The Heart Institute of the Caribbean: an interview with Dr Ernest Madu

Interview by Alistair Craven

The Heart Institute of the Caribbean (HIC) is an innovative, dynamic health care centre that serves as the centre of excellence for cardiovascular diseases (CVD), occupational health, diabetes care and general internal medicine in the West Indies. The Heart Institute of the Caribbean is located in Kingston, Jamaica and is the regional centre for comprehensive and sophisticated diagnosis and management of all forms of heart diseases.

Dr Ernest Madu is the Founder, Chairman and CEO of the Heart Institute of the Caribbean Ltd. Prior to his role at the Heart Institute, Dr Madu was on the faculty of the Division of Cardiovascular Medicine at Vanderbilt University in Nashville, Tennessee. He is an expert in non-invasive cardiovascular diagnostics, with broad training and experience in all areas of cardiovascular diagnosis. He has advanced training in Echocardiography and Nuclear Cardiology and is versatile in advanced cardiac imaging modalities.

Dr Madu is an internationally recognized Cardiologist and an accomplished Clinical Investigator whose research works have been presented internationally, published and cited in leading journals of cardiovascular medicine.

AC: Hello and welcome. Can you tell us about the mission of the Heart Institute of the Caribbean?

Ernest Madu:

The mission of the Heart Institute is to provide accessible and affordable high quality cardiovascular care in the Caribbean. We find that the current global imbalance in the availability of modern cardiovascular care has created an exploitative system wherein citizens from low resource nations expend considerable financial and emotional capital to access high quality cardiac care in high resource nations, further depleting limited reserves from the lower resource nations. We find such a situation morally unacceptable and are committed to changing that.

AC: What is involved in your day-to-day role?

Ernest Madu:

My role is to provide the vision and strategic direction to achieve our objectives. Additionally, it is my responsibility to translate our vision into concrete performance from our staff. In addition, I leverage my contacts to ensure that we keep our cost basis affordable without compromising quality. Externally, I work to share our vision of sustainable cardiovascular care programmes and self reliance to policy makers and others to usher in a paradigm shift that:

1. High quality cardiac care is essential for development and;
2. Such high quality cardiac programmes can be developed and sustained locally at a fraction of the cost of similar services overseas.
AC: Currently you are looking at responsible and appropriate technology transfer for sustainable, efficient and affordable health care development in low resource nations. Can you provide us with some background on this?

Ernest Madu:

Essential ingredients of development must include relevant education and appropriate use of technology. Most low resource economies continue to run educational curricula that do not address their national development needs or stated objectives. Many of these nations continue to import and adopt technology that is expensive and ill-suited for their needs and for which they have no manpower to implement or sustain. This partly stems from ignorance and partly from corruption, often with active connivance of the high resource nations. Fortunately, we are living in an era of phenomenal technological growth and innovation that has created an opportunity for the use of affordable technology to improve the quality and content of health care in low resource nations.

I will give just few examples of what we have done:

- We understood that the use of web-based systems would allow us the opportunity to tap into the global intellectual capital without the need for geographical relocation. All of our systems operate on a telemedicine grid that allows for retrieval of data from any location in the world, thus facilitating consultations from internationally renowned experts at no additional cost to the patient.
- We partnered with a company in Canada to create a web-based platform that allows all of our diagnostic images to go into an online telemedicine platform. With this system in place, we have been able to tap into talents around the world without the extra expense of bringing them on site.
- We have also been able to improve our efficiency by being able to review studies from multiple locations at any place and time. Our patients and referring physicians are able to get near real-time reports. We are also able to grant access to other physicians or other facilities that may wish to see these studies while attending to our patients. This improves the quality of care, and makes it more seamless.
- We have also implemented an electronic medical record system that ensures that all patient reports are generated in an electronic reporting format and can be e-mailed to the patients, designated family members and referring physicians. The electronic medical records are available to all practitioners involved in the care of our patients and improve the quality and accuracy of care, and keep medical errors at bay because accurate information is always available at your fingertips.
- We are now in discussion with another partner to provide health care content for follow-up and health maintenance to our patients through SMS text messaging. These systems allow us to implement processes that keep costs down and keep efficiency up. More importantly, these approaches improve quality and maintain high standards of care.

AC: With regard to Africa, why is it that funding for cardiovascular disease care is, and to quote you, “totally ignored?”

Ernest Madu:

Historically, people have become comfortable with the erroneous and misinformed thinking that the only health problems in Africa are related to infectious diseases. I guess this plays into the Western mindset of the place of Africa in the scheme of things. The narrative of health care in Africa revolves largely around poverty and infectious disease and unfortunately has made our reasoning impervious, even in the face of overwhelming evidence against that line of thought.
AC: What are the key risk factors for heart disease?

Ernest Madu:

The usual culprits are the same in Africa and other low resource nations as they are in the USA and Western Europe. The modifiable risk factors include hypertension, diabetes, peripheral vascular disease, tobacco use, physical inactivity, high cholesterol and obesity, while the usually non-modifiable risks include male gender, age, genetics (family history) and post-menopausal state.

It is well known that the burden of disease in Sub Saharan Africa (SSA) is estimated to be about five times greater than that of established market economies. However, the thinking that all of this is due to infectious or communicable diseases is flawed and not supported by the evidence. As far back as 1990, the World Health Organization (WHO) estimated that of the nearly 30 million deaths caused by non-communicable disease, 18.7 million occurred in developing countries vs 9.4 million in developed countries. During the same period, 63 per cent of the world mortality due to cardiovascular diseases occurred in the developing world. A significant proportion of this occurred in Africa. Unfortunately, Africa and many other low resource nations, unlike the established economies, face a double burden of disease (communicable and non-communicable), compounded by bad governance and social unrest resulting in a devastating impact. This new burden is facilitated in part by an epidemiologic transition that has occurred in varying phases in many African countries over the past several decades.

For some inexplicable reason, we have been slow to reshape or rethink our assessment of the scope of cardiovascular diseases in Africa. We ignore the fact that African countries are experiencing the highest rise in the rate of smoking, increasing at a rate of 4.3 per cent per year. The prevalence of hypertension in many African communities exceeds 20-25 per cent or 1 in 4 adults. More worrisome is that many of these patients are untreated or poorly treated. In a study of rural and urban Tanzanians, hypertension prevalence was about 30 per cent in both genders, and just fewer than 20 per cent of the study sample were aware of their diagnosis, only about 10 per cent reported receiving treatment, and fewer than one per cent were controlled.

The prevalence of diabetes is increasing in many African countries. It is projected that by 2025, developing countries – including many in Africa – will experience a 170 per cent increase in the prevalence of diabetes, from 84 million to 228 million, representing more than 75 per cent of diabetics worldwide. In Mauritius for example, the adult prevalence of diabetes is about 20 per cent. Because of these uncontrolled risk factors, it has been estimated that by 2020 SSA will see CVD mortality prevalence rate increases of 126 per cent in women and 134 per cent in men, as opposed to increases of less than 50 per cent in most developed economies. At the same time, Africa will have less than 5 per cent of the global resources available for containing or treating cardiovascular disease.

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The full version of this interview will appear in Leadership in Health Services.