowned and I had implicit confidence that they could train their kind solely in Nigeria.

Secondly, I volunteered to be the unsolicited control in a new training scheme that would provide a basis for future assessment. One of my teachers put it like this in one of his lectures: 'NO CONTROL, NO CONCLUSION in any scientific experiment.'[20]

Also, I wanted to actualize the philosophy of Niccolo Machiavelli (1469 – 1527) which I had imbibed in my secondary school days:

> *"It must be considered that there is nothing more difficult to carry out, nor more doubtful of success, than to initiate a new order of things. For the reformer has enemies in all those who profit by the old order, and only lukewarm defenders in all those who would profit by the new order, this lukewarmness arising partly from fear of their adversaries, who have the laws in their favour and partly from the incredulity of mankind, who do not truly believe in anything new until they have had actual experience of it. Thus it arises that on every opportunity for attacking the reformer, his opponents do so with the zeal of partisans, the others only defend him halfheartedly, so that between them he runs great danger."* – in 'The Prince'.

Another source of inspiration was the 'Red Devil', the battle tank of the Biafrans that was deployed in battle from Aba, where it was made, until it got stuck at Ore during the civil war, 1967 - 1970. I had inspected the disabled Land Rover-turned-battle tank at Ore and concluded that Nigerians could solve all their problems with little or no external help.

The most important inspiration was that I have always looked forward to a day like this when everything I am to talk about is home-grown in Ibadan and Ibarapa district with no foreign influence whatsoever. Although I had several opportunities to travel abroad for undergraduate and postgraduate training, I journeyed out of Nigeria for the first time in 1995. That was 20 years after becoming a medical officer and 12 years of being a rural surgeon.

At the end of my training in the UCH, I had 21 publications in national and international journals[11,17,18,21- 38] including the subject of my dissertation for the fellowship in surgery in the prestigious American journal, *Diseases of Colon and Rectum.*[11] My first paper was published in DOKITA.[21] This paper, *'The differential diagnoses of anemia. A review of two cases,*' arose from a seminar we had in haematology.

So, it was like going back home when I returned to the district hospital in 1983 as a consultant rural surgeon, an employee of Oyo State government along with my wife, Atinuke, a radiographer/ultrasonographer, also a product of the UCH. In addition, I was appointed an Associate Lecturer in the College Medicine and became a honourary consultant to the UCH in 2007.

From 1983 to 2003, while my teachers were still in charge in UCH, medical students and surgical residents were posted to me on three months rotations. To the medical students, the crucial role of the surgeon at the primary and secondary levels of health care delivery, especially in the rural area, became clear. The residents acquired hands-on experience quickly and together we published papers on the common problems faced by the rural surgeon like inguinal hernia and frequency of twinning which was highest in Ibarapa district among other papers.[39-50]

But, with the exit of my teachers as a result of retirement, the postings ceased. In its place, I was requested to give lectures on primary care surgery to medical students which I declined because I would not condone the phenomenon of ALTERNATIVE TO PRACTICALS which had become all pervasive in the educational and training sectors of our nation from primary to the tertiary level. Although, I complained to the former Chief Medical Director of UCH that I was being paid as honorary consultant but there were no students to teach or doctors to train, no change was forthcoming. I have continued to accept this salary in lieu of services I rendered without pay from 1983 to 2003!!!

HEALTH CARE DELIVERY IN IBARAPA COMMUNITY

In 1970, the District Hospital, Eruwa was opened and secondary health care delivery was provided by UCH registrars from the departments of surgery, obstetrics and gynaecology. This arrangement was reinforced in 1975 by the appointment of the late Dr C A Pearson as the Chief Medical Officer of the programme by the Faculty of Medicine of the National Postgraduate Medical College of Nigeria.
Dr Pearson was the British medical missionary who developed the Wesley Guild Hospital, Ilesa to the high standard that enabled the Obafemi Awolowo University consider taking it over as one of her teaching

hospitals complex.[51] He was also one of the founding fathers of the Faculty of General Practice of the National Postgraduate Medical College of Nigeria. He and his wife, Jean, resided at the Rural Health Centre, Igboora but performed elective surgery (mainly inguinal hernia repairs) at Eruwa.[52,53]

When I took up appointment at the district hospital in 1983, Dr Pearson literally handed the surgical baton to me while he moved on to Lagos to become the Director of Planning and Training of the new Faculty of General Practice .

In 1986, due to bureaucratic bottlenecks, I resigned my appointment from public service to establish Awojobi Clinic Eruwa in Eruwa with the mission statement "A PRIVATE HOSPITAL IN THE PUBLIC SERVICE".

At present, much of the medical/surgical services in Ibarapa are provided by private institutions manned by two rural surgeons (Drs A C Sagua and myself), two medical officers (Drs R O Tijani and M H Adabanija) who are capable of delivering safe and essential surgery, one medical officer, Dr Siben with diploma in ophthalmology who is extracting cataracts at the Akeef ElMaghragby Eye Clinic, Eruwa, under the supervision of Dr B G K Ajayi, consultant ophthalmologist and president of our alumni association, one radiographer/ ultrasonographer, two pharmacists, a few registered nurses and several Community Health Extension Workers, CHEW's, who are the products of the revolutionary endeavours of the late Prof Olikoye Ransome-Kuti as Federal Minister of Health. All of us physicians, except Dr Adabanija, are Ibarapa graduates.

Table 1 shows the surgical operations performed from 1983 - 2010. The climax in abdominal surgery was reached when the two synchronous combined abdomino-perineal resections of the rectum for carcinoma were successfully performed by the two rural surgeons in April 2009 and October 2010 in our rural hospital. On 29th September 2011, we successfully inserted a ventriculo-peritoneal shunt in a 17-month old child with congenital hydrocephalus.

Another problem associated with the decline in UCH was the gross delay in obtaining histopathology reports on operative specimens. By August 2003, we had 49 outstanding reports dating back to 2001. We had paid one thousand five hundred naira (N1 500.00) for each specimen.

Again, we have overcome that bottleneck by procuring the microtome and other accessories to produce the slides which are read by a pathologist in UCH. Results are available within 10 days of obtaining the specimen by the routine we have established.[54] We have processed over 3 500 specimens in the last 8 years.

We offer preventive services as well in form of immunization for adults and infants and regular health education talks.

In the past two decades, the day at the outpatient clinic starts with a health talk on water-borne diseases among other common diseases like malaria, hypertension, diabetes mellitus, HIV/AIDS and tuberculosis.[55] Our usual health talk goes like this:

"Greetings.

"Typhoid fever, cholera, infective hepatitis, gastroenteritis and guinea worm are the common diseases in this environment that are acquired through the drinking of unwholesome water. The water we drink from all sources, except rain water that is harvested, is easily contaminated by faeces deposited in open spaces (which is the usual practice) and washed into these sources by the falling rain.

"Even pipe-borne water is not safe because most pipes are rusty and have burst. So, when Water Corporation is not pumping water, the contaminated pool of water at the leakage points will flow back into the pipes and will be pumped into households when the corporation resumes activity. It is not economical to drink sachet or bottled water routinely. It is meant for social events.

"To make the water from these sources potable, we advise you warm the amount you would need the next day in the evening so that it is cool by the following morning. You need not heat to boiling as all germs that cause these diseases will die as soon as the water is warm to touch.

"Please practice this piece of advice and pass it on to your relations and neighbours as prevention is not only better but cheaper than cure."

A medical student and I reviewed of mortality at ACE from 1987 to 2001 analyzed at five year intervals, we found that the incidences of typhoid fever, gastroenteritis, infective hepatitis and cholera as causes of mortality dropped by over 80 per cent.[44] There has been no cholera outbreak in rural Ibarapa district for over 15 years now even with no improvement in the municipal water supply.

So, while Nigerians are waiting for potable pipe-borne water, warming drinking water before use is a pragmatic option to prevent water-borne diseases.

Since 2006, another Ibarapa graduate, Dr (Mrs) M Walker, has set up an NGO that assists people living with HIV/AIDS in Ibarapa.[56]

From these elaborations, it can be deduced that 95 per cent of surgical patients can be taken care of in Ibarapa and it is a fact that there is now a reversal of the rural-urban drift in health care delivery in Ibarapa. Thus, it can be concluded that Ibarapa district has the best health care delivery system in Nigeria and it is a good example of the public/private partnership often touted to solve the health care and other challenges of Nigeria.

In 2009, we were the subject of an award-winning documentary, INNOVATING FOR AFRICA. UNCOMMON SERVICE!!

As early as 1988, our teachers in Lagos had given their approval to our efforts in Ibarapa.

Professor E A Elebute, in the maiden Faculty of Surgery Lecture of the National Postgraduate Medical College of Nigeria in February 1988 said:

> *"We must work out through research, ways of assessing and thereby improving the quality of care that we give our patients. There are three approaches to the problem of quality of care. The most basic is paying attention to structural aspects such as financial resources, facilities (e.g. water and electricity), equipment and staff. I think most of Awojobi's work in Eruwa is in this direction and he has been able to fashion equipment from locally available materials and device treatment manoeuvres suited to the structural background of his working environment."* [57]

Prof O Ransome-Kuti, who was our guest in August 2000, summed up the impressions of many of our teachers who had visited us thus:

> *'Highly privileged to visit this hospital, an example of commitment, concern for fellow beings, innovation and imagination. I like the way he admits relations to the theatre to watch operations on their sick relatives. I like the way he fabricates everything and saves everything. I have visited an exemplary phenomenon and honoured to be here. Can this be replicated? It must take a particular kind of person!!* [58]

Unfortunately, the General Hospital, Igboora, home of Ibarapa Programme and other government hospitals in the district still remain 'mere consulting clinics' as aptly described by our former military dictators who often used the state of our hospitals as an excuse for coup d'état. This is despite the expenditure of a fifty million naira grant from the Federal Ministry of Health to the College of Medicine, Ibadan to reactivate the programme in 2007. The first heavy rains after the rehabilitation blew off three roofs while those constructed since 1963 withstood the storm.

MEDICAL RESEARCH IN IBARAPA

From the inception of the programme in 1963, medical research has been the bedrock of health care delivery and has put Ibarapa on the global health map. This is the third objective of the Ibarapa Programme. To mention but a few:

In the 60's, Prof P P S Nylander, obstetrician and gynaecologist and my teacher conducted a series of research into the phenomenon of twinning in Ibarapa district. He found that the Yoruba of Ibarapa had the highest twinning rate in the world (40 per 1000 live births) and the twins were of the fraternal (dizygotic) type. This meant that the women were having multiple ovulations in their menstrual cycles and could be triggered by environmental factors. He suggested these factors were in the local yam.[59]

In 2005, at Awojobi Clinic Eruwa, I was conducting a morning ward round with some Ibadan medical students and on the maternity ward were a Yoruba, an Igbo and a Fulani woman with twins. This triggered a review of our deliveries from 1986 to 2004 epitomizing Pasteur's aphorism that: ***'Dans le champs de***

l'observation la chance ne favorise que l'intellingence prepare' *('In the field of observation (research), chance favours only the mind which is prepared')*

Since the 60's, there has been a steady influx of other Nigerian nationalities into Ibarapa but very few, if any, intermarriages. We found that these other nationalities had the same propensity to have twins like us, Yoruba. This result was published in the Nigerian Postgraduate Medical Journal.[48] The paper generated some interest on the internet.

The next stage in the research was to find out the factors in the environment responsible for the multiple ovulations in the women. I turned to an egg head in this hospital. He was talking 'above my head' and making the case more complex. Then, I remembered that in all my years of fabrication and invention, whenever my designs and solutions were becoming complex, I knew I had 'missed the road' like 'Fela sang many years ago. I would put on my thinking cap, return to basics and recollect the words of my teacher and mentor, Prof O O Ajayi:

> *"While the unavailability of modern technology has limited the scope of research, it is still possible to conduct appropriate, "low-tech," and relevant research that is subject to excellent study design, proper controls, and scientifically valid interpretations*"[10]

And, as a matter of fact, over the last 50 years many more major advances have been made in medicine by simple observation than by all the current molecular techniques put together.[60]

In 2007, I turned eastwards to a food nutritionist in the Department of Biochemistry of the University of Calabar.

In the last four years, she made several trips to Eruwa collecting the local yam and the popular edible vegetable, *ilasa,* to feed the experimental rats in her laboratory. The outcome was the PhD she obtained two months ago.[61] She confirmed that these food items caused the rats to produce more litters than the control group.

She has got six papers already from the project and like most basic researches, there are several spin-offs like the professor of agriculture in the university thinking of using the yam and *ilasa* to improve reproduction in cattle and other animals.

Dr Pearson found that onchocerciasis was a cause of musculoskeletal pains[62] and patients with pulmonary tuberculosis had facial hypochromia unrelated to the degree of anaemia but which resolved with specific therapy.[63] He described an effective method of inguinal hernia repair which had the same principle that formed the basis of the mesh repair.[52]

Several other university teachers based in Ibadan conducted researches in Ibarapa that contributed significantly to their promotion.

At ACE, we have firmly established the specialty of primary care surgery (which I prefer to call rural surgery) in Nigeria and in the process brought appropriate technology in health care delivery to the fore. In this respect, we have fabricated the operating table that uses the mechanical jack for elevation and depression,[64] the manual haematocrit centrifuge from the bicycle wheel,[65] the hospital still using copper tubing,[66] the modified trocar and cannula,[67] the intraosseus needle,[68] the atraumatic suture from nylon and hypodermic needle[69], the autoclave powered by maize cob furnace and the pedal suction pump using the bicycle valve.[70,71]

In 2008, Bells University of Technology, Ota, Nigeria, a private university, honoured me as the Foundation Lecturer and thereafter set the pace in offering courses in biomedical engineering. I am an associate senior lecturer in that university.

In addition to publishing over 60 papers since arrival in Eruwa, I have been privileged to be the third editor, the author of eleven chapters and the publisher of the third edition of the standard textbook, COMPANION TO SURGERY IN AFRICA[72] and a book, PRIMARY HEALTH CARE IN WESTERN NIGERIA 1977 – 2007, commemorating the 21st anniversary of ACE.[73] I am publishing another book, SURGERY IN IBARAPA, during the forthcoming combined conference of the International Federation of Rural Surgery and the Association of Rural Surgical Practitioners of Nigeria to which you are all invited.

We have ventured into building construction to provide affordable public buildings and housing for the rural people through the fabrication of a mobile concrete mixer that uses the back axle of the car, sandcrete mixer

and vibrator, the rotating sand sieve and the interlocking cement blocks which have reduced the cost of setting the walls by 60 per cent. We have enunciated and put into practice the principle of convectional ventilation to ameliorate the effects of global warming in dwelling and public buildings.

THE CHALLENGES

In the October 6, 2008 issue of the weekly magazine NEWSWATCH special anniversary edition tagged "HOW TO FIX NIGERIA", Prof S K Gyoh, former chairman of Medical and Dental Council of Nigeria, MDCN, Director General under the late Prof Olikoye Ransome-Kuti and the World Medical Association, *Caring Physician of the World* wrote on the health sector:[74]

> *"The persistence of Nigeria's problems is not caused by lack of the knowledge of their solutions. It is often due to the dissociation of theory from practice. This is the case in health.*
>
> *"The National Health Policy was launched in 1988. It adopted sound internationally accepted principles and adapted them to solve the health sector problems of Nigeria. It was acclaimed by the world as a good blueprint for delivery of first class health care in a developing nation, and requests for copies came from the four corners of the world. Attempts to implement it were seriously made in the first four years during the leadership of the late Olikoye Ransome-Kuti, the then minister of health. But, by the time he left office, it had not yet properly taken root. Despite the Primary Health Care Development Agency which he later returned to head, the Federal Executive Council had lost the missionary zeal he had earlier injected into its implementation, and his further efforts, he confided in me, met with several frustrations.*
>
> *"Nigeria's health status is deplorable. The revised health policy document admits that preventable diseases account for 70 per cent of Nigeria's disease burden and that poverty is a major cause of these problems. It admits that our maternal mortality of 1 per cent is 'one of the highest in the world,' that some of our health indicators, such as the under-5 and adult mortality rates are higher than the average for sub-Saharan Africa."*

Having worked in a rural area of Ibarapa district of Oyo State for 28 years, the challenges of rural health care delivery in our country include:

1. The activities of professionals allied to medicine, traditional healers, bone setters, alternative medical practitioners and ordinary citizens who belong to none of the above but provide medical and surgical services.
2. The low morale of medical practitioners in the rural areas.
3. The level of competence required of a medical officer to perform effectively in the rural setting and deal with above case scenario of the pregnant woman in the village. Records at the Medical and Dental Practitioners' Disciplinary Tribunal show that over 95 per cent of the cases were for operations that went wrong, though many of the procedures were not necessarily performed by doctors with formal surgical qualifications.[75]
4. The prospects for professional advancement while still based in the rural setting.
5. The infrastructural inadequacies in the health institutions.
6. The inappropriate administrative milieu in the health institutions.
7. The social problems of raising a family and securing a job for the spouse in the rural setting.

PROPOSED SOLUTIONS

Our proposed solutions include:[54,76,77]

1. **Activities of non-physicians.**
   These fellow Nigerians are inevitably responding to the phenomenon of WHERE THERE IS NO COMPETENT DOCTOR which is a variant of the dictum NATURE ABHORS VACUUM. Legislation will not solve the challenge as those who will make and enforce the law patronize them. However, the government can control the content of their advertisement and vet all programmes from such sources before broadcast to prevent the dissemination of inaccurate information to the populace. Statements that claim to cure hypertension and diabetes mellitus should not be heard in present day Nigeria. The eventual solution is to TRAIN THE DOCTORS HARD to deliver safe and essential surgery and EDUCATE THE POPULACE HARD to know their rights and responsibilities.

2. Morale of rural doctors.

In order to motivate and attract doctors to the rural areas and urban slums, the MDCN should put a moratorium on the payment of renewal fees for accredited doctors working in such disadvantaged circumstances. It should insist on acquisition of points from continuing professional development courses after the training institutions and universities have initiated postgraduate training courses in primary care surgery.

Putting an undue and inappropriate financial obligation on the Nigerian rural doctor is not good for his psyche while he battles daily with the atrocities of his non-physician compatriots who, without fetters, practise orthodox medicine next door to him and cause epidemics of faecal fistula,[78] vesico-vaginal fistula, gangrene of limbs, etc. I would choose to retire than conform to such directive.

There is no place for the alternative medical practitioner on the MDCN because we do not know their ways and conduct. When I set out to train as a medical doctor in 1970, I did not look forward to the day my teachers and senior colleagues would sit at the same table with an alternative medical practitioner. If I knew that would be the case, I would have chosen to train as a biomedical engineer like my brothers.

On the issue of remuneration and having been self employed and an employer of labour for 25 years, I am of the opinion that in any system, remuneration should be based on productivity and where this is not so, *'what is good for the goose should be good for the gander'*. A situation where a councillor, who barely completed secondary school education, is earning multiples of a doctor's salary does not make for equity. I support the doctor who is fighting for equity with all the legitimate means at his/her disposal.

The Hippocratic Oath, often evoked to castigate striking doctors, presupposes that the physician is well psychologically, mentally, socially and physically. But, that cannot be said of a doctor who is owed several months' salary.

3. Level of competence.

The current training programme that produces a full-fledged general surgeon or a family physician is not adequately coping with the magnitude of the health challenges in rural Nigeria.

The need to train middle level surgical manpower specifically to address these challenges has been examined and debated for many years.[79] The Malawians have been more pragmatic in this regard having successfully trained non-physician clinical officers to insert ventriculo-peritoneal shunts to treat hydrocephalus in children, resect and anastomose bowel in strangulated inguinal hernia and perform transvesical prostatectomy for benign prostatic hypertrophy.[5] Their outcomes compare favourably with those performed by surgeons. My teacher, Emeritus Prof A Adeloye, a neurosurgeon, taught the Malawians how to insert the VP shunt.

4. Professional advancement.

The frame work should provide for opportunities to undergo more training with the ultimate goal of becoming a consultant surgeon or family physician if so desired.

It is proposed that the structure of training at the National Postgraduate Medical College of Nigeria, the West African College of Surgeons, WACS and the West African College of Physicians be in stages and decentralized with accreditation of more nongovernmental health institutions for the training of specialists and middle level manpower as highlighted in the acceptance speech of the current President of WACS. Only the Faculties of Ophthalmology and Anaesthesia of the WACS have moved decisively in that direction with the diploma in the specialties. Certificates should be awarded for successful completion of each stage viz: diploma, membership and fellowship which should reflect appropriate degree of professional competence. These certificates should be registrable with the MDCN.

The major advantages of this scheme include:

a. Residents do not stay for five to six years in tertiary institutions during which they behave like career officers who specialize in labour union matters. Many tertiary and public hospitals are closed for most of the year due to the demand of doctors for increased salaries.

b. More opportunities are created for training middle level man power for services in rural and remote areas.

c. Non-governmental hospitals with underutilized surgeons and family physicians (who practise primary care surgery) will become training grounds for service and research.

d. The products will be fully prepared to work at all levels of the health care pyramid. A staged training programme will be more acceptable in keeping the medical officers in the rural setting.

e. The critical mass to achieve the MDG's will be attained sooner than later.

The various institutions (teaching/tertiary) for training surgeons are facing difficulties due to deteriorating infrastructure and diminishing access to surgical care through prohibitive user fees which have altered their bed occupancy and changed the frequency ratio of diseases for the balanced experience of surgical trainees[10,80]. Therefore the revitalization of the teaching hospitals is crucial at this moment so that the prohibitive user fee does not turn away patients that should be managed at this level.

The universities, especially the National Open University of Nigeria, should be encouraged to initiate the more apposite Master of Science (Primary Care Surgery) programme similar to the Master of Public Health degree. This will allow for the academically inclined rural practitioner to seek employment in the university after providing service and undertaking research in the rural area.

The colleges of medicine should, as a matter of urgency, create Departments of Family Medicine but the faculty staff should be based in rural health institutions.

Recently, the one year training abroad was reinstated. A review of that aspect of the training in the 80's, of which I was the unsolicited control, would show that it is not necessary in today's Nigeria. It will only encourage the flight of more Nigerian doctors abroad with the resultant deterioration in the human resources for health that this conference aims to solve. There is hardly any type of surgical care that is not available in Nigeria today and several of the superspecialists abroad are our compatriots.

Therefore, as long as patients keep falling from operating tables and there is persistence of poor attitude to work in our teaching hospitals, rich Nigerians will continue to go abroad for surgical treatment. One year training abroad will not change that attitude.

5. Infrastructural inadequacies.

The challenges of infrastructure and medical devices have been fully solved at ACE such that foreign NGO's have found the setup satisfactory enough to regularly conduct hernia and eye surgery missions at ACE.[81,82] We need to replicate them in all the rural hospitals of our country.

6. Inappropriate administrative milieu.

The administrative structure in operation at present in the public service is inimical to the efficient running of rural health institutions. Governments should be encouraged to adopt the Bamako Initiative of revolving funds in the procurement of materials needed to efficiently run rural health institutions.

We initiated the Bamako initiative four years before its conception at the District Hospital, Eruwa (1983 – 86) and continued in our private clinic from 1986 to date.[77]

Accountability in financial matters could be assured by the open accounting system in which ALL members of staff and some representatives of the community constitute the auditing team that meets EVERY month and the medical officer in charge sends written reports signed by ALL heads of departments quarterly to the state and local headquarters. Involving the junior staff is an antidote to embezzlement and other corrupt practices.

7. **Social challenges.**
   The social challenges of raising a family are critical to retaining medical officers in rural areas. However, we have shown that it is safer, better and cheaper to do that in the rural area where there is a constant relationship between parents and their children while they are growing up.

   Our two sons went to public schools although; there were private primary and secondary schools in Eruwa. We engaged their teachers to give extra coaching to them after school hours and during the holidays. Of course, we started off at home before they were five years old when formal education began in the public school.

   We developed laboratories for physics and chemistry at home and used the hospital laboratory for biology. At the end of their secondary school years, we donated the instruments and chemicals to their school. The total cost of all these was much less than sending the children to a private school in the city. The joy and satisfaction of seeing them grow to their adolescence was gratifying.

   Our older son has graduated as an electrical/electronics engineer from Obafemi Awolowo University, Ile-Ife. He is self-employed in the city of Ibadan producing inverters and rechargeable dc lamps. He is Germany now on Dr BGK Ajayi's sponsorship learning to use, install, maintain and repair sophisticated ophthalmic equipment. Our younger son is a medical student at the same university.

   My wife is a radiographer. So, it was easy for us to be employees of the state government before we decided to establish our practice in the same town. We did this to obtain job satisfaction which was not possible in a public institution due to bureaucratic bottlenecks. The community was very cooperative in our transition into private practice.

   There should be close collaboration between the governments at the three levels and the private sector in the rural setting to provide job opportunities for the spouses (usually the wives). Where the wife decides to be self-employed, soft loans from the banks should be guaranteed by the employer of the husband.

RECOMMENDATIONS FOR MY ALMA MATER

I am making these recommendations with the knowledge that if the College of Medicine, the University College Hospital, Ibadan and the Ibarapa Programme are restored to their old glory, primary health care will be rejuvenated in the country.

1. Dokita should be published at least twice a year using the projects undertaken during Igboora posting as contents. It will be a resource material of what had happened in the past and pointers to what the future portends as the medical students and I demonstrated with the phenomenon of twinning in Ibarapa. Other medical schools will follow suit.
2. Medical students should assist at every operation on their patients so that the BS of the degree is meaningful again.
3. Medical students and residents should spend their holidays and leaves in active practices without pay. You must start thinking seriously of housemanship without pay.
4. Residents should be posted to Awojobi Clinic Eruwa and other suitable facilities like Dr A Marinho's centre to acquire hands-on skill quickly.
5. The consultants should supervise the residents better and not leave to perform operations until they were sure they could perform creditably realizing all the time the responsibility rests with them.
6. In-house journals like the IBADAN SURGEON should be published more regularly.
7. Students should be encouraged to buy and read the standard textbooks produced by Nigerians. For example, every student and surgical resident should purchase the third edition of Davey's Companion to Surgery in Africa. It costs only two thousand naira in the Department of Surgery.
8. The infrastructure in UCH can be improved by harvesting rain water from the roofs, installing DC lighting with solar panels and where possible adjusting the architecture of the buildings to improve lighting and ventilation as they obtain in the core buildings that are world famous.
9. The department of pharmacy should be mandated to produce intravenous fluids. The many banks on the premises of UCH could fund that knowing that the market is readily available.
10. A department of family medicine should be created in the college with the faculty staff based at Igboora. The general outpatient department in UCH should be closed down as recommended many years ago.
11. The director of Ibarapa programme should spend more time resident in igboora like our teachers, his predecessors, did.
12. The ViceChancellor and the college should redeem their image after the inappropriate expenditure of fifty million naira a couple of years ago by rehabilitating the General Hospital, Igboora along the lines

of Awojobi Clinic Eruwa. The people of Ibarapa are not happy with the University of Ibadan to put it mildly. But for the presence of Awojobi Clinic Eruwa, Olugbon Medical Centre, Igboora and Anuoluwapo Hospital, Idere established by Ibarapa graduates and my donation of the concrete water reservoirs at Igboora, the people would have reacted negatively to the wastage of fifty million naira.

13. Above all, the attitude of all the workers from the gate man to the CMD must change because as Prof Emeritus Solanke once quoted the remarks of a medical student that UCH might not mean the centre of excellence of the past but had become YOU SEE HELL!![83]

CONCLUSION

We have shown that the Ibarapa Community and Primary Health Programme of the University of Ibadan has achieved its stated objectives in the spirit of community participation and the public/private partnership. What is left to be done is for all the ministries of health in the nation to take the bull by the horn and replicate the programme in all the local government areas.

The training programmes of the postgraduate institutions *"must be relevant, flexible, and adaptable to reflect our needs at all the three tiers of the health care system while we cannot lose touch with new developments and technologies that can be used to manage the changing patterns of disease or the emergence of a new pandemic of diseases common in industrialized countries. The ability to make virtue out of necessity is the greatest and immediate challenge of all".*[10]

I thank you all for your kind attention.

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Table 1

SURGICAL OPERATIONS IN ERUWA 1983 – 2010.

OPERATION	NUMBER	PER CENT
External hernia repair	6355	39.4%
Excision of lumps	2144	13.3%
Hydrocelectomy	960	5.9%
Laparotomy infection	940	5.8%
gynaecologic	850	5.3%
intestinal obstruction	345	2.1%
trauma	50	0.3%
Caesarean section	920	5.7%
Prostatectomy	852	5.3%
Thyroidectomy	352	2.2%
Sequestrectomy	202	1.2%
Orchidopexy	180	1.1%
Vagotomy and drainage	165	1.0%
Mastectomy	133	0.8%
Major open fracture	120	0.7%
Chest tube insertion	100	0.6%
Vesico vaginal fistula repair	100	0.6%
Vaginal hysterectomy	74	0.5%
Splenectomy	38	0.2%
Major amputations	30	0.2%
Nephrectomy	30	0.2%
Mandibulectomy/maxillectomy	25	0.1%
A-P Resection of rectum	2	
Others	1200	7.4%
TOTAL	16167	