

UNIVERSITY OF ILORIN



THE TWO HUNDRED AND SEVENTY-SECOND (272ND) INAUGURAL LECTURE

**“OF THE HEART, FOR THE HEART AND FROM
THE HEART: COMMUNICATING THE NON-
COMMUNICABLES HEARTILY”**

By

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The Vice-Chancellor

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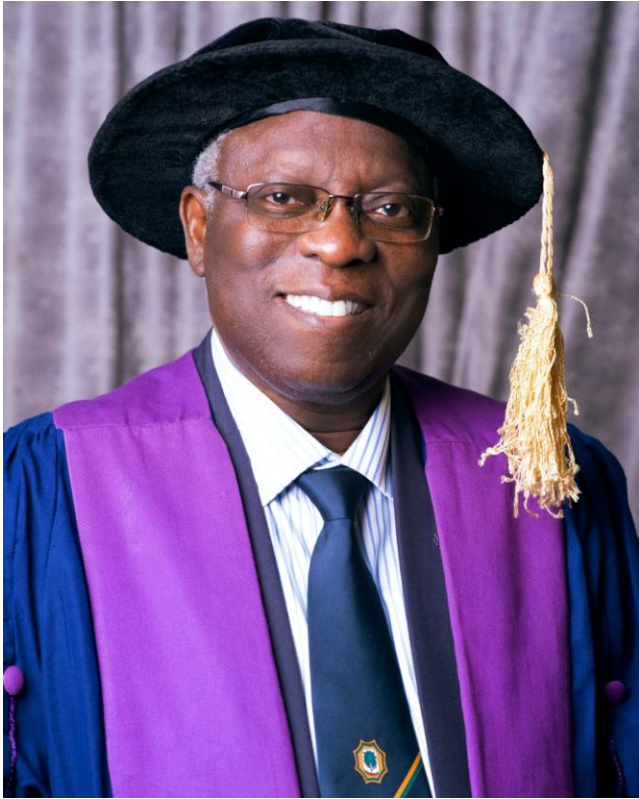
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My Lords, Spiritual and Temporal,
Gentlemen of the Print and Electronic Media,
Distinguished Ladies and Gentlemen.

Preamble

Over the years, I have stood on this podium on several occasions and for different reasons but today is unique. I thank God Almighty for making today a reality. He is a God of many surprises who makes a way even when our thoughts are no longer in certain directions. This inaugural lecture is a testament to providence, as I was not actively thinking of presenting one anymore. However, as the saying goes, “cometh the hour, cometh the man”; in this hour, I have the pleasure of presenting the 272nd inaugural lecture of the University of Ilorin.

I wish to express my profound appreciation to the Vice-Chancellor, Prof. Wahab Olasupo Egbewole, SAN whose personal and professional benevolence, has paved the way, in no small way, for this lecture to see the light of day. Mr. Vice-Chancellor, I am grateful.

Today is a day of reflections and projections, as the discourse will highlight my academic interests whilst also proffering evidence-based recommendations. Ladies and gentlemen, I now reflect on the heart of the matter: **“Of the Heart, For the Heart and From the Heart: Communicating the Non-communicables Heartily”**. For a congenial engagement that keeps it lively for the audience, every key phrase of this title will be discussed. We begin with the matter of *heart...*

Heart

Early civilisations saw the heart as the seat of emotions. They believed the heart to be the fountain of feelings. Such enduring concepts find modern context in mannerisms of body language. When people want to describe how deeply they feel about something, where do they touch? Their chest. It stands to reason that people imply that intuitive reasoning emanates from the heart. Otherwise, why else would people give the age long advice: “follow your heart”?

Literary language is replete with ideas of the heart harboring feelings. In fact, the deeper the feelings, the more involved the heart is said to be. That is why when you love someone genuinely, the measurement is apparently deep and is “from the *bottom* of your heart”. Incidentally, the anatomy of the human heart does not include a place called the bottom of the heart!

Terms like “heartbreaking” or “heart-wrenching” provide a graphic picture of the emotional heart scattering or shattering to smithereens. A heartbreak is a disastrous circumstance that even interventional cardiologist can do nothing about! Or you may be more accustomed to the term “heartwarming”. A heartwarming encounter leaves you feeling good, and so again, it is about feelings. From the bottom of my heart, I certainly hope that you find this lecture heartwarming! From ancient Egyptians to Romans and Greeks, the heart has been viewed as the source of life and vitality. Similarly, the Hebrew Theology of the heart was propounded around 950 BCE by the wisest king of all, King Solomon, who said: “For as he

thinketh in his heart, so is he” (Proverbs 23:7). Man is unwittingly described as one who thinks from his heart. Such beliefs also reverberate through the cultures of West Africa, as promulgated by the practices of priests and kings.

The fact that the Yoruba word for “heart”, Okan, is the same as the word for “mind”, already explains how they view the heart. This is reminiscent of the Chinese lexicon. The Chinese word for heart is “Xin” and it is also translated as “heart-mind” (Figueredo, 2021). When startled by a sudden scare, a Yoruba man would exclaim: “okàn mi, padà wá gba ire” meaning, (“my heart, return in order to receive blessings”).

So far, we have seen ancient views of the heart, ranging from its supposed emotional attributes to its purported cognitive function, religious connotations and general application in our social lives. This has been brought to life by *literature* and *history*. Nonetheless, *scientific* contributions to our contemporary understanding of the human heart can be traced back to the works of Leonardo Da Vinci, Andreas Vesalius, and William Harvey (Mesquita *et al.*, 2015).

Hippocrates was the first physician to provide anatomical descriptions of the heart. He summarised that: “The heart was shaped like a pyramid and was deep crimson color. Heart valves allowed for flow in only one direction. If one removed the “ears” of the heart (atria), orifices of the chambers (ventricles) were exposed. “Ears” worked same way as bellows of a blacksmith to keep the heart heating the body” (Figueredo, 2021). The basic description given by Galen expanded this understanding (Galen and Tallmadge, 1968). I will now break down what Hippocrates was saying 2,400 years ago, using lay terms that you can relate with.

Think of the heart as a duplex with two rooms downstairs and two rooms upstairs, a total of four rooms. The human heart has four rooms, which are called chambers. Each of the two rooms “upstairs” is called an atrium. In the olden days, Romans houses had a welcoming lobby that did not have a roof, so that sunlight could stream inside. That room was called

“atrium”, which in Greek means “under the sky” or “open”, in line with how the room was built. While the atria are the chambers on top, the two rooms below are known as ventricles. In the Greek, “ventricle” means belly. If there was anything like “the bottom of your heart”, it would be your ventricles.

Anatomy of the Human Heart

The human heart is a three-layered muscular organ roughly the size of a closed fist, weighing 250 – 300g, in females and 300 – 350g in males and located slightly left of the centre in the chest cavity. It is enclosed within a sac called the pericardium. It has four chambers and is structured to ensure efficient blood flow throughout the body.

Chambers of the Heart

The human heart has four chambers:

1. **Right Atrium**
 - a. Receives deoxygenated blood from the body through the superior and inferior vena cavae.
 - b. Blood then flows through the tricuspid valve into the right ventricle.
2. **Right Ventricle**
 - a. Pumps deoxygenated blood to the lungs via the pulmonary artery.
 - b. The pulmonary valve ensures that blood flows in the correct direction towards the lungs.
3. **Left Atrium**
 - a. Receives oxygenated blood from the lungs through the pulmonary veins.
 - b. Blood passes through the mitral valve into the left ventricle.
4. **Left Ventricle**
 - a. The strongest chamber, it pumps oxygenated blood to the entire body through the aorta.
 - b. The aortic valve prevents backflow of blood into the heart.

Valves of the Heart

These are no-return valves allowing a unidirectional flow of blood in the heart.

1. **Tricuspid Valve:** Located between the right atrium and right ventricle, preventing backflow.
2. **Pulmonary Valve:** Between the right ventricle and pulmonary artery, ensuring blood flows to the lungs.
3. **Mitral Valve:** Between the left atrium and left ventricle, preventing backflow into the atrium.
4. **Aortic Valve:** Between the left ventricle and aorta, ensuring blood flows into the aorta.

Physiology of the Heart

The heart functions as a double pump that circulates blood through two distinct circuits: pulmonary and systemic as shown in Figure 1

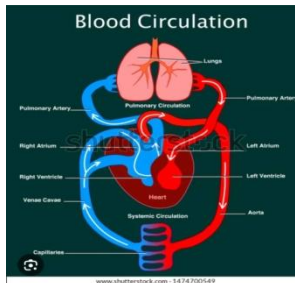


Figure 1: Blood circulation (Source: www.Shutterstock.com)

Pulmonary Circulation

The order of blood flow in pulmonary circulation is:

- a. Blood returns to the right atrium from the body.
- b. It is then pumped from the right ventricle to the lungs through the pulmonary artery.
- c. In the lungs, blood receives oxygen and releases carbon dioxide.
- d. Oxygenated blood returns to the left atrium through the pulmonary veins.

Systemic Circulation

Similarly, the order of blood flow in systemic circulation is:

- a. Oxygenated blood flows from the left atrium to the left ventricle.
- b. The left ventricle pumps the blood through the aorta to the rest of the body.
- c. Oxygen and nutrients are delivered to tissues, while waste products are collected.
- d. Deoxygenated blood returns to the right atrium, completing the cycle.

Electrical System of the Heart

The heart's rhythm is regulated by an electrical conduction system that coordinates the contraction of the chambers as shown in Figure.

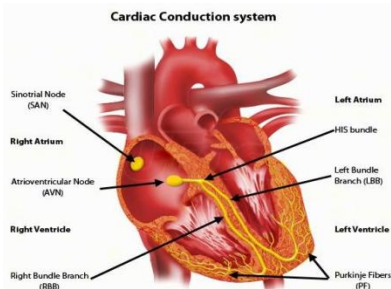


Figure 2: The electrical system of the heart (Source: Conducting System of the heart. https://www.Pinterest.com/pin/5564057289_37731154/ (Accessed on 7th January, 2025))

- a. **Sinoatrial (SA) Node:** Known as the natural pacemaker, it initiates the electrical impulse causing the atria to contract. This can be likened to the generator that powers the heart.
- b. **Atrioventricular (AV) Node:** Delays the impulse before passing it to the ventricles. This also can be likened to the step-down transformer of the heart.
- c. **Bundle of His and Purkinje Fibers:** Conduct the impulse throughout the ventricles, causing them to

contract and pump blood. These can be likened to the armored cable/distribution lines of the heart.

The heart starts to function very early in development. It begins to form in the third week of embryonic development, and by around the fifth week of pregnancy, the heart starts beating till death. Thus, in a span of 70 years, the normal heart beats for 2.7 billion times pumping approximately 7,200 litres of blood per day and 2.6 million litres of blood per year. Its anatomy and physiology work together to maintain a continuous, rhythmic heartbeat that ensures blood is effectively circulated, supplying tissues with essential nutrients and oxygen while removing waste products. The heart receives its blood supply through the coronary arteries.

For the Heart

The heart and the network of blood vessels are intricately and delicately put together. For the heart to serve its role, no efforts should be spared at improving heart health through education, advocacy and community engagement. “Keep thy heart health with all diligence, for out of it spring the issues of life” Proverbs 4:23.

From the Heart

I would like to speak from my heart. By now, you know I do not mean my anatomical heart as hitherto described, but rather the metaphoric one that simply implies sincerity of speech. An experience while in pre-clinicals in medical school that shaped me into a heart doctor was my coffee “addiction”. I embraced a liking for coffee, which was useful for night reading. I was so accustomed to coffee that its smell would get me craving for a swig. In no time, I developed an unusual awareness of my heartbeat (called palpitations). My young medical mind was worried that I had developed a heart problem, so I visited the cardiologist at the University College Hospital, Ibadan, Prof. Ayodele Olajide Falase. This was the moment that changed the trajectory of my professional path.

Further strokes of serendipity led me to the cardiology unit in my final year medicine posting and my house job as well, once again with Prof. Falase. I came back from NYSC in June 1982 hoping to pick a letter of appointment in UCH as was previously assured. This did not materialise because of an ongoing embargo on employment. Again, it was Professor Falase who gave me an introductory letter to Professor M. A. Araoye, a cardiologist. The plan was for me to stay in Ilorin for six months and then go back to UCH but here I still am, forty two years later! It was evident that I was made *of the heart*, moulded *for the heart* and now, *muse from the heart*. My musings lead us directly to the heart of the matter: communicating the non-communicables heartily.

Communicating the Non-communicables

Non-Communicable Diseases (NCDs) are chronic diseases that are typically non-contagious, non-infectious and not transferred from person to person. NCDs are responsible for a growing burden globally, causing about 43 million deaths in 2021. These diseases are commonly linked to older populations; however, approximately 18 million NCD-related deaths occur before the age of 70. In fact, an estimated 82% of these premature deaths take place in low- and middle-income countries. In addition, the impact of NCDs is generally highest in low- and middle-income countries, contributing to 73% of global NCDs deaths (World Health Organisation, 2024a). These diseases have also emerged as a significant public health challenge in Nigeria, contributing to a substantial burden of morbidity and mortality (Olawuyi and Adeoye, 2018; Adekoya-Cole *et al.*, 2015).

By accounting for 7 out of 10 worldwide deaths, NCDs are impediments to efforts at reducing national and global health inequalities (World Health Organisation, 2024a). Four diseases have been responsible for not less than 80% of NCD-related morbidity and mortality worldwide. These diseases include cardiovascular diseases (CVD), cancers, diabetes, and chronic lung diseases (World Health Organisation, 2024a and Otu *et al.*, 2022).

CVDs are the leading cause of NCD- related deaths with almost 20 million deaths globally in 2021 (World Health Organisation, 2021a). There is an increase in the prevalence of NCDs due to an epidemiological transition from predominantly infectious diseases to that of chronic non-communicable diseases in most African countries. This is due to increased urbanisation, industrialisation, adoption of western lifestyle and increased life expectancy (Gouda *et al.*, 2019).

Prevalence of NCDS in Nigeria

The World Health Organisation (WHO) estimates that NCDs account for approximately 27% of all deaths in Nigeria (World Health Organisation, 2023b). This is similar to the 29% from earlier reports, with premature death accounting for 20%, and cardiovascular diseases being the leading cause (Ike & Onyema, 2020). A study analyzing data from the Nigeria Living Standard Survey 2018-19 found that 16.8% of households reported at least one member with an NCD, and 4.3% had members with multiple NCDs. (Odunyemi *et al.*, 2023)

The Nigerian National Demographic and Health Survey (NDHS) reported that the prevalence of hypertension among adults was around 30% in 2018 (National Population Commission, 2019). A further survey also reported that the prevalence of hypertension in Nigeria increased from 8.6% in 1995 to 32.5% in 2020, representing approximately 4.3 million and 27.5 million individuals, respectively (Adeloye *et al.*, 2021). In tandem with the above findings, 34.1% of adult Nigerians in an opportunistic screening in 2021 had hypertension, with about half of them being unaware of their diagnosis. (Wahab, Dele-Ojo, Ahmadi-Abhari...**Omotoso** *et al.*, 2024) -All of these results bring to fore the immense burden of the condition in our locality.

In addition, diabetes prevalence has been estimated at about 4.7%, with projections suggesting that this figure will rise significantly in the coming years (International Diabetes Federation, 2021). Indeed, there has been an increasing trend of type 2 diabetes (T2DM) among Nigerians aged 20–79 years, rising from 2.0% in 1990 to 5.7% in 2015. (Adeloye *et al.*, 2017)

The increasing prevalence of NCDs is alarming, particularly given Nigeria's young population. According to the WHO, by 2030, NCDs are expected to cause more deaths than infectious diseases, maternal, neonatal, and nutritional conditions combined (World Health Organisation, 2024a).

Risk Factors for NCDs

Several risk factors contribute to the rising incidence of NCDs in Nigeria. These can be categorised into behavioral or lifestyle, environmental, and socio-economic determinants. The four major groups of diseases that constitute 82% of all non-communicable diseases namely cardiovascular diseases, cancers, respiratory diseases and diabetes mellitus have four main lifestyle-related risk factors in common (World Health Organisation 2024a). The factors include cigarette smoking, harmful alcohol use, unhealthy diets, and physical inactivity. They also share four metabolic risk factors which are hypertension, overweight and obesity, hyperglycaemia and dyslipidaemia. These risk factors are all modifiable. The proportional deaths attributable to each major NCD and communicable disease are shown in Table 1

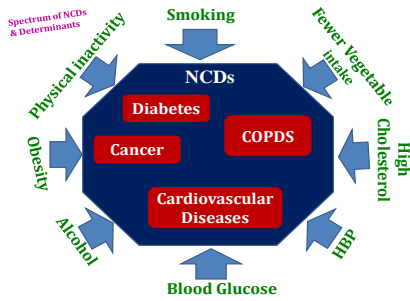


Figure 3: Major non-communicable diseases and their common risk factors (Source: **Omotoso** (2010). 7th Sir Samuel Manuwa Lecture delivered at the 2010 AGSM of West African College of Physicians

Table 1: Proportional mortality from non-communicable diseases in Nigeria in 2016 by the World Health Organisation

Diseases	Proportion of deaths (%)
Cardiovascular disease	11
Cancers	4
Chronic respiratory disease	2
Other non-communicable diseases	12
Injuries	8
Communicable diseases	63

2016 total population:186000000; 2016 total deaths: 2128000
(Source: World Health Organisation Non-communicable Diseases, Nigeria, 2018, Country Profile. <https://www.who.int/publications/m/item/noncommunicable-diseases-nga-country-profile-2018> (Accessed 6th January, 2024)

Behavioral Risk Factors

The following are the four major behavioural risk factors of Non-Communicable Diseases.

1. **Unhealthy Diet:** The transition from traditional diets to Westernised diets high in sugar, salt, and unhealthy fats has led to increased rates of obesity and related diseases. A study by (Batubo *et al.*, 2023) found a significant correlation between dietary habits and the prevalence of hypertension and diabetes. In addition, excess salt intake accounts for 1.8 million annual deaths worldwide. Excess salt intake is derived from fast and junk food as well as added salt to meals.
2. **Physical Inactivity:** Urbanisation has resulted in more sedentary lifestyles. The WHO indicates that physical inactivity is a major risk factor for Cardiovascular Diseases and diabetes (World Health Organisation 2021b). Insufficient physical activity causes 830 000 deaths annually, making physical inactivity a public health concern.

3. **Tobacco Use:** Tobacco consumption remains a significant risk factor for various NCDs. Tobacco smoking is responsible for over 8 million deaths every year together with the effects of exposure to second-hand smoke. This is much common among young male workers Approximately 4.5 million Nigerians use tobacco products (World Health Organisation 2023c). Efforts to reduce tobacco use have been hindered by inadequate enforcement of existing regulations.
4. **Alcohol Consumption:** Increasing levels of alcohol consumption contribute to the burden of NCDs. Heavy drinking is associated with an elevated risk of liver disease and certain cancers (Obot & Room 2005). More than half of the 3 million annual deaths attributable to alcohol use are from NCDs, including cancer.

Environmental and Socio-Economic Factors

1. **Urbanisation:** Rapid urbanisation has led to lifestyle changes that increase the risk of NCDs. Poor urban planning often results in limited access to recreational spaces and healthy food options.
2. **Socio-Economic Status:** Poverty and limited access to healthcare services exacerbate the risk of NCDs. Many Nigerians lack access to essential health services, leading to late diagnoses and poor management of these diseases.
3. **Education:** Low levels of health literacy hinder individuals from making informed health choices, increasing their susceptibility to NCDs (Adekoya-Cole *et al.*, 2021).

Demographic Trends

The demographic profile of Nigeria significantly influences the epidemiology of NCDs. With a population exceeding 200 million and a median age of about 18 years, Nigeria has a young population that is increasingly adopting lifestyles associated with higher NCD risks (World Health Organisation, 2023b). Urban areas are particularly affected due

to lifestyle changes driven by modernisation. Moreover, gender differences exist in the prevalence and types of NCDs. Men are more likely to suffer from Cardiovascular Diseases, while women face higher risks for certain types of cancers (Janssens *et al.*, 2016). Understanding these demographic trends is crucial for tailoring effective public health interventions.

Implications for Public Health

The rising burden of NCDs presents significant challenges for Nigeria's public health infrastructure. The healthcare system is primarily designed to tackle infectious diseases; thus, it lacks the necessary resources and frameworks to address NCDs effectively. This has implications for health financing, workforce training, and public health policies. The economic impact of NCDs is also profound. The WHO estimates that NCDs could cost developing countries billions of dollars in lost productivity and healthcare costs (World Health Organisation 2018). In Nigeria, where the economy is already strained by various factors, the increasing prevalence of NCDs could hinder economic growth and development.

Strategies for Prevention and Control

Addressing the growing burden of NCDs in Nigeria requires a multi-faceted approach. Indeed, NCDs aggravate poverty by increasing household costs associated with health care, its treatment is often lengthy and expensive, thereby stunting the economic growth of a nation. The vulnerable and socially disadvantaged people are the most affected with higher morbidity and mortality than those with higher social status. NCDs put the 2030 Agenda for Sustainable Development targets at risk, one of which is to reduce the probability of death from any of the four main NCDs between ages 30 and 70 years by one third by 2030. WHO wants to reduce by one-third the premature mortality from NCDs through prevention and treatment as part of the 2030 Sustainable Development Goals targets. The WHO recommends that adults should engage in at least 150 to 300 minutes of moderate intensity aerobic physical activity or at least

75-100 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate-and vigorous-intensity activity during the week. (World Health Organisation 2024b) Physical activity contributes to preventing and managing NCDs. Overweight and obesity have been contributed to by prolonged hours of sitting, reduced energy expenditure, and increase consumption of junk foods. These increase risks for diabetes mellitus, Cardiovascular Diseases and cancer.

Targeting the Risk Factors

Intervention on modifiable risk factors is multi-faceted. The prevention of NCDs requires reducing the modifiable risk factors associated with these diseases. This will entail monitoring the risk factors, trends and progress for policy formulation and implementation. These interventions should include detection, screening and treatment of these diseases and the provision of access of palliative care to those in need. Public Awareness Campaigns will make the public to be educated about the risk factors associated with NCDs and will promote healthier lifestyle choices. Campaigns should focus on nutrition, physical activity, tobacco cessation, and responsible alcohol consumption.

The Role of Governments

Improving healthcare infrastructure to ensure early detection and management of NCDs is crucial. This includes training healthcare professionals and integrating NCD management into primary healthcare services. Government should provide universal access through primary health care approach as early detection and treatment will reduce the need and burden of more costly and late treatment. There must be commitment by countries to achieve both universal health coverage and the 2030 Sustainable Development Agenda. Therefore, it is important that healthcare system is strengthened.

The Nigerian government must enforce existing laws related to tobacco control and alcohol regulation while also implementing policies that promote healthy environments. There is a need to set up national targets and implement cost-effective actions. There must be a country level policy framework to

coordinate many national sectors working in health, increased domestic and international funding for the health sectors. The government should legislate policy and regulatory framework to respond to NCDs, improve data collection and surveillance of NCDs.

Engaging communities in health promotion activities can foster local ownership and commitment to combating NCDs. Community health workers can play a vital role in disseminating information and facilitating access to healthcare services through active community engagement and public advocacy. The civil society and the private sectors may increase the delivery and access to NCDs services.

Global community

The global communities need to be involved in changing the course of the NCDs epidemic, preventing millions of deaths by stronger implementation of measures and actions against NCDs. These should include policies that promote government-wide action against NCDs particularly, stronger anti-tobacco policy and intervention, promoting healthier diets and lifestyles, encouraging physical activities, increased consumption of fruits and vegetables, reduction of salt intake and carbonated drinks, reducing alcohol use and improving people's access to essential health care.

CVD as a Major NCD And My Contributions

As a cardiologist, my focus has been on understanding the cardiovascular aspects of NCDs. Cardiovascular Diseases remain the leading cause of death globally, and addressing this challenge requires a multifaceted approach that includes research, education, and community engagement. By raising awareness about the risk factors (as I have just done in the earlier part of this lecture), and promoting healthy lifestyle choices, we can work towards reducing the prevalence and impact of NCDs.

A. Epidemiology of Cardiovascular Diseases

Cardiovascular disease is a major cause of morbidity and mortality, and the incidence appears to be increasing globally. One of the major non-invasive investigative tools in Cardiology

is echocardiography. An audit of emergency echocardiography in a district hospital in Glasgow, United Kingdom showed that the test is useful in differentiating an enlarged cardiac shadow on the x-ray is due to ventricular dilation or pericardial effusion in hemodynamic unstable patients (Balogun, **Omotoso**, Bell *et al.*, 1993).

Our work in echocardiography has also helped in defining the pattern of Cardiovascular Diseases in our environment (Kolo, **Omotoso**, Adeoye *et al.*, 2009a). In a study to assess the frequencies of various Cardiovascular Diseases as diagnosed at echocardiography in our centre, hypertensive heart disease (58.8%) was found to be the commonest Cardiovascular Disease in Ilorin followed by congenital heart disease (7.3%), rheumatic valvular heart disease (7.0%), cardiomyopathies (6.9%) and pericardial diseases (2.1%) respectively. Ischaemic heart disease was diagnosed in only 0.99% of the patients. Similarly, the pattern of congenital heart disease and rheumatic valvular heart disease had also been described in our environment (Kolo, Adeoye, **Omotoso** *et al.*, 2009b, Kolo, Adeoye, **Omotoso** *et al.*, 2012a, and Adeoye, Kolo, Katibi, **Omotoso** *et al.*, 2007). These studies showed that most patients diagnosed with both congenital and rheumatic heart diseases had no opportunity for definitive surgeries because of the prohibitive cost of the procedures. The findings of these studies gingered the management of our hospital to commence open heart surgical programme in order to assist the less privileged patients with structural heart diseases.

Coronary artery disease is well known to be rare among black Africans residing in Africa. However, recent reports showed that the incidence of the condition among black Africans is on the increase due to Westernisation of our diet, low level of physical activity and emergence of newer cardiovascular risk factors. A study to assess cases of acute myocardial infarction managed in our center showed a changing incidence of the condition (Opadijo, **Omotoso**, 1998, & Kolo, Fasae, Aigbe...**Omotoso** *et al.*, 2013). The incidence of acute

myocardial infarction has increased from 0.075% to 0.21% of all hospital admissions ($\text{Chi}^2=6.8$, $p=0.01$). More cases of acute myocardial infarction were seen among men compared with women. This pattern has also been reported previously in our environment. The lower incidence of acute myocardial infarction may be because women with this condition often have atypical symptoms that may lead to missed diagnosis of acute myocardial infarction. The mortality rate was 21.4% and another 21.4% developed left ventricular systolic failure as a complication of the condition. Some of the risk factors identified include excess body weight, dyslipidaemia, systemic hypertension, diabetes mellitus and cigarette smoking. Furthermore, this study was followed by another work which looked at the awareness of heart attack warning signs among civil servants in Ilorin metropolis (Kolo, Ogunmodede, Sanya.....**Omotoso et al.**, 2015). The study showed that although 78% of the respondents had heard about heart attacks, only 44% could identify a core symptom (chest pain or discomfort) of heart attack. Knowledge of warning symptoms of heart attack was better among women than in men; and in individuals greater than 40years of age compared with younger subjects. The study recommended population education on warning symptoms of heart attack and the need to present early to hospital. In another study which looked at coronary artery disease in Nigeria, Isezuo, Sani, Talle...**Omotoso et al.**, (2021) found the incidence to be 59.1 per 100 000 hospitalised adults per year. Coronary angiography rate was 42.4% and only 28.6% had percutaneous coronary intervention with 11.2% having coronary artery bypass graft surgery. The study concluded that the burden of acute coronary syndrome is rising and particularly so, in young patients.

B. Emerging Cardiovascular Risk Factors

Traditional cardiovascular risk factors were first described in the Framingham Heart study more than 6 decades ago. However, there has been an excess of cardiovascular mortality despite the control of most of the traditional risk factors. This has led to the search for newer cardiovascular risk

factors. Some of the factors identified to predict cardiovascular mortality include C-reactive protein, hyperhomocysteinaemia, hyperuricemia, hyperfibrinogenemia, microalbuminaemia and increase lipoprotein A. In a study, we assessed plasma homocysteine and other biochemical risk factors in hypertensive patients with and without cardiovascular events. The result of the study revealed a significantly higher level of homocysteine in hypertensive patients with stroke and myocardial infarction than those without these complications (Akande, Salisu, **Omotoso et al.**, 2009). It was concluded that hyperhomocysteinaemia may predict the onset of complications in hypertensive patients. In addition, hyperuricemia and C-reactive protein were found to cluster with traditional cardiovascular risk factors in black hypertensive patients in our environment (**Omotoso**, Kolo, Olanrewaju *et al.*, 2016).

C. **Management of Cardiovascular Diseases Systemic Hypertension**

In sub-Saharan Africa, Cardiovascular Disease has reached near epidemic proportions and systemic hypertension tops all the risk factors in African patients. However, the surge in cases of hypertension is not matched by clinical trials of antihypertensive medications in black patients residing in this part of the world. For the first time, we conducted the multicenter trial of antihypertensive medications in hypertensive patients born and living in sub-Saharan Africa. The trial tagged Newer versus Older Antihypertensive Agents in African Hypertensive (NOAAH) patients was sponsored by the University of Kinshasa, Democratic Republic of Congo with support from Novartis Pharma and was coordinated by Division of Hypertension and Cardiac Rehabilitation, University of Leuven Belgium (Odili, Richart, Thijs...**Omotoso et al.**, 2011, Odili, Ezeala-Adikaibe, Anisiuba.....**Omotoso et al.**, 2012, M'Buyamba-Kabangu, Anisiuba, Ndiaye...**Omotoso et al.**, 2013). Six centers in Africa, including our center, recruited patients for this study. To our knowledge, NOAAH was the first successful of such randomised clinical trials of antihypertensive

treatment in developing countries located in sub-Saharan West Africa. The NOAAH study showed that randomised clinical trials of cardiovascular drugs in the indigenous African populations of sub-Saharan Africa is feasible, newer antihypertensive drugs (Amlodipine/valsartan) lower systolic blood pressure more than older drugs (hydrochlorothiazide/Bisoprolol).

In a related development, the use of antihypertensive medication and the type of antihypertensive medications causing reversal of left ventricular hypertrophy had been controversial. While some schools of thought suggest that the use of angiotensin converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs) produce more reversal of left ventricular hypertrophy, other schools of thought stated that blood pressure reduction with medications is more important. **Omotoso** & Dunn (1992) revealed that the reversal of left ventricular hypertrophy is associated with improvement of left ventricular function especially diastolic function. Furthermore, in an open label study in the control of hypertension **Omotoso**, Opadijo & Okesina (1997a) demonstrated the effectiveness of two reserpine containing antihypertensives (Reserpine/Chlorthalidone versus Reserpine/Dihydroergocristine) in Nigerians.

Severe elevation of blood pressure is usually associated with target organ damage and as such parenteral medications are utilised. However, some of the agents such as hydralazine, may lead to a precipitous fall in blood pressure. Olowoyeye, Okoro, **Omotoso** (1986) studied the use of oral labetalol for urgent treatment of severe hypertension. Labetalol was found to be effective, and the drug is still used today for management of hypertensive emergencies. Similarly, Arije & **Omotoso** (1994) studied oral slow-release Nifedipine which was found effective for the control of severe hypertension in Nigerians. This drug is still being used for the control of severe hypertension, especially plain nifedipine.

Hypertension and diabetes often co-exist in Nigerians with metabolic syndrome. The combination of these metabolic

abnormalities often leads to endothelial dysfunction and insulin resistance with associated increased risk of major adverse cardiac events (Okesina, **Omotoso**, & Gadzama (1996), Opadijo & **Omotoso** (1996), **Omotoso** & Opadijo, (1999), Opadijo, **Omotoso** & Akande (2003). Microalbuminuria has also been shown to be a predictor of excess cardiovascular mortality in hypertensive patients compared with normal healthy controls (Busari, Opadijo, Olanrewaju....**Omotoso et al.**, 2010).

The occurrence of lower levels of arterial blood pressure has been described in sickle cell anemia patients (Aderibigbe, **Omotoso**, Awobusuyi *et al.*, 1998). We suggested the role of Nitric Oxide to account for this finding in sickle cell anemia. Other factors implicated by other workers include body mass index, body surface area, hematocrit and frequency of crisis.

Heart Failure

Heart failure is the final common pathway for most Cardiovascular Diseases. Early diagnosis of heart failure is key to the management of the condition. Heart failure essentially remains a clinical diagnosis. For objective assessment of heart failure patients, echocardiography is important. Initially, the place of echocardiographic assessment of patients with heart failure was controversial, especially in resource poor setting clearly defined the role of this investigative tool in the management of this condition (Kolo & **Omotoso** (2010). Echocardiography was found to be cost effective in heart failure management because it can differentiate systolic from diastolic heart failure and findings from the test may lead to initiation of life saving medications. It can also be used to exclude other cardiovascular conditions that have similar presentation to heart failure.

The role for electrocardiography has been explored in the diagnosis of heart failure. Electrocardiogram is an old tool used in initial assessment, diagnosis and subsequent management of the disease. In a study by Opadijo & **Omotoso** (2000), we demonstrated that ECG alone lacks sensitivity and specificity in the diagnosis of heart failure. However, a combination of

detailed history, focused clinical examination, chest radiograph and ECG improves the diagnosis of heart failure.

Heart failure has continued to be associated with high mortality profile despite discovery of innovative medications that improve the outcome of the patients. Five-year survival of heart failure patients in NHYA class III and IV is still greater than 50% with high rate of re-hospitalisation.

The assessment of hypertensive heart failure outcome among Nigerian and Gambian patients showed a one-year survival rate of 71% (Isezuo, **Omotoso**, Gaye *et al.*, 2000). Some of the prognostic factors causing high mortality among our patients included late presentation by the patients, prolonged QTc, hyponatremia, low left ventricular ejection fraction and racial differences (Isezuo, **Omotoso**, Araoye *et al.*, 2003; Kolo, Opadijo, **Omotoso et al., 2008a, Kolo, Opadijo, **Omotoso et al., 2008b, & Kolo, **Omotoso**, Opadijo *et al.*, 2008c).****

One of the causes of heart failure in our environment is dilated cardiomyopathy. The etiology of this condition may be idiopathic but viral/genetic, alcohol and toxins have been implicated. In a study, we found an excess of HIV seropositivity in patients with dilated cardiomyopathy compared with other causes of heart failure implicating this virus in etiology (**Omotoso**, Opadijo, & Araoye, 2000).

Cardiac Arrhythmias

Cardiac arrhythmias are a major cause of morbidity and mortality as complications of many cardiac diseases. The regulation of autonomic nervous tone plays an important role in the development of cardiac arrhythmias in patients with cardiac diseases. Heart rate variability, an index of autonomic nervous tone, is assessed in patients with heart diseases to determine their risk of developing cardiac arrhythmias. In Newer versus Older Antihypertensive Agents in African Hypertensive (NOAAH) study, antihypertensive drugs were found to modulate heart rate variability in native black African patients (Osakwe, Jacobs, Anisiuba...**Omotoso et al.**, 2013). This has implications for choice of antihypertensive medications.

Cardiac arrhythmias associated with hypertensive heart disease increase the risk of sudden unexpected death in the patients. In a study of 2,017 Nigerians with hypertensive heart disease, **Omotoso**, Opadijo & Araoye (1997b) demonstrated increased risk of cardiac arrhythmias, the commonest form being premature ventricular contractions (PVCs). The prevalence of high grade arrhythmias is low probably due to rarity of ischemic heart disease in our environment. Prevalence of atrial fibrillation increases with age even though it is still low as reported earlier. In the same vein, **Omotoso**, Opadijo & Araoye (1999b), Opadijo, **Omotoso** & Araoye (2000), found an increased risk of dangerous cardiac arrhythmias such as premature ventricular contractions, atrial fibrillation and paroxysmal atrial tachycardia in hypertensive patients with intraventricular conduction blocks.

In addition, children with sickle cell anemia are at an increased risk of cardiac arrhythmias causing myocardial ischemia or infarction especially in the tropics. In a study by Bode-Thomas, Ogunkunle & **Omotoso** (2003a), sickle cell anemia patients appear to be more prone to cardiac arrhythmias than others. Similarly, Bode-Thomas, Ogunkunle & **Omotoso** (2003b), demonstrated prolongation of QTc in Nigerian children with sickle cell anemia which is a risk factor for cardiac arrhythmias.

Stroke

Stroke remains one of the major causes of mortality globally accounting for 9.7% of all global deaths in 2005. This is projected to increase to 7.8 million stroke deaths by 2030 in the absence of significant global public health response. (Bejot *et al.*, 2016) It has been estimated that low- and middle-income countries account for over 87% disability adjusted life years from stroke. In advanced countries, stroke is a disease of those 65 years and older, but the majority of our patients are younger than 65 years. We reported a case of stroke in a 19-year-old medical student who was found to have a left atrial tumor as the source of embolus that caused his stroke (Sanya, Kolo,... **Omotoso et al.**, 2008).

D. Cardiovascular Complications

Systemic hypertension remains the driver of cardiovascular complications in Sub-Saharan Africa. Indeed, systemic hypertension tends to progress as a disease condition especially if not treated properly.

Target organs of hypertension-related complications include the eyes and the kidneys in addition to the heart and the brain. Hypertensive complications of the retina were initially thought to be rare among African patients. We assessed retinal changes and renal function in hypertensive patients in our environment (**Omotoso, Kolo, Olanrewaju *et al.*, 2016**). We found hypertensive retinopathy to be very common in our patients (78%) and this occurs pari-passu with kidney damage.

Type 2 diabetes mellitus, another major cardiovascular risk factor is on the increase in sub-Saharan Africa. Long standing hyperglycemia causes endothelial dysfunction and subtle changes in the structure and function of the left ventricle. In a study of normotensive type 2 diabetic patients who were free of cardiovascular symptoms, 72% were found to have left ventricular diastolic dysfunction (Aigbe, Kolo & **Omotoso, 2012**). Early intervention including tight blood glucose control and blood pressure control could delay the onset of overt Cardiovascular Disease in diabetes mellitus.

E. Cardiovascular Prevention

Children of people with systemic hypertension are thought to be at an increased risk of developing hypertension and cardiovascular complications later in life. In a comparative echocardiographic study of offspring of hypertensive and normotensive parents, the left ventricle of the former was heavier and showed subtle diastolic changes compared with the latter (Kolo, Sanya, **Omotoso *et al.*, 2012b**; Kolo, Sanya, **Omotoso *et al.*, 2012c**). These changes are the surrogates of future Cardiovascular Diseases, and it was recommended that the offspring of hypertensive parents should be advised on early weight control and lifestyles modification. Similarly, C-reactive protein (CRP) has been studied in offspring of hypertensive parents (Akinlade, Akintunde, Akinlade...**Omotoso *et al.*, 2020**). Blood pressure, left ventricular mass index increased with

increasing CRP which tends to rise with number parents affected. This may suggest a possible role in the development of hypertension and cardiac remodeling.

Community Service

Service to the University of Ilorin

I have had the privilege to serve the University of Ilorin in many and diverse capacities. These include but are not limited to the following:

A. Training: I have had input into the training of all the 4,932 medical doctors produced by our College of Health Sciences from 1983 to date. The first three years were as a pro bono associate. This long period of service has afforded me the opportunity to teach children of my former students in the college.

B. Administrative Roles: I got privileged to have been involved in many administrative positions very early in my career. These include:

1. 2020 to 2021: Ag Dean, Faculty of Clinical Sciences, University of Ilorin (**during the COVID-19 pandemic**)
2. 2015 to 2021: Member, Unilorin Strategic Plan Implementation Committee.
3. 2015 to 2023: Member of the University of Ilorin Governing Council.
4. 2015 to 2023: Member of the Finance and General-Purpose Committee (F&GPC) of Council.
5. 2017 to 2023: Council Representative on the Appointments and Promotions Committee.
6. 2021 to date: Chairman, Board of IMRAT.
7. 2010 to 2014: Provost, College of Health Sciences.
8. 2010 to 2014: Chairman, Committee of Provost & Deans
9. 2010 to 2014: Chairman, Board of School of Preliminary Studies.
10. 2010 to 2014: Chairman, College of Health Sciences Academic Board.
11. 2010 to 2014: Chairman, College of Health Sciences Admission Committee.

12. 2010 to 2014: Senate Representative on the Appointments and Promotions Committee.
13. 2011: Member, Committee that rearranged and rebranded the Unilorin Anthem.
14. 2006 to 2023: Member of many Ad-hoc Committees of Senate of the University of Ilorin and the Vice-Chancellor's House Committee (VCHC) at one point.
15. 2007: Chairman, College Task-Force on Mini-campus Take-over.
16. 2006 to 2010: Dean, Faculty of Clinical Sciences.
17. 2006 to 2010: Chairman Faculty of Clinical Sciences Board.
18. 2006 to 2010: Chairman Faculty of Clinical Sciences Board of Studies.
19. 2006 to 2010: Chairman, College of Health Sciences Curriculum Committee.
20. 2006 to 2010: Member, College of Health Sciences Admissions Committee.
21. 2004 to 2010; Chairman, Professional Induction Ceremonial Committee.
22. 2004 to 2010: Chairman, Board of Health.
23. 2004 to 2007: Member, and later, Ag. Chairman, Unilorin Inter-Religious Council.
24. Chairman, 2 Major Mini College Retreats on Medical Education in 2003 and 2014.
25. 2003: Chairman, Faculty Curriculum Workshop Planning Committee.
26. 2003: Member, University of Ilorin Technical Committee on HIV/AIDS.
27. 2000 to 2003: Sub-Dean (Clinicals), Faculty of Health Sciences.
28. 2002 to 2006: Head (Chair), Department of Medicine.
29. 2002: Member of the Search Team (Representing Congregation) for the appointment of new Vice-Chancellor.
30. 2000: Member, Faculty of Health Sciences Admissions Committee.

31. 2000: Member, Faculty of Health Sciences Curriculum Committee.
32. 2000 to 2010: Member, Business Committee of Senate of the University.
33. 1999 & 1993-2004: Member, Board of Health.
34. 1997: Senate Representative on the University Ceremonials Committee.

Some Innovations in Leadership in the College of Health Sciences

- a. Introduction of OSCE Style Clinical examination.
- b. Re-introduction of Problem Based Learning Problem Based Learning (PBL) as a learning method.
- c. Establishment of the Clinical Skills and Simulation Laboratory from conception to execution (Figure 4)



Figure 4a: Front elevation plan of the Clinical Skills and Simulation Laboratory

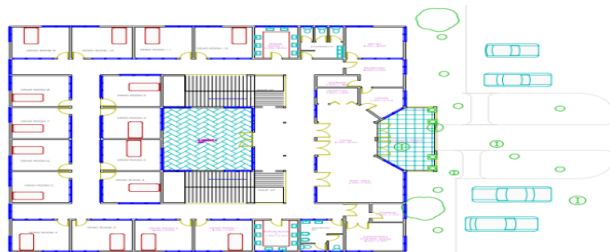


Figure 4b: Floor plan of the Clinical Skills and Simulation Laboratory



Figure 4c: The Clinical Skills and Simulation Laboratory

- d. Designing the new College Library
- e. Introduction of innovations in the Curriculum such as expanding the academic and entrepreneurial contents of the COBES programme.
- f. Proposing and Designing a new College Auditorium. We could not execute the project (Figure 5a & 5b).

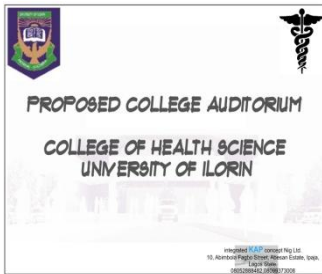


Figure 5a & 5b: Are the proposed College Auditorium

Service to University of Ilorin Teaching Hospital

Training:

I joined the services of UITH in October, 1982. Since then, I have served the hospital in many capacities. I have trained and supervised over thirty Fellows in Cardiology. They are all consultants within and outside the country. Ten of them are professors already. I have also contributed to the training of Fellows in other sub-specialties.

Administrative

I served as:

- a. 1985: Chief Resident, Dept. of Medicine, UITH Ilorin.
- b. 1987: Honorary Consultant Physician/ Cardiologist. UITH Ilorin (First UITH-trained resident to be so appointed).
- c. 2010-2014: Member, UITH Management Board.
- d. 2010-2014: Member Top Management Committee.
- e. 2002-2006: Head of Department of Medicine.
- f. 1994-1998: Member UITH Management Board.
- g. 1994-1998: Deputy Chairman/Member, UITH Top Management Committee.
- h. 1994-1998: Chairman, Medical Advisory Committee (MAC).
- i. 1994-1998: Member: Finance and General Purposes Committee.
- j. Member: Appointment, Promotion and Disciplinary. Committees (AP & DC) of both the Board and Management.
- k. Member: Board Tenders Committee.
- l. Deputy Chairman: Departmental Tenders Committee.
- m. Chairman: Staff Welfare Committee.
- n. Chairman: Manpower Development Committee
Chairman of ALL Revolving Fund Scheme Committees.

Other Administrative Positions are:

- a. Essential Drug Revolving Fund Committee
- b. Operation Pack Revolving Committee
- c. Laboratory Revolving Fund Committee
- d. Emergency and Clinic Revolving Fund Committee
- e. Medical Rehabilitation Revolving Fund Committee
- f. Renal Unit Revolving Fund Committee
- g. Radiology Revolving Fund Committee
- h. Prevention of Maternal Mortality Revolving Fund Committee
- i. Sexually Transmitted Diseases Revolving Fund Committee
1987: Chairman, Catering Management Committee

National Assignments

Member, NACOM (Nigerian Association of Colleges of Medicine & Chairman of its Education Subcommittee between 2010 to 2014.

External Examiner to some Universities namely

- i. University of Sokoto Nigeria (MBBS Exams).
- ii. OAU Ile-Ife Nigeria (MB;ChB Exams)
- iii. University of Ibadan Nigeria (MB; BS Exams)
- iv. Olabisi Onabanjo University. Sagamu Nigeria
- v. LAUTECH Medical School Osogbo, Nigeria
- vi. LASU College of Medicine, Ikeja, Lagos Nigeria

Participant at various NUC meetings on medical education and Chairman (Medical Panel), NUC Accreditation exercise for some universities.

Medical & Dental Council of Nigeria (MDCN) Accreditation Panels to:

1. Edo State University, Ekpoma 2005.
2. LAUTECH Osogbo, March & November, 2006.
3. Naval Hospital, Ojo Lagos, February, 2007.
4. University of Benin, March, 2007.
5. Lagos State University College of Medicine, March, 2007.
6. Selected Hospitals in Abuja, March 2006; 2017 & 2022.
7. College of Medicine, University of Ibadan, 2007.
8. Imo State University College of Medicine, Owerri, 2008.
9. College of Medicine, Igbinedion University, Okada, Benin-City, 2010 & 2011.
10. First Cardiology Hospital, Ikoyi, Lagos, 2013.
11. Afe Babalola University, Ado-Ekiti, 2014, 2022.
12. EKSUTH, Ado- Ekiti, 2022.
13. River State University & RSUTH, 2022.
14. Federal University, Lafia & FULTH 2024.
15. MDCN Examination for foreign-trained medical graduates 2022 to date.

16. I was involved in the Project Planning and Implementation of College of Health Sciences, Kwara State University.
17. Chairman, College of Health Sciences Project Planning and Implementation Committee Thomas Adewumi University, Oko, 2024.

Federal Ministry of Health:

1. Member, Federal Ministry of Health (FMOH) Expanded Non-Communicable Diseases (NCD) Technical Working Group Sub-Committee of the FGN Multisectoral NCD Control between 2021 to 2023. The committee prepared the National NCD Policy document that was launched in 2024.
2. Member (as President of Nigerian Hypertension Society), FMOH National Hypertension Control Initiative that produced, in collaboration with WHO, the Nigerian National Guidelines for the treatment of hypertension.
3. Member Federal Ministry of Health Group that drafted the Bill on National Residency Training Programme in 2016. The bill has since been passed into law by the National Assembly.
4. Member, Nigeria NCD ALLIANCE between 2016 and 2023.
5. Member, Ekiti State Visitation Panel to EKSUTH in 2018.
6. Member, Burden of Disease Study Group of the National Strategic Health Investment Plan, Federal Ministry of Health Abuja, June, 2008.
7. National Chairman, Novartis Pharma Cardiovascular Advisory Board in 2008.

International Assignments

West African College of Physicians:

1. Examiner, West African College of Physicians since 1998.
2. Chief Examiner, Faculty of Internal Medicine, West African College of Physicians 2019 to 2022.
3. Internal Assessor, Faculty of Internal Medicine, West African College of Physicians 2023 to date.
4. Vice President (and Chairman, Nigeria Chapter), Member of Council & F&GPC West African College of Physicians 2012 to 2016.
5. Leader, West African College of Physicians Accreditation exercise to Korle-Bu Teaching Hospital, Accra, Ghana in 2017.
6. Leader, West African College of Physicians Accreditation exercise to Nnamdi Azikiwe University Teaching Hospital, Nnewi, Nigeria in 2012.
7. Chairman, Local Organising Committee, West African College of Physicians (Nigeria Chapter) Annual General and Scientific Meeting Ilorin 2010.
8. Member of Federal Ministry of Education/Commonwealth Scholarship Interview Panel- Abuja between 2005 to 2007.
9. Member, Accreditation Panel of West African College of Physicians to many Training institutions.
10. Regular Resource/Facilitator at the Annual West African College of Physicians (WACP) Update courses since 1998.

ECOWAS/The West African Health Organisation (WAHO):

1. Chairman of WAHO (ECOWAS) Regional Forum in Cotonou, Benin Republic (2009) & Ouagadougou, Burkina Faso (2010) on harmonisation of undergraduate medical curriculum in West Africa.
2. International Expert Member, Curriculum Review Panel, A.M. Dogliotti College of Medicine, University of Liberia, Monrovia (November 2010 to 2012).

3. Member, ECOWAS (WAHO) Regional Council on Medical (& later Health Professionals) Education in 2010 to 2011.
4. Member, WAHO Regional Fora on Harmonisation of Accreditation of Postgraduate Medical Training across West Africa Lome, Togo (2010) and Accra, Ghana (2011).
5. Invited Expert Participant at the WAHO Workshop on the Accreditation of Undergraduate Medical Training (Guinea Bissau).
6. Member, WAHO Forum on Utilisation of E- Learning tools in Medical Education and many other WAHO Expert Committees/Workshops since 2010 to 2024.

Leadership of Professional Bodies

1. President, Nigerian Hypertension Society, 2016 to 2023.
2. Secretary General, Nigerian Cardiac Society, 1998 to 2002.
3. President, Association of Resident Doctors, UITH Ilorin in 1985.

Community Service/Activities:

1. Oluomo1 of Ijurin-Ekiti.
2. Member, FADJO League, Ijurin-Ekiti. Activities include annual community medical outreaches since 2016
3. Chairman, Board of Trustees (BOT), DMGS Old Students Association, Ijero-Ekiti
4. Chairman, Neighborhood Association, Ogori Road, Adewole Estate, Ilorin.
5. Chairman, Board of Directors, Maayoit Healthcare, Ltd
6. Director of Music and Organist, Chapel of The Light, University of Ilorin from 1985 to date.

Recommendations

Distinguished Ladies and Gentlemen, I am optimistic that the following recommendations will be useful to the University, Government and other stakeholders as continue to care for the heart.

1. The University:

- a. **Enhance Research and Development:** Invest in cutting-edge research to understand the underlying mechanisms of NCDs and develop innovative treatments and preventive measures.
- b. **Interdisciplinary Collaboration:** Foster collaboration between different departments, such as medicine, public health, and social sciences, to address NCDs from multiple perspectives.
- c. **Community Engagement:** Develop programmes that engage the local community in health education and promotion, focusing on the prevention and management of NCDs.
- d. **Curriculum Integration:** Integrate NCD-related topics into the curriculum across various disciplines to ensure that students are well-informed about these diseases and their impact.
- e. The College of Health Sciences should resuscitate the periodic university-wide public lecture/interactive session on NCDs and other health related matters.
- f. The University should institutionalise compulsory medical check-up for all members of staff for early detection and treatment of persons with NCDs.

2. The Government:

- a. **Policy Implementation:** Implement the new government policies on various aspects of NCDs that promote healthy lifestyles, such as regulations on tobacco and alcohol use, and initiatives to encourage

physical activity and healthy eating. In this regard, neighbourhood sports/recreational facilities are important.

- b. **Healthcare Access:** Improve access to healthcare services, particularly in underserved areas, to ensure early detection and treatment of NCDs.
 - c. **Public Awareness Campaigns:** Launch nationwide campaigns to raise awareness about the risk factors and prevention strategies for NCDs.
 - d. **Funding and Resources:** Allocate sufficient funding and resources to support NCDs prevention and control programs, including research, healthcare infrastructure, and community initiatives. Extend National Health Insurance to cover NCDs treatment.
 - e. Government should fund/equip and support at least one Tertiary Health facility that can take care of complicated CVDs.
3. **Other Stakeholders:**
- a. **Private Sector Involvement:** Encourage private companies to invest in health promotion activities and create workplace wellness programs that address NCDs risk factors.
 - b. **Non-Governmental Organisations (NGOs):** Partner with NGOs to implement community-based interventions and support groups for individuals affected by NCDs.
 - c. **International Collaboration:** Collaborate with international organisations to share knowledge, resources, and best practices for NCDs prevention and control.
 - d. **Technology and Innovation:** Leverage technology and innovation to develop new tools and platforms for monitoring, managing, and preventing NCDs.

Conclusion

Mr. Vice-Chancellor, Distinguished Ladies and Gentlemen, as I stand at the threshold of a new chapter in my life, I am filled with a profound sense of gratitude and fulfilment. The journey of the past four decades has been one of relentless pursuit of knowledge, unwavering dedication to the field of cardiology, and a deep commitment to improving the lives of those affected by non-communicable diseases (NCDs).

Throughout this journey, I have been privileged to work alongside brilliant colleagues, passionate students, and supportive institutions. Together, we have made significant strides in understanding and addressing the complexities of NCDs. Our collective efforts have not only advanced scientific knowledge but also brought about tangible improvements in patient care.

As I reflect on the title of this lecture, "Of the Heart, for the Heart and from the Heart – Communicating the Non-communicables", I am reminded of the core values that have guided my work. It is my hope that these values will continue to inspire future generations of researchers, educators, and healthcare professionals. The fight against NCDs is far from over, and it is imperative that we remain steadfast in our efforts to combat these diseases through research, education, and community engagement.

To the university and its teaching hospital which I have passionately served in diverse capacities while also working for peace and mutual respect across board, I urge us to continue supporting initiatives that promote heart health and address the burden of NCDs. By working together, we can create a healthier future for all.

In closing, I extend my heartfelt thanks to everyone who has been a part of this incredible journey. Your support, encouragement, and collaboration have been invaluable. As I transition to this new phase of life, I carry with me the memories, lessons, and achievements of the past four decades. It has been an honour and a privilege to serve as a university professor and cardiologist, and I look forward to the continued pursuit of knowledge and the betterment of human health.

Acknowledgements

“Now thank we all our God, with heart and hands and voices; who wondrous things hath done, in whom His world rejoices; who from our mothers’ arms, hath blessed us on our ways, with countless gifts of love and still is ours today”-Martin Rinkart, 1636.

First and foremost, to this great God of grace and mercy, I give glory and adoration for making me see today in the land of the living. He has truly been a compassionate and faithful God. It is He who ordained this day from the beginning and granted me the grace to journey through this citadel of learning and its Teaching hospital for more than four decades.

My parents played a critical role in the actualisation of today’s dream. I appreciate my father, Chief James Olu Omotoso of blessed memory and my mother, Chief (Mrs.) Emily Tinuola Omotoso (*eiye* Abike), for their love, support and encouragement. I equally thank my second mother, Mrs. Rachael Olufunso Omotoso (*eiye* Segun) for her love, care and trust in me.

I sincerely appreciate the University Administration for my appointment as a member of staff of this University and for the privilege to serve in different capacities and at different levels over the years. I was privileged to have served under the leadership of many of the Vice-Chancellors of this university. These include Prof. Adeoye Adeniyi (late) who was the Vice-Chancellor when I joined the university from its Teaching Hospital in 1987, Prof. J. O. Oyinloye (late), Prof. S. O. Abdulraheem, Prof. S. O. Amali, Prof. I. O. Oloyede- my dear friend and brother, Prof. Abdul-ganiyy Ambali, Prof. S. A. Abdulkareem and the current Vice-Chancellor, Prof. Wahab Olasupo. Egbewole, also a very dear brother. In like manner, I thank the Chairmen and members of the three Governing Councils on which I served between 2015 to 2023. I acknowledge the roles played by all the Registrars, from Mr. Olu Daramola, Mr. A.O.A. Alao, Mr. M. T. Balogun, Mrs. Olufolakemi Oyeyemi, Mr. E. D Obafemi, Dr. (Mrs.) Fola Olowoleni to the incumbent Barrister M. A. Alfanla.

My gratitude also goes to the management and staff of the University of Ilorin Teaching Hospital. All the Chief Medical

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