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Healthy Individuals and Healthy Communities

By

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Professor of Preventive and Community Dentistry

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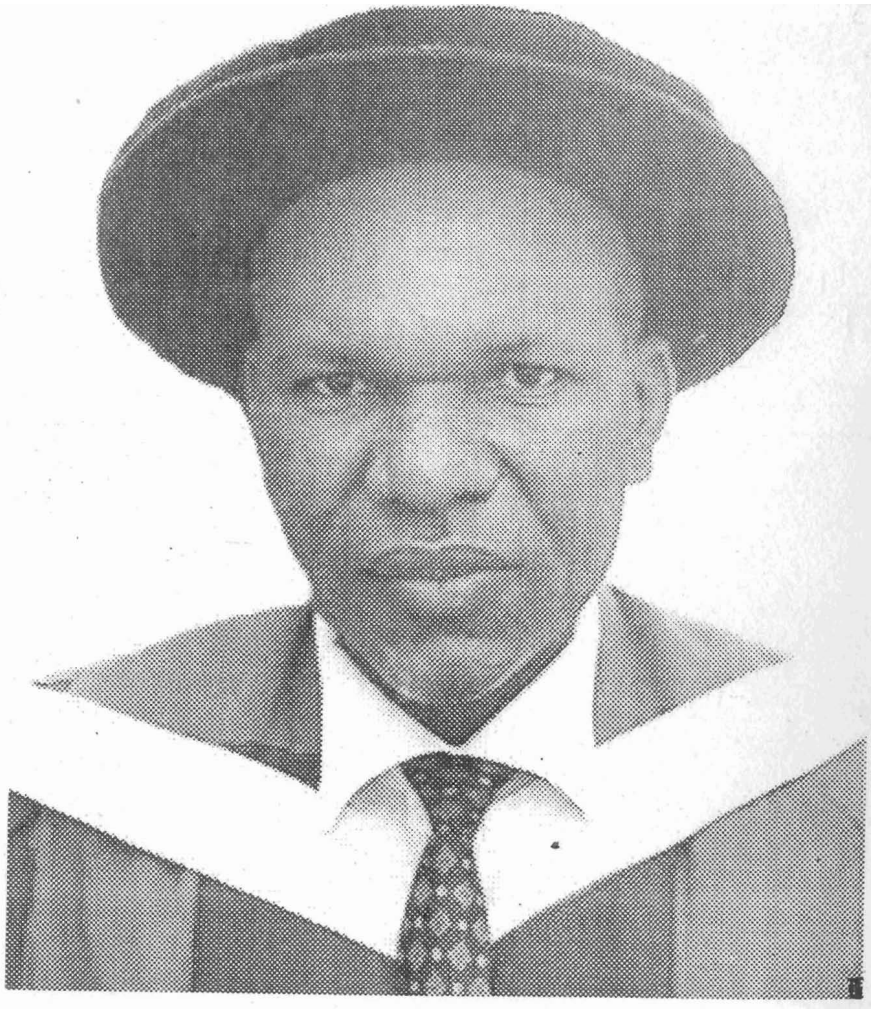

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INTRODUCTION

Mr. Vice-Chancellor sir, one common and universal characteristic of the human race is the desire to carry on, in the same way, the things that our predecessors did or professed and to turn with pride to our earlier culture for encouragement, guidance and reassurance. Unfortunately today, I have no such tradition to fall back on because the inaugural lecture from the chair of dentistry has no precedent in this university. This is despite the fact that our dental school was established about 30 years ago, specifically in 1975.

As I stand before you to give the first-ever inaugural lecture from the Faculty of Dentistry, in this university, I owe a debt of gratitude to the university for giving me the opportunity to also be the first Professor of Preventive and Community Dentistry and the first Alumnus Dean of the Dental School (1999 to 2002). I have also, in my professional career, been privileged to be the pioneer in some other important areas. I was the convener and foundation president of the International Association for Dental Research (Nigerian Division), the pioneer Editor of the *African Journal of Oral Health* and the first and only Nigerian member on the Steering Committee of the African Oral Health Education Association.

An inaugural lecture provides an opportunity for a Professor to expound on his area of specialisation and explain to the university community and the public, as much as possible and in simple terms, his or her contributions to knowledge. It is therefore my intention to share some of my views and experiences with you, particularly as it relates to the general and oral health of individuals and communities in Nigeria.

HISTORICAL BACKGROUND TO ORTHODOX HEALTH CARE

The Origin of Hospitals

Hospitals began about the 18th century as charitable Christian refuge largely for the orphaned, the crippled, the destitute, or the insane

without much medical action or significance. They were therefore first established in monasteries, and then spread by missionaries. The idea of a hospital that investigated and treated disease rather than simply offering sustenance to the indigent sick developed in Paris after the French revolution and the political and technological developments that accompanied it. It acknowledged techniques and concepts unknown in former times and gradually became central to medicine. Instead of relying on the authority of books, doctors began to study patients, to analyse differences between them and to delineate separate diseases. Diseases came to be recognised as afflictions that were common to all who suffered from them rather than unique to each individual. A system developed that was based on observation, physical examination, pathological anatomy, statistics and the concept of the lesion (change caused by disease). By the middle of the 19th century, investigations had extended beyond the bedside and living patient, and had moved on to the cadavers in the mortuary and tissue cultures in the laboratory.

The status and power of hospitals increased greatly after the introduction of anaesthesia in the 1840's. The introduction of the stethoscope, the ophthalmoscope and the laryngoscope, all by the mid-nineteenth century, coupled with the use of the microscope, aided diagnosis and altered the management of patients. The discovery of the X-ray in 1895, made it possible for the first time to classify the pathology of organs in the living body. Surgical operations became safer when they were carried out in institutions organised for them, and with other skilled people available. As medical science matured, healing and religion diverged. In the words of Myers (2000), "Rather than simply asking God to spare their children from smallpox, people began vaccinating them. Rather than seeking a spiritual healer when burning with bacterial fever, they turned to antibiotics".

The Hospital, Health Profession and the Lay Public

During training, it is disheartening that health professional students are effectively isolated not only from the community they will

eventually serve, but even from other students. Entry to medical or dental school often means virtually exclusive contact with professionals. Most trainings are done in hospitals where patients are either so ill or too intimidated by the hospital environment to be anything but passive. As I was preparing for this inaugural lecture, I came across a report on page 7 of the *Tell Magazine* of January 24, 2005 which showed how compliant a patient can be. It read as follows:

> "A brazilian man who went to a hospital with an earache problem ended up having a vasectomy after wrongly answering to a name that was not his. (A vasectomy is the medical operation of cutting the small tube that carries sperm in order to make a man unable to produce children). Valendmar Lopez de Moraes, 39, went into the vasectomy room when Aldemar Aparecido Rodrigues's name was called. The strangest thing about his case was that he neither raised objection nor asked questions when doctors started preparing his testicles for operation. He was later to explain that he thought it was an ear inflammation that got down to his balls."

The 'ideal' patient is expected to be completely acquiescent, tolerant, submissive, obedient and non-assertive. Dubb (2004a) has described the change in status that a patient undergoes immediately he is admitted to the hospital ward:

> "He at once becomes depersonalised – *that case of jaundice in the third bed on the right.* He may have to wear the hospital uniform. He is not given the rules, but is subject to the authority of all, from the cleaner to the sister and the doctor. From being a respected person at home or at work, he is reduced to being unable to take any decisions for himself. His world has shrunk to his bed, his locker and the buzzer with which to summon help. In many hospitals even this form of communication is denied him".

The Role of Technology and the Need for Humanistic Approach to Health

Technology is desirable and it often comes at tremendous price to the society. Legend has it that fire, the first technological innovation was stolen from the gods by Prometheus for the benefit of mankind. But, Prometheus was punished for this. He was tied to a rock and every night a vulture devoured his liver which regained its functions daily, due to its regenerative nature. Prometheus withstood this punishment for 30 years before Hercules rescued him.

However, it is sad that the technology of health has been allowed to outrun its sociology. Increasing technology has made medical care rather impersonal with the job of the doctor almost as technical and repetitious "as the assembly line". It is gradually taking away the good doctor who knows all his patients, their homes and their families, their affairs, temporal aspirations and desires.

Dentistry in Nigeria

It is pertinent for me to give a brief history of dental practice and dental education in Nigeria. Two important reasons necessitate this decision; firstly, it will give this august audience a clearer view and secondly, my research in this area revealed that earlier reports crediting the dawn of orthodox dental practice in Nigeria to 1935 are grossly inaccurate. The beginning of modern dentistry in Nigeria can be traced to E. G. MacClean who in 1903 established the first private dental practice in Lagos. He later joined the Baptist Mission in 1907 as an "Industrial missionary" and worked briefly at Saki, then Ogbomoso, later Iwo and retired in 1940 (Schram, 1971). The first government dentist, Mr. H. F. Hardie was however employed in 1915. The first Nigerian Dentist is the late Chief (Dr.) Ernest Temuno Iyemina Dublin-Green who qualified in 1949 and returned to Nigeria the same year to start practising. Prior to this period, traditional tooth-pullers attended to oral health problems and are still visible in some parts of the country till today.

MY NUPTIAL KNOT WITH DENTISTRY

It may interest you to have a glimpse of the prevailing circumstances that made me to decide in favour of Dentistry as a career. My ambition, while in the Secondary school, had always been to study general Medicine. I was however attracted to Dentistry because at the time I was completing the Concessional University Entrance application form there was only one dentist, Dr. D. K. Omole, in my home state (Ondo State) where I was also residing. He was then running mobile clinics and there were daily announcements on the radio informing those with dental problems to meet him at particular locations; Ondo, Owo, Akure, Okitipupa, Ado-ekiti etc. Although, I did not meet him in person or at any time ever had a dental problem or been to a dental clinic, I decided to select Dentistry as my first and only choice. I passed the entrance examination and was invited for interview. Members of the interview panel were surprised to see somebody opting for only dentistry, as this was a rare occurrence at the time. I explained how I came to my decision. I was not asked any other question but was told by the chairman of the interview panel that I should be expecting my letter of admission to Great Ife!

Mr. Vice-Chancellor Sir, I can say that my nuptial knot with dentistry started with the daily announcements of Dr. D. K. Omole's mobile dental clinic on the radio. Upon graduation and having completed my Housemanship and the mandatory National Youth Service Corps scheme, I was appointed a Medical Training Fellow in the School of Dentistry in March 1987. I eventually qualified as a specialist in Dental Public Health (otherwise known as Community Dentistry) after a short stint in the United Kingdom with a Diploma from the Royal College of Surgeons in England.

Many have contributed to my professional development over these years. Foremost are my parents, my spouse, teachers and my colleagues to whom I remain ever grateful. I will however want to put on record the tremendous influence that two of the foremost Dental public health academics in the world have had on me - Professors Aubrey Sheiham

of the United Kingdom and Michael John Rudolph of South Africa. From Professor Sheiham I learnt the art and science of looking at issues from the point of evidence and the understanding that a professional act is not necessary right simply because "that had always been the practice". Professor Rudolph on the other hand taught me the effectiveness of networking (with the community, colleagues, donors, etc) as a tool in Public Health. These have been very useful in my career and I have continued to work closely with the two distinguished academics. In fact, my working relationship with Professor Rudolph led to my appointment since 1999 as honorary visiting Professor at the University of the Witwatersrand, Johannesburg, South Africa.

CONCEPTUALISING HEALTH

What constitutes health and how to measure it are old questions that have not yet been resolved. Health was for a long time defined as "the absence of disease". However, the World Health Organisation as part of its Constitution in 1946 defined health as "a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity".

Health problems can be divided into at least three elements namely; Disease, Illness and Sickness. *Disease* is believed to result either from degenerative processes within the body, from biological, chemical or physical pathogens invading the body from outside and doing damage to particular organs, or from a failure in one of the body's own regulatory mechanisms. The damage then spreads either because other organs are similarly invaded or because they are biologically dependent on the first.

Illness on the other hand is the more psychologically focused and subjective experience of the patient. These experiences are seen to be expressed in symptoms or feeling states. *Sickness* is how the individual is defined by others. It can therefore be regarded as the social definition of health.

Health cannot be defined merely in terms of anatomical, physiological or mental attributes. Dubos (1984), has opined that the real measure of health is "the ability of the individual to function in a manner acceptable to himself and to the group of which he is part". He argued that it is difficult to achieve permanent health (and happiness) since men develop new urges, which give rise to new problems which will require ever new solutions. In a similar manner, health has been described as "freedom from chronic worry". The philosopher, King Solomon the son of David exemplified the importance of chronic worry when he wrote; "You work and worry your way through life, and what do you have to show for it? As long as you live, everything you do brings nothing but worry and heartache. Even at night your mind can't rest" Ecclesiastes 3:22-23.

Milio (1981) supports the dynamic concept of health and believes that health is not a state to be captured and dealt with, nor is it some achievement to be attained with finality. It is rather the response of people to the environment, a response that allows them to go about their daily activities without personal restrictions that can be prevented.

Doyal and Doyal (1984) have pointed out the differences in the concept of health as seen by western medicine and the holistic or alternative medicines. In western medicine, health is that state of the body where the various component parts are more or less stable in that they are all doing what is necessary for the organism to work successfully. 'To work successfully' is usually defined in terms of fitness to perform one's appropriate social duties. The holistic approach on the other hand sees health as a positive state of being and not merely the absence of symptoms of disease. The precondition for health is considered to be the integration of the mind and body of the individual.

In most societies, diseases of all kinds are explained by the evil workings of demons or wicked spirits who come into the sufferer's body. The corollary is that someone else has the power to drive that demon into the body. Till today, in many parts of Africa (including

Nigeria) the problem for the traditional healer is not to diagnose the nature of the disease, but why it occurred and, who or what caused it. He/she is not interested in the swelling but who put the obstacle in the path of the injured foot. Up until the late 17th century, treatment of the mentally-ill often involved the casting out of demons which the church termed 'exorcism'.

Many African communities still believe strongly that health problems are mostly as a result of interpersonal tensions or immorality or the anger of the gods, or the work of witches and wizards. Jealousy, envy, quarrels, and other factors of relationships are therefore considered important in diagnosing and treating illnesses. It must be noted that this belief pervaded other continents before the 20th century as illustrated by the arrival of cholera in the US in 1832 which was widely interpreted "as an inevitable result of the debilitating physical effect of transgressing God's physical and moral laws" (Rosenberg, 1978).

Kennedy (1982), defined health in social, political and economic terms and emphasised that health must reflect qualities which combine to represent man's aspirations and expectations. He suggested that efforts should be directed towards preventing, through political and social actions, many of the conditions which lead to illness. He believes "health is too important to be left entirely to doctors, it is a matter for all".

Section 3.3 of the National Health Policy and Strategy to Achieve Health for all Nigerians corroborates the need for health to be the duty of all, when it states;

> "The people of this nation have the rights to participate individually and collectively in the planning and implementation of their health care. However, this is not only their right, but also their solemn duty" (FMOH 1986).

Illich (1976), advocates a similar but stronger view. Health to him can be achieved through the "autonomy of man to manage his own intimacy". He argues that the "medical enterprise" has not only been

"useless", but also "pathogenic". He believes the best condition for health will be achieved if the society reduces professional intervention to the barest minimum.

One common agreement is that health is a possession beyond price. It is more than a biological or psychological state and it is partly a reflection of the wider human condition in all its social, economic and cultural aspects.

Assessing the Health of Individuals and Communities

Indicators for assessing developments in health are easily among the best-known human development indicators. Comparisons of similar data show the positions of individual countries. Less visible are the political and economic processes that these indices reflect. These political and economic processes are therefore, quite often ignored or mentioned only in passing in the discussion of developments in health.

The health situation in Nigeria leaves room for much concern. Of the 191 member states of the World Health Organisation, Nigeria ranked 184 in "Overall health goal attainment; 176 in Health expenditure per capital; 180 in terms of 'Fairness in financial contribution to health'; and 187 in 'Overall health system performance' (WHO 2000).

The concept of health and disease is intimately linked with quality of life. Cochrane (1984) has however noted that assessment of this is usually difficult. So far, no satisfactory way of measuring the quality of health has been developed. In some group of diseases, improvement or deterioration still has to be measured subjectively.

Assessment of the health of the community must include measures taken by the community, government, voluntary organisations and the individual person to effect stated goals of health.

THE CURATIVE (MEDICAL MODEL) AND THE PREVENTIVE APPROACHES TO HEALTH

The Greek gods; Hygeia, Aesculapius and Panakea typify the different approaches to health. Hygeia was regarded as the goddess who

watched over the health of Athens. She symbolised sanitary practices and the belief that people could remain well if they lived reasonably. The word hygiene has its etymology in the cult of Hygeia. Aesculapius on the other hand achieved fame not by teaching wisdom but by mastering the use of the knife and the knowledge of the curative virtue of plants. Because of the fame enjoyed by Aesculapius, Hygeia was relegated to a member of his retinue, usually as his daughter, sometimes as his sister or wife, but always subservient to him. The myths of Hygeia and Aesculapius represent the two different points of view in health care provision; the preventive and medical (or curative) models respectively (Dubos 1984). Panakea usually regarded as a sister to Hygeia became omnipotent as a healing goddess through her knowledge of drugs. She represents in modern parlance the illusion that drugs can solve all health problems and the universal search for a panacea.

MEDICALISATION AND HEALTH

The medical model promotes scientific choice as the only true answer to ill-health. Medical personnel are portrayed as the only people equipped to offer solutions to illness and medical intervention in the form of diagnosis and drugs as the only answer to being healthy. In his preface to *The Doctor's Dilemma*, the renowned playwright Bernard Shaw (1906) bemoaned; "Even the fact that doctors themselves die of the very diseases they profess to cure passes unnoticed". There is no doubt that over the centuries, scientific medicine has gained fascinating insights into the intimate mechanisms of the human body and can now boast of sophisticated technology and complex techniques. However, the medical profession must be humble enough to admit that there is still much that it cannot explain and therefore still has a lot to learn concerning human health.

While medical science has undoubtedly extended the lives of Millions of individuals, it can be argued that it has also burdened many with lives of lesser quality, with increasing dependence on drugs and high technology. There are even some who believe that medical power is

the mainstay and objective of the medical profession, though not necessarily that of individual doctors. They argue, for example that "the medical profession has taken over 'drug addiction' and shaped it in ways that added to the prestige of doctors but did little to help the patients, and without admitting that no one knows how to treat drug addiction." (Dally, 1997). Doctors, it seems, have taken control of most groups of people who are problematic to society. Some have even expressed the fear that, if they get the chance, doctors will seize the power to decide, for instance, who is and who is not fit to marry and have children, perhaps through the initial introduction of a premarital medical visit (Dally, 1997). The radical American philosopher, Ivan Illich propounds the extreme view that "the medical establishment itself has become a major threat to health" (Illich, 1984).

Medical science and clinical practice are achieving ever more breakthroughs, and surgeons are doing the impossible. Yet, the more medicine achieves, the less it satisfies. It has become excessively technological, impersonal and alien. Machines, regulations, bureaucracy, proliferation of tests, increasing specialisation and unintelligible jargon are rapidly replacing the friendly family doctor. There is no doubt that people in the developed countries, for example, are now healthier than they have ever been. Yet, they also report more incidence of sickness than ever, and visit the doctors nearly half again as often as they did 50 years ago (Porter, 1997).

There is now an emerging concern that developing countries are modelling their health care systems on the highly medicalised systems of the west – inappropriate for the vast majority of their populations and carrying the risk of repeating the mistakes that are becoming evident in western systems (Kaprio, 1991).

What is Community?

There is no unified or agreed definition of community. Hillery (1955), set out to identify areas of agreement among the many definitions of community and uncovered 94 definitions. All definitions concerned

human beings; beyond this commonality, no other agreement emerged in his analysis. Definitions of community vary according to the discipline of the theorist - sociology, anthropology, health services research, epidemiology, demography, and human and social ecology – and the purpose of the enquiry (Patrick and Wickizer 1995). Warren (1978) has categorised the various approaches to community as involving space, people, shared institutions and values, social interaction, distribution of power, and a social system. Early theoretical treatment of the notion of community focused heavily on locality. The current trend however has been to question whether geography is a necessary or even desirable element in any definition of community.

Nisbet (1970), declared the notion of community dead or dying. In his view, the mobility of modern household units and the decreasing dependence on local areas for the necessities of life have undermined the validity of a geographic definition. A "global village" has emerged with a global economy and mass communication, to the point that there can be more input from outside the locale than inside. Ecological boundaries are being enlarged by transportation and communication. This argument can be extended further by the fact that health workers are no longer the sole repository for health information and there are now various remote sources at the public's disposal, including the Internet.

From the perspective of health and social services, community can be defined in terms of political boundaries. The National Commission on Community Health Services in the United States, for example, has proposed a concept known as 'community of solution" to suggest that the most efficient solution to health problems should determine the size and shape of communities (Patrick and Wickizer 1995). The boundaries of community will necessarily shift with the nature of the need and the varying involvement of the individuals and collectives. Essential aspects of the community include collective framework, participation in a common enterprise, a sense of social solidarity that transcends individuals and private networks; and a sense of obligation and responsibility for social survival.

For the purpose of this presentation however, the definition of community put forward by Hawley (1950), will be adopted, that is, "that area the resident population of which is interrelated and integrated with reference to its daily requirements whether contacts be direct or indirect".

HEALTH OF INDIVIDUALS AND COMMUNITIES

Adequate health for individuals and communities can be attained through "the organised application of resources to achieve the greatest health for the greatest number". This in essence, is the definition of Public Health. Another definition has been provided in the report of the Committee for the study of the Future of Public Health, USA; "Public Health is what we, as a society, do to assure the conditions for people to be healthy.

This requires that continuing and emerging threats to the health of the public be successfully countered. These threats include immediate crises, such as the AIDS epidemic; enduring problems, such as the aging of our population and the toxic by-products of a modern economy, transmitted through air, water, soil, or food." One of the fundamental tenets of public health practice is that individual and collective health is indivisible.

Determinants of Health and Ill-health

The pathway to health is not exclusively or even mainly through the hospital, but more and more through society and the economy. The Lalonde Report (1974), is credited with being the first official document of any government to acknowledge the importance of factors other than health care in the protection and enhancement of health. Four broad categories of determinants of health were described in the report: biological factors such as genetic constitution and physiological ageing processes; environmental factors; personal lifestyles and access to effective health care.

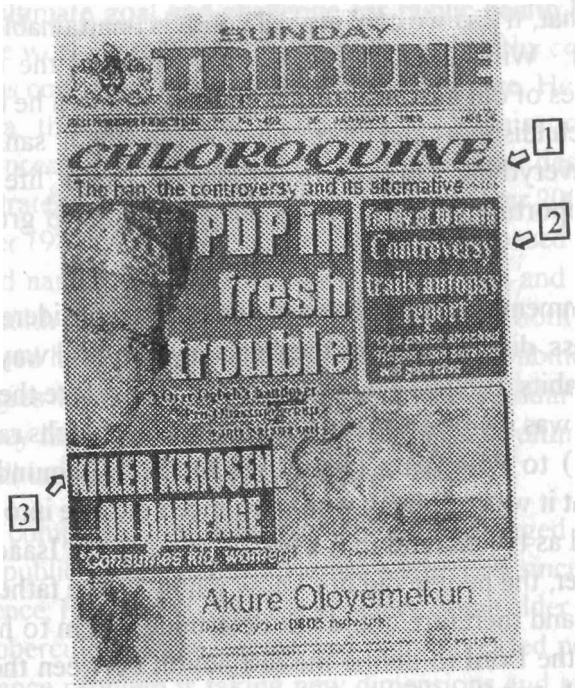
The Ottawa Charter defined Health Promotion as "the process of enabling people to increase control over, and to improve, their health" (Ottawa Charter, 1986). The fundamental conditions and resources for health were identified as peace, shelter, education, food, income, a suitable eco-system, sustainable resources, social justice and equity. Improvement in health requires a secure foundation in these basic requirements. Individuals, families and communities cannot achieve their fullest health potential unless they are able to take control of these things which determine their health. The Charter therefore called for action in five areas: building healthy public policy; creating supportive environments, stimulating community action; developing personal skills; and reorienting health services towards prevention.

Improvements in living standards such as; better nutrition, education, and environmental conditions (availability of clean water and good drainage system, for example), have enhanced health worldwide more than have hospital services. Thus, advancing living standards may be more important than extending hospital services. Some have extended this argument further by amassing evidence to show that society interferes with healthy functioning and that indeed, society is the illness.

The state of health of the individual and community is premised on factors such as working conditions, employment, wages, literacy, crime prevention, housing, water etc. More medical work will necessarily not result in better health. Reports in our news media reaffirm this fundamental tenet of public health. If we take a cue from the front page of the *Sunday Tribune* of 30 January 2005, we see highlights such as "CHLOROQUINE: The ban, the controversy and its alternatives"; "Family of 10 death: Controversy trails autopsy report. Oyo police shocked. Hopes sole survivor will give clue"; and "KILLER KEROSENE ON RAMPAGE: Consumes kid, women" (Figure 1).

These social determinants of health and quality of life influence how long people live, how well people live, and the tradeoffs made between quantity and quality of life (Patrick and Wickizer 1995).

Figure 1. Lead stories in the *Sunday Tribune* of January 30, 2005



Life Expectancy, Old Age and Health

Human desire is to achieve immortality However, we must always remember that, try as we can, eternal youth is unattainable and death is imminent. William Shakespeare even captured the undesirable consequences of old age in *As You Like It* (II,7) when he described it as "second childishness and mere oblivion, sans teeth, sans eyes, sans taste, sans everything". In the words of Candy Hugh "life is a gift, to live is an opportunity, to give is an obligation and to grow old is a privilege".

From time immemorial, a decline in longevity was considered the result of wickedness, disobedience to the deity, an unnatural way of life and bad eating habits. Biblical account indicates that before the deluge (in which Noah was involved) the life-span of the patriarchs ranged from 365 (Enoch) to 969 years (Methuselah). The Talmund however contends that it was Abraham who introduced old age into the world. He is quoted as telling God that when he and his son Isaac entered a town together, the people did not know who was the father and who was the son and therefore could not determine whom to honour. He appealed to the Lord to define the distinction between them, which He did (Dubb 2004b). Abraham lived only to 175 years and by the time the Psalms were written the years of our life had been reduced to "three score and ten, or even by reason of strength four score; yet their span is but toil and trouble" (Psalm 90: 10-12).

Science is constantly seeking ways to prolong life and is succeeding in increasing the years. Average life expectancy for citizens in industrialised countries increased from approximately 45 to 75 years during the last century. Most observers agree that the causes of this increased longevity include in addition to medical care, improvements in nutrition, housing, sanitation, occupational safety, and lifestyle (Illich 1976, Mckeown 1979; Bunker *et al* 1995). However, the Average life expectancy in Nigeria is a mere 46.8 years for male and 48.2 years for female. Improvements in health will lead to increased life expectancy.

THE CHALLENGE FOR PUBLIC HEALTH

While the ultimate goal and challenge for public health has been to populate the world with healthy individuals and healthy communities, this ideal has continued to be an illusion and a mirage. Hence in 1978 at Alma-Ata, then USSR, the World Health Organisation came up with the concept of Primary Health Care (PHC) and described it as the global strategy to achieve "Health for all by the year 2000". Nigeria in December 1986 formulated its own health policy based on the PHC concept and named it "The National Health Policy and Strategy to Achieve Health for All Nigerians". Other countries both developing and developed have similar initiatives. While these ambitious policies and strategies have unarguably enhanced the standard of health globally, they have failed woefully to achieve their ultimate goal of health for all individuals and communities

To further compound the dilemma, many unenvisaged diseases of significant public health importance have emerged since the Alma-Ata conference: HIV/AIDS, SARS and others. Some older well-known ones like tuberculosis have re-emerged with increased potency. The drug resistance problem is taking new dimensions and any previous health gains are being masked or reversed by the new and emerging challenges.

ADVERTISING HEALTH

Section 32 Subsection b(i) of the Regulations of the Medical and Dental Council of Nigeria (MDCN) proscribes any orthodox medical or dental practitioner from advertising and stipulates disciplinary action for a practitioner proved: "to have advertised himself, whether directly or indirectly, for the purpose of obtaining patients or promoting his own professional advantage; or for any such purpose of procuring, or sanctioning or acquiescing in the publication of notices commending or directing attention to the practitioner's professional skill, knowledge, services or qualifications, or deprecating those of others; or being

associated with or employed by those who procure or sanction such advertisement or publication" (MDCN, 1995).

On the other hand, I have noticed an increasing trend in the rate of adverts by the Traditional and Alternative medical practitioners. They are allowed to prey incredulously on the ignorant public through incessant and consistent adverts on the radio, television and in the newspapers claiming supreme authority and healing prowess over all diseases ranging from infertility to cancer and HIV/AIDS. I will advise the responsible governmental bodies to curb this nefarious practice in the interest of the lay public.

MY CONTRIBUTIONS

Public health is ecological in perspective, multi-sectoral in scope and collaborative in strategy. Therefore, in my research works, I have collaborated with several departments within and outside the health sciences including engineering, material science, education, and religious studies. I have also worked with Local and State Governments, Non-governmental Organisations locally and internationally.

Primary Health Care and General Prevention

I have worked extensively in the field of Primary Health Care (PHC) and Primary Oral Health Care (POHC). The PHC concept was formulated at Alma-Ata in 1978. However, there has been controversy as regards the most appropriate and effective way of implementing the dental/oral health component of PHC. Separate logistic and financial support was advocated for the oral health component (just like we have dental hospitals running as separate Divisions in hospitals) by researchers until we published our paper on "Oral health policy and Health education programmes for Nigeria - policy guidelines" (Ogunbodede & Sheiham 1992). The paper advocated an integrated approach to Primary Health Care and showed convincingly that oral health should be a component of the general PHC, and not a separate

unit. We have also identified the obstacles to the successful integration of oral health into the general PHC (Ogunbodede & Jeboda 1994) and have made recommendations that will help to achieve effective, coherent, and economically feasible integration.

Sugars are known to be the main cause of dental caries - one of the two commonest dental diseases of mankind. We therefore looked at Oral Rehydration Therapy (ORT), the universal strategy for the prevention of diarrhoeal diseases under PHC, from a dental perspective (Ogunbodede & Sheiham 1996). We challenged the rationale behind the recommendation of sugar-based Oral Rehydration solutions in developing countries which have recently been experiencing increased prevalence of dental caries, when in fact, there are non-cariogenic cereal-based alternatives. We were able to show that sugar-based ORT would lead to conflicting messages on sugars. This paper received worldwide acclamation and influenced international funding policies on ORT.

I have made significant practical and academic contributions to PHC through active participation in and reportage of a partnership for PHC development in a rural under-served health district (Ogunbodede 1995; Jinadu, Davies-Adetugbo, Ogunbodede & Adetugbo 1997).

Good and adequate information has long been recognised as one of the keys to public health. Data reliably recorded, consistently collected and systematically analysed have always provided the backbone for successful health intervention. Such data is still lacking for oral diseases and conditions in our environment. In order to enhance PHC planning and implementation, we conducted epidemiological studies of some important dental conditions in our community; dental caries (Jeboda & Ogunbodede 1993), Oral ulcerative lesions (Ojo, Adegboye, Ogunbodede & Olusile 1994); Oral cancers (Ogunbodede, Ugboko & Ojo 1997; Ogunbodede, Folayan & Arotiba 1997) and *Helicobacter pylori* in the dental plaque and gastric mucosa of dyspeptic Nigerian patients (Ogunbodede, Lawal, Lamikanra *et al* 2002).

In our study of oral cancers in Ile-Ife, Nigeria we detected late presentation with the average waiting period being 8.9±6.5 months (range 2 to 24 months) (Ogunbodede, Ugboko & Ojo 1997).

Table 1. Site Distribution of Oral Malignancies

SITE	NO.	%
Alveolar ridge and gingiva - lower	19	32.2
- upper	5	8.5
Palate	10	16.9
Floor of the mouth	8	13.6
Maxillary Antrum	9	15.2
Lip	3	5.1
Tongue	3	5.1
Others	2	3.4
TOTAL	**59**	**100.0**

We found the alveolar ridge and the gingivae to be the commonest sites accounting for 40.7% of all cases. This contrasts sharply with earlier observations in Western Europe and Asia where the lower lip is reported to be the commonest site and the tongue the most frequently affected intra-oral site. In our environment, the lip and tongue each accounted for only 5.1%. (Table 1).

In another study, we conducted a comprehensive review of the risk factors, diagnosis, prevention and management of oral cancers. We concluded that detailed oral examinations directed at identifying precancerous lesions must always be part of routine medical and dental examinations particularly in patients above 35 years of age (Ogunbodede, Folayan & Arotiba 1997).

We also conducted studies in some special, often neglected groups; such as the Epileptic (Ogunbodede, Adamolekun & Akintomide 1998). children (Otuyemi, Ogunbodede, Adetunji *et al* 1998; Bajomo, Rudolph & Ogunbodede 2004) and the elderly (Fajemilehin & Ogunbodede 2002; Owotade, Ogunbodede and Lawal 2005).

We studied the prevalence, distribution, presenting features, severity, and attendant complications of Acute Necrotising Ulcerative Gingivitis (ANUG) in hospital patients over a two year period All the 160 patients affected were children from 0 to 15 years, with the modal age being 3 to 5 years. Mobile teeth, and cancrum oris were the commonest complications constituting 16.9 and 15.6 per cent respectively. The critical period for case detection and initiation of standard treatment for ANUG was less than one week, and delays of more than 4 months invariable resulted in complications (Figure 2, Table 2).

Figure 2. Child with cancrum nasalis resulting from Acute Necrotising Ulcerative Gingivitis.

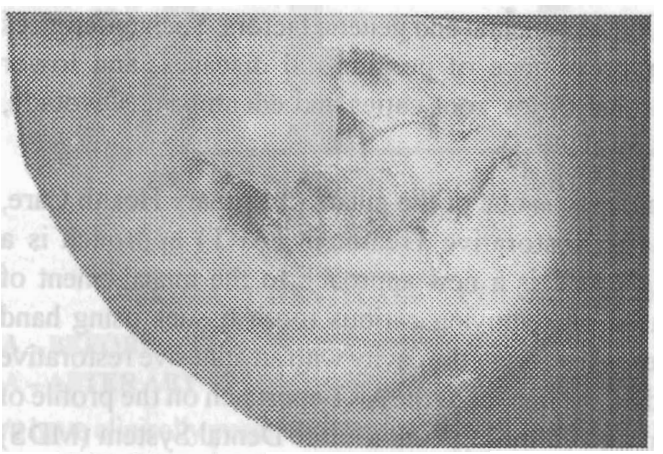


Table 2. ANUG: Complications against waiting time before presentation.

	1 week	1-3 weeks	1-3 months	4-6 months	6 months	Total
	(n=41)	(n=68)	(n=34)	(n=12)	(n=5)	(n=160)
Complications	**No.(%)**	**No.(%)**	**No. (%)**	**No. (%)**	**No.(%)**	**No. (%)**
Mobile teeth	**0(0.0)**	**13(19.1)**	**11(32.4)**	**2(16.7)**	**1(20.0)**	**2(16.9)**
Cancrum oris	0(0.0)	6(8.8)	8 (23.5)	9(75.0)	2(40.0)	25(15.6)
Osteomyelitis (with sequestrum)	0(0.0)	4(5.9)	3(8.8)	0(0.0)	1(20.0)	8(5.0)
Orofacial abscess	1(2.4)	1(1.5)	1(2.9)	0(0.0)	0(0.0)	3(1.9)
Cancrum nasalis	0(0.0)	0(0.0)	0(0.0)	1(8.3)	1(20.0)	2(1.2)
Total	**1(2.4)**	**24(35.5)**	**23 (67.6)**	**12(100.0)**	**5(100.0)**	**65(40.6)**

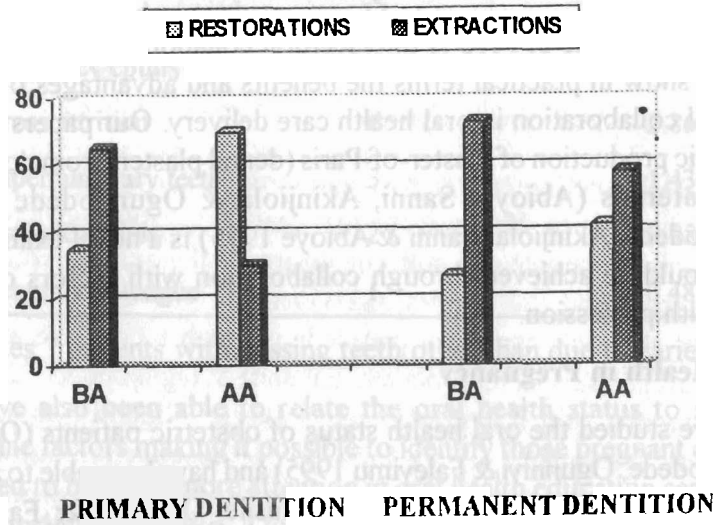
In our study of the elderly, we found that a variety of oral diseases affect this population similar to what obtains in other parts of the world. Significant differences do exist however which can be attributed to socio-cultural, environmental and genetic factors. Such differences include a higher prevalence of periodontal diseases, and lower prevalence of coronal caries, root caries and edentulism (Owotade, Ogunbodede & Lawal 2005).

Appropriate technology is one of the pillars of Primary Health Care, and the Atraumatic Restorative Treatment (ART) approach is a practical example. ART is a new approach to the management of dental caries, based on removing carious tooth tissues using hand instruments alone and restoring the cavity with an adhesive restorative material. We studied the impact of the ART approach on the profile of oral health care rendered through the Mobile Dental System (MDS) (Mickenautsch, Rudolph, Ogunbodede & Frencken 1999). We found that the introduction of ART resulted in the percentages of amalgam

restorations and tooth extractions decreasing significantly ($p<0.0001$) (Figure 3). During the one-year period, infection control was made simpler.

We have been able to show that the introduction of the ART approach reduced extraction, restored more teeth and made oral care more preventive, less threatening and thus more patient-friendly. This paper has been cited in several international publications on Minimum Intervention Techniques.

Figure 3. Comparison of the Percentages of Extractions to Restorations in Posterior Teeth before, and after the Introduction of the ART



BA – BEFORE ART
AA – AFTER ART

We have clinically evaluated the two common ART materials currently in use – Fuji IX and KetacMolar. We were able to show that there were no statistically significant differences between the results of ART

restorations for both types of glass-ionomers (Mickenautsch, Kopsala, Rudolph & Ogunbodede 2000). ($p>0.05$)

African traditional Health Practices

In Nigeria, traditional healers could be very useful in managing cases at the Primary health care level. In the rural deprived communities, these traditional healers still provide dental care, but their work is not integrated with that of dentists. I have therefore identified what should be the roles of these alternative practitioners in communities where modern dental care is not readily available (Ogunbodede 1991). I have also reported on the possible applications of African traditional methods of bone setting in dentistry (Ogunbodede 2000). I have articulated reasons to support the contention that dental services in third world countries could be greatly improved by integrating the work of traditional and modern practitioners.

A major principle of PHC is Intersectoral collaboration. I have been able to show in practical terms the benefits and advantages of inter-sectoral collaboration in oral health care delivery. Our papers on the synthetic production of Plaster-of-Paris (dental plaster) from domestic raw materials (Abioye, Sanni, Akinjiola & Ogunbodede 1993; Ogunbodede, Akinjiola, Sanni & Abioye 1995) is a novel example of what could be achieved through collaboration with sectors outside the health profession.

Oral Health in Pregnancy

We have studied the oral health status of obstetric patients (Olusile, Ogunbodede, Ogunniyi & Faleyimu 1995) and have been able to assess their treatment needs (Ogunbodede, Olusile, Ogunniyi & Faleyimu 1991; Falaiye, Ogunbodede, faleyimu & Opeke 1995). The prevalence of dental diseases in this group is summarised in Table 3. Our studies have contributed significantly to the sparse literature on oral health care in pregnancy.

Table 3. Prevalence of Dental Diseases in Pregnancy.

	Disorder	No of patients affected (n=210)	%
1	Periodontal disease	175	83.33
2	Dental caries	45	21.42
3	Gingival recession	39	18.57
4	Malocclusion	21	10.00
5	Missing teeth*	20	9.52
6	Hypoplastic teeth	18	8.57
7	Traumatised anterior teeth	14	6.67
8	Impacted wisdom teeth	12	5.71
9	Pregnancy epulis	7	3.33
10	Gross attrition	6	2.86
11	Supernumerary teeth	3	1.43
12	Oral ulceration	2	0.95
13	Geographic tongue	1	0.48

*Includes 7 patients with missing teeth other than due to caries.

We have also been able to relate the oral health status to socio-economic factors making it possible to identify those pregnant clients that need to be given more attention in oral health education sessions. (Ogunbodede, Olusile, Ogunniyi & Faleyimu 1991; Olusile, Ogunbodede, Ogunniyi & Faleyimu 1995; Ogunbodede, Olusile, Ogunniyi & Faleyimu 1996; Ogunbodede & Jeboda 1999).

Refugee Studies

My interest in refugee studies emanated from the fact that the largest percentage of this group exists in Africa, whereas the least facilities for their care are found in Africa. Our studies have therefore utilised Primary Health Care principles in improving oral health conditions of refugees (Mickenautsch, Rudolph, Ogunbodede & Chikte 1999, Ogunbodede, Mickenautsch & Rudolph 2000). One of the studies consisted of a short training course in oral health for selected refugees, an oral health survey based on WHO guidelines and conducted by the refugees themselves, and the provision of oral health care services to the community by the trained refugees (Mickenautsch, Rudolph, Ogunbodede & Chikte 1999). The setting was the Liberian refugee camp, Gomoa Buduburam in Ghana and Liberian refugees of all ages were involved. Our studies indicate that relief programmes for refugees should emphasise a Primary Health Care approach, focusing on prevention, based on appropriate technology, and promoting involvement by the refugee community in the provision of services.

The Scourge of HIV/AIDS

HIV/AIDS scourge has been a major threat to the health of individuals and communities. Although the first case was diagnosed in Nigeria in 1986, many people are still not aware of the scope, public health importance and risk factors of HIV/AIDS. We reported on a rapid survey of people caring for people living with HIV/AIDS and AIDS orphans in Osun State. (Folayan, Fakande & Ogunbodede, 2001) and investigated oral health workers in Ile-Ife, Nigeria (Ogunbodede, Folayan & Adedigba, 2000). I also in 1999 compiled resources on the internet that can assist oral health care providers in the prevention, diagnosis, care and management of HIV/AIDS infection (Ogunbodede 1999). We have investigated the effects of HIV/AIDS pandemic on surgical practice in a teaching hospital setting and made useful recommendations (Owotade, Ogunbodede & Sowande 2003).

South Africa is one of the worst affected countries in the world. As part of efforts to improve the care of patients with HIV/AIDS infection and prevent cross infection in oral health care in that country, we conducted the first national study on HIV/AIDS in oral health care setting in South Africa (Rudolph & Ogunbodede 1999, Ogunbodede & Rudolph 2002). The results indicate the need to strengthen policies on HIV/AIDS as it affects oral health care, and a necessity to improve the knowledge of oral health care workers in the epidemiology, prevention, counselling, diagnosis, clinical management, and general care aspects of HIV/AIDS.

I have also recently reviewed the HIV/AIDS situation in Africa (Ogunbodede 2004). Forty-two million people now live with HIV/AIDS of which 29.4 (70.0%) are from sub-saharan Africa. Approximately 5 million new infections occurred in 2002 and 3.5 million (70.0%) of these were also from sub-saharan Africa. The estimated number of children orphaned by AIDS living in the African region is 11 million. In 2002, the epidemic claimed about 2.4 million lives in Africa, more than 70% of the 3.1 million deaths worldwide. Average life expectancy in sub-Saharan Africa is now 47 years, when it would have been 62 years without AIDS. HIV/AIDS stigma is still a major problem despite the extensive spread of the epidemic. Effective responses to the epidemic require a multisectoral approach, including governments, the business sector and civil society.

The Ipetumodu Project in Community Oral Health Care

If health professionals are to serve the interest of the nation, they must, during training, be adequately exposed to life in the rural areas where 70% of Nigerians reside. Health facilities must also not be restricted to the urban centres. Maybe I should add here that dental services in Nigeria, as in other developing countries, are inaccessible to majority of the population, because these facilities are located exclusively in urban centres.

These thoughts informed my decision to initiate a University-Community Partnership project in oral health care aimed at bringing the benefits of our University to the surrounding environment. The Community oral health project sited in the Ife North Local Government Area of Osun state is the first successful attempt to establish full complement of dental facilities and care at the Local Government level not only in Nigeria but also in the entire West African sub-region (Ogunbodede *et al*, 2004a, 2004b).

The goal of the project was to develop a sustainable model for community-based approach to oral health training, prevention and care for use by dental schools and other dental training institutions, especially in Nigeria. The project involved; training community health workers in the Local Government Area (LGA) on oral health promotion and care, establishing a dental clinic in Ipetumodu the headquarter of the Ife North Local Government Area of Osun State, utilizing the services of dental undergraduates and community health workers in promoting oral and general health in the LGA communities, and developing a standard model of community-based oral health exposure for undergraduate dental students.

This project was established as a partnership between the Obafemi Awolowo University, Ile-Ife, and the Ife North Local Government Council with sponsorship from the Carnegie Corporation of New York. A revolving fund system was set up for dental consumables to assist sustainability. There is a 15-member project management committee that include the traditional rulers, women's groups, the project partners and religious bodies within the community. His Excellency, Prince Olagunsoye Oyinlola on June 15, 2004, commissioned the Dental Clinic, a component of the project located at Ipetumodu. It is envisaged that the project will serve as a model for establishing oral health care in all the other local governments in the country.

Dental Education

(a) Innovative approaches to learning

We have employed an innovative approach to shift the teaching methods in a Public Health course -presented over a 20-week period to 49 students -from didactic to a participatory, student-centred approach, based on current international trends in medical, dental and general education. (Mathabathe, Rudolph, Ogunbodede & Smut 2004). The teaching methods employed were mainly small-group discussions and problem-oriented learning. The results indicate that students were satisfied with the presentation methods. Earlier, we had designed an oral health promotion module for Primary Health Care nurses which was piloted in Acornhoek, South Africa (Ogunbodede *et al*, 1999).

(b) Postgraduate Programmes in Dental Public Health

I initiated the commencement of the postgraduate degree programmes in Dental Public Health in our University and the first set of students were enrolled in 2004. We thus became the first academic institution not only in Nigeria but the entire West Africa to offer University based postgraduate dental programmes. Until we commenced our programmes, opportunity for such training existed only in some European countries, the United States of America, and South Africa.

The postgraduate degrees offered are:

- Master of Dental Public Health (M.D.P.H). Twelve (12) months minimum. This is a professional degree.
- Master of Science in Dental Public Health (M.Sc. Dental Public Health) and the
- Doctor of Philosophy in Dental Public Health (Ph.D Dental Public health)

These new programmes are intended to produce graduates who would be able to fill existing gaps in the health institutions of Nigeria and other

African countries. The programmes would also serve the dental public health needs of international health organizations.

INCESSANT STRIKES, BRAIN DRAIN AND HEALTH

Mr. Vice Chancellor sir, I must seize the opportunity of this inaugural lecture to indicate that I am deeply perturbed by the incessant strikes, violent demonstrations and closures that presently characterise our universities and health institutions.

These have resulted mostly from poor remuneration, inadequate facilities, loss of autonomy, inadequate attention to the welfare of workers, the fight for supremacy between the different cadre of staff and, the insensitivity of governmental bodies to the special needs of our universities and teaching hospitals. It is particularly disheartening that the corporate image of our educational and health institutions is rapidly being eroded. The training requirements of health personnel necessitate that the curriculum be programmed and sequential. Of recent, it has taken on the average 9 years for students on the 6-year medical/dental programmes to complete their studies in this university due to the disruptions from both the university and hospital sides. On the hospital side, the patients have also been grand losers.

The incessant national and local strikes (and closures) have slowed down the pace of knowledge endowment in our universities and rendered ineffective the culture of academic calendar. I therefore propose that we in the universities should devise other means of putting our grievances forward other than strikes or violent demonstrations, as the ultimate losers had always been the academics and the students.

The gloomy work environment is now the main motivating factor for brain drain among health personnel. The lure is always there particularly for those who have proved their worth in the international arena. Three of us were appointed the same day as Medical Training Fellows to the same department in the School of Dentistry in 1987. The three of us had opportunities for further studies overseas shortly after we were employed. It is sad that I am the only one that ever returned to Nigeria!

I must add that my return to Nigeria and continuing service to our great university was a matter of personal resolve. In actual fact, I have on three separate occasions been invited to join the staff of reputable foreign universities, surprisingly, each time without requesting or formally applying for the jobs. The first was in the UK in 1993 after completing a Commonwealth Medical Fellowship programme, then South Africa in 1999 after utilising a Distinguished Visiting Scientist award of the Medical Research Council of South Africa, and lately an oil-rich Middle-East country in 2004. I have on each occasion decided to decline the offers and continue my services to this university. My discipline of Preventive and Community Dentistry affords me the opportunity to pioneer important developments in Nigeria, as opposed to the more developed countries. I adore challenges and in the 17 years since I joined the staff of this university, I have benefited from several pioneering experiences. However, I must not fail to recognise that some of my colleagues, especially those in disciplines that require more sophisticated and high-tech equipment for effective functioning, may not have been similarly fulfilled in their professional career, under the prevailing circumstances in our educational and health institutions.

From primary health care to the training of specialists in the various disciplines, health services are required to satisfy the needs of the community. Unfortunately, it is becoming more and more frustrating for those of us in the public sector of the health system to function optimally as the battle with chronic shortage of funds and incessant strikes continue. There is persistent shortage of trained personnel, materials are constantly in short supply, and availability of water and electricity have become infrequent. In short, the hospitals (especially public) are finding it increasingly difficult to fulfil their roles in contributing to the achievement of total health for the individual and the community.

CONCLUSIONS

The government alone cannot effectively promote health. Contributions are necessary from non-governmental sources including individuals, families and communities. Throughout the world, the responsibility for health is shared between the private and public sectors with the greater responsibility resting with the latter.

For individuals and communities to be healthy, there are certain essential requirements: efficient primary health care services; an environment free from local hazards including chemical hazards such as air pollution and physical hazards such as droughts and floods; satisfactory standard of living and quality of life that ensures adequate food supply, housing, employment, provision of recreational facilities and freedom from chronic anxiety and undue stress; and good social welfare services with adequate financial provision for sickness, unemployment, old age, and care for the physically and mentally handicapped.

The suppression of epidemics or reduction in death rates only contribute little towards ensuring and maintaining the health of the population. To achieve maximum health of the individual and community, the government must be courageous enough to dismantle the tobacco industry, regulate alcohol consumption, and pay greater attention to crime control and road safety.

The role of the health sector must move increasingly in a preventive direction, beyond its responsibility for providing clinical and curative services. Health services must support the needs of individuals and communities for a healthier life, and open channels between the health sector and the broader social, political, economic and physical determinants of health.

Adequate health for the individuals and communities cannot be devoid from good governance. This probably prompted the great German pathologist, Rudolf Virchow, to conclude that "medicine is a social science, and politics is nothing else than medicine on a larger scale".

Finally, the grand business of promoting health, at individual and community levels, is not to see what lies dimly at a distance, but to do what clearly lies at hand. It was Abraham Heschel (Quoted by Greenleaf, 1977) who reminded us that;

> "every little deed counts, that every word has power, and that we can, everyone, do our share to redeem the world in spite of all absurdities and all frustrations and all disappointments".

I have shared my thoughts and experience, and I have highlighted some of my own modest contributions towards redeeming the health of individuals and communities, in spite of 'all frustrations and all disappointments'.

It only remains for me to conclude by quoting from the letter of Apostle John to Gaius written about AD 90 "Beloved, I pray that you may prosper in all things and be in good health, just as your soul prospers" (3 John 2).

Mr. Vice Chancellor, distinguished ladies and gentlemen, I thank you for your generous attention.

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