



## Global expansion of Cardiothoracic Surgery. The african challenge

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E-mail - tpezzella@hotmail.com - Website - www.ichfund.org "I keep six honest serving-men. They taught  
me all I knew. Their names are What and Why and When and How and Where and Who. (Rudyard Kipling)

### Background

The world population of 6.5 billion people lives on 29.2% of the earth's surface, the remaining surface being covered with water. This population occupies 193 countries, 61 dependent areas, and 6 disputed territories. The annual world mortality rate is over 57 million. There is an annual overall population growth rate of 1.14% or 80 million more people per year increase in overall world population. The global birth rate of 20-24 births/1000 population, and the death rate of 8.86 deaths/1000 population is almost double in SubSaharan Africa (SSA). The global life expectancy of 64.05 years is less than 51 years in SSA.[1]

A further insight into SSA statistics reveals that eight of the top ten countries with the highest infant mortality rate are in Africa. The human development index (HDI), which is an indicator of quality of life, again reveals that 27 of the top 30 countries in the world with the lowest HDI are also in Africa. HIV/AIDS infects 34-46 million people worldwide with 25.0-28.2 million cases in SSA. 2.2-2.4 million of the annual 3 million deaths secondary to HIV/AIDS are in SSA. The global prevalence rate of 0.9-1.3% is 7.5-8.5% in SSA.[2]

The reasons for this disparity in SSA can be attributed to many causes. Simply stated the social, political, economic, environmental (geographic), and demographic factors (SPEED) are the basic elements. Unfortunately,

education and health care are not high priority in many countries, especially developing countries or emerging economies. The debate between the Neo Malthusians who believe the growing world population is unsustainable and the Technocentrists who believe that emerging technologies can and will support a rising world population, continue to evoke a sustained emotional response. In the meantime, how do we approach the present situation in SSA? In summary, ego or the human factor, and money or economics play the dominant roles in the overall approach to the challenge of improved health care access and care.

### Present Health Status

Given this broad background on the global and African situation, let us now focus on the health statistics insofar as SSA Africa is concerned. Of the 57 million worldwide deaths in 2002, over 18 million were from communicable diseases, over 33 million from non-communicable diseases, and over 5 million from injuries.[3]

Of interest to Cardiothoracic/vascular (CTV) surgeons are the death attributable to: cardiovascular disease (CD) - over 16 million (7.2 million ischemic heart disease); tuberculosis over 1.5 million; esophageal cancer over 440,000; rheumatic heart disease over 325,000; congenital heart disease over 280,000; and over 1.1 million road traffic accidents. In SSA, the incidence of death from



future programs is within their scope of interest and influence. Also, it is easier to start an adult program in places that are new or being upgraded. Pediatric procedures are phased in progressively according to age, weight, complexity and experience of the medical staff.

### Education/Training

The internet, especially the [www.ctsnet.org](http://www.ctsnet.org) offers a wealth of information, knowledge, and technology for the Cardiothoracic/vascular surgeon. Developing a relationship with a foreign program, especially Europe is of practical value, as well as in neighboring countries with successful programs e.g. South Africa, Ghana, and Sudan. Outside of South Africa, there are no organized, standardized Cardiothoracic/vascular residency programs in SSA. A Pan-African initiative, like the Pan-African Society of Cardiology (PASC), may be a practical approach. Utilizing the knowledge of other African surgical societies like the West African College of Surgeons, and the Society of Cardiothoracic Surgery of South Africa can strengthen this unity and collaboration. The initiation of this African Annals of Thoracic and Cardiovascular Surgery is a major step forward in stimulating clinical reporting of results and disseminating information amongst the African cardiothoracic/vascular surgical community.

### Research/Development

Certainly not a priority, but ultimately of major benefit is the initiation of clinical research, followed by bench research. Foreign programs are showing an increased interest in research of diseases where there is a high prevalence e.g. HIV/AIDS, malaria, rheumatic fever and tuberculosis.[9] Establishing research centers in the area where the pathology is prevalent is both cost effective and practical. A word of caution is to establish strict guidelines according to the Helsinki principles, in recruiting clinical subjects.[10]

### Administrative/Political/Logistical

A major problem in developing or emerging programs is the exodus of trained health care workers to developed programs. This "brain drain" is understandable on a personal level, but certainly not on a national or regional level. As an example, one-fourth of all physicians in the USA are international medical graduates [11]. Nurse poaching is a severe problem, especially for Africa. This is especially true in South Africa.[12] Training and retaining health care workers, especially doctors and nurses is crucial for overall health care planning, let alone Cardiothoracic programs.

The issue of product, i.e. equipment and supplies, be it disposable or non-disposable is a major problem. Donations are short term. Old donated equipment, or even newer equipment has problems insofar as preventive biomedical maintenance is concerned. Parts are a problem and equipment is frequently cannibalized to get needed parts. Logistical problems with customs and distributors also pose challenges. Inventory and organization is sorely needed in many programs. Ultimately the financial burden of obtaining the needed items for surgery falls on the patient and family since governmental or private insurance is unavailable or unattainable.

In summary, the challenge for the initiation and sustainment of Cardiothoracic/vascular surgical programs in Africa is a difficult, but attainable goal.

Cooperation and collaboration should succeed over conflict and competition.

"You can accomplish anything in life, provided that you do not mind who gets the credit." Harry S. Truman

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