

## A WORLD CONGRESS ON CARDIOVASCULAR HEALTH IN SUB-SAHARAN AFRICA: MUCH ADO ABOUT SOMETHING!

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### INTRODUCTION

For most clinical and public health professionals, a world congress on cardiovascular health that focuses on the prevention and control of cardiovascular diseases (CVD) in developing countries, especially in sub-Saharan Africa, requires explanation and justification. After all, sub-Saharan Africa is a region where the top 7 leading risk factors, which account for more than 45% of the total disability adjusted life years, do not include any cardiovascular risk factors.<sup>1</sup> It is also a region where the leading causes of death are predominantly HIV/AIDS, other infectious and parasitic diseases, maternal and perinatal conditions, and nutritional deficiencies.<sup>1</sup> In fact, among the 6 regions of the World Health Organization (WHO), the African region is the only region where CVD is not already the leading cause of death<sup>1</sup> and numerous publications continue to proclaim the rarity of ischemic heart disease in the region.<sup>2-4</sup> Why then, convene a world congress on CVD in sub-Saharan Africa?

ISHIB2003, the 18th Annual International Interdisciplinary Conference on Hypertension and Related Risk Factors in Ethnic Populations, to be held in December 2003, does not deny or ignore these important facts. While recognizing that, in most sub-Saharan African countries, communicable disease control must remain a high priority, ISHIB2003 emphasizes that, unless appropriate steps are taken to curb the adverse trends of the major CVD risk factors, a cardiovascular disease epidemic will be inevitable in sub-Saharan Africa. The conference highlights the double burden of communicable diseases (so-called unfinished agenda) and the emerging problems of chronic, non-communicable diseases, especially heart disease and stroke. Most importantly, the conference focuses on what

it will take to promote cardiovascular health and prevent the development of risk factors in the first place. Thus, it is not a world congress on cardiovascular health showcasing the latest advances in cardiovascular medicine, cardiothoracic surgery, or cutting edge cardiovascular research. Rather, it is a congress on building capacity for CVD prevention. It is a congress whose call to action is aimed at all concerned persons and organizations that want to work toward preventing a CVD epidemic. The conference highlights challenges to be faced, but also builds on the unique opportunity to ensure that CVD does not become the leading killer in this region. The series of plenary lectures, interactive workshops, meet-the-expert sessions, and satellite symposia have been designed to provide a forum for this endeavor.

### SPECIAL SUPPLEMENT TO SPUR ACTION

In this special issue of *Ethnicity & Disease*, background material and some thought-provoking insights are provided by an international panel of leading experts in cardiovascular epidemiology, clinical cardiology, cardiovascular nursing, health policy, sociology, diabetology and nephrology. It is important to emphasize that the views expressed in these manuscripts are those of the authors only and should not be construed to represent their institutions, ISHIB (the International Society on Hypertension in Blacks), CDC (the Centers for Disease Control and Prevention), or the US Department of Health and Human Services.

The lead article<sup>5</sup> reviews the double burden of disease in sub-Saharan Africa. It provides a brief overview of the status of heart disease and stroke as well as their risk factors in developing countries; the article offers projected risk factor trends from the Global Burden of Disease Study. A vision for 2020, a heart-healthy and “stroke-free” world, and what it will take to achieve that vision are presented. The focus is on policy development, environmental change, system redesign, and program-relevant research. Population-based approaches must be the primary strategy.

The next 7 manuscripts address the important area of capacity building. Armstrong and Bonita<sup>6</sup> present a framework of the first step for an integrated approach to increasing and

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sustaining a country's capacity for non-communicable disease surveillance. The authors discuss the World Health Organization's global surveillance strategy and highlight the role that the stepwise approach plays in building on existing surveillance infrastructures within countries. Mokdad et al<sup>7</sup> describe the Behavioral Risk Factor Surveillance System (BRFSS), the largest ongoing, telephone survey in the world. They review the important public health role that the BRFSS plays in the United States and abroad. Beaglehole et al<sup>8</sup> examine the enormous challenges that face an ill-equipped public health workforce in sub-Saharan Africa. They highlight the adverse impact of local governance and the disconnect between "good intentions" and "implementation" in the overall global response to the sub-Saharan health crisis. They address the serious lack of appropriate local public health training and continuing education opportunities and provide model developments from East Africa and Latin America that could be replicated to support long-term continuing education in sub-Saharan Africa. Bovee et al<sup>9</sup> discuss training as a critical tool in capacity building. They describe a 2-week, practice-oriented, skill-building workshop for key players in program development. They present the major elements of program content and outcomes, as well as the special advantages of conducting such training programs locally. Mittelmarm<sup>10</sup> provides an excellent definition of the academic terms, "Global South," or "south," which have been used to characterize many countries in Africa, Asia, Eastern Europe, the Middle East, and Central and South America, and further highlights the limitation in current capacity to train adequate numbers of public health professionals for these countries. He provides a summary of one proven approach that has been in operation for 4 decades in Norway. This model demonstrates the potential to meet the public health training needs of the Global South if enough countries from the Global North were to undertake similar programs. Nchinda<sup>11</sup> explores ways to enhance research capacity in developing countries in order to narrow the research gap between the rich, developed countries ("North") and the poor, developing countries ("South"). Strategies for strengthening North-South and South-South interactions for building research capacity in developing countries are addressed. Taub<sup>12</sup> describes a transdisciplinary (not to be confused with "multidisciplinary") model that employs 4 aspects of community and public health to address complex public health programmatic and research questions. Chronic hypertension is used as an example to demonstrate the value of this conceptual model for the prevention and control of CVD.

Cooper et al<sup>13</sup> present hypertension as the foundation for epidemic CVD. These researchers demonstrate that, although large-scale, population-based data on hypertension in sub-Saharan Africa are limited, recent studies show worrisome findings in both epidemiology and clinical outcomes. Hypertension prevalence as high as 30%–32%, with control rates as low as 1%, have been reported in middle-income urban and some

rural areas. Hypertension awareness and treatment remain low. Daniel and Rotimi<sup>14</sup> discuss the genetic epidemiology of hypertension and emphasize the absence of hypertension-related environmental factors or genetic variants that are unique to Black populations. On the other hand, they show that as the exposure to known risk factors for hypertension increases among genetically susceptible individuals, the prevalence of hypertension and associated complications also increases across populations. Mendis<sup>15</sup> and Madu et al<sup>16</sup> explore the challenges in delivering high-quality management of hypertension and other cardiovascular diseases and risk factors in low-resource settings. Fiscal policy, cost-effectiveness, governance, and accountability are addressed. The authors review an example of a cost-effective CVD-risk management package developed by the World Health Organization to facilitate cardiovascular risk assessment and management in low-resource settings.<sup>16</sup>

The subsequent series of manuscripts discusses aspects of major established CVD risk factors and complications. Smith and Mensah<sup>17</sup> highlight the demographic transition occurring in sub-Saharan Africa and the impact it will have on all chronic diseases, especially heart disease and stroke. Asma et al<sup>18</sup> examine the current and future projections of the global burden of tobacco-related diseases and emphasize the need to use effective strategies for achieving global tobacco control. Barnoya and Glantz<sup>19</sup> review the public health impact of second-hand smoke and cite the "Latin Project" to demonstrate one example of the tobacco industry's strategies to anticipate and derail policy development in Central and South America. Pasternak, Amoah, and Osei discuss sub-optimal nutrition,<sup>20</sup> obesity,<sup>21</sup> type 2 diabetes,<sup>22</sup> and their well-established associations with CVD. Myers<sup>23</sup> reviews the need to establish laboratory capability for lipid and lipoprotein testing and identifies the challenges faced in settings with limited resources. The program at CDC for providing technical assistance to establish lipid and lipoprotein testing capability is discussed. Two complications of diabetes, retinopathy and end-stage renal disease, as well as the spectrum of secondary glomerulonephritides are discussed.<sup>24–26</sup> Ayala et al<sup>27</sup> conclude this segment with their experience in pre-transport stroke mortality. They demonstrate that, even in developed countries, a tremendous opportunity exists for public health education to convey: 1) the urgency and immediacy of stroke; 2) the awareness of signs and symptoms; and 3) the need to summon medical care early when symptoms develop.

The last 4 manuscripts in this special issue address: broader issues of education and advocacy at the grassroots level<sup>28</sup>; the roles of political economy, culture, and their anthropological applications in the prevention of epidemics<sup>29</sup>; the double-edged swords of income and education and their role in epidemiologic transitions<sup>30</sup>; and the role of international cardiovascular health organizations and their commitment to developing countries.<sup>31</sup> Drawing from her experience with *Heartfile* in Pakistan, Nish-

tar<sup>28</sup> reviews the essential components to build sustainable initiatives in health education, advocacy, policy development, and other community-wide interventions at the grassroots level. She highlights how subsequent refinement and validation of these approaches can help develop a health promotion and CVD prevention package replicable in other developing countries. Setel<sup>29</sup> argues for increased participation of anthropologists and other social scientists in preventing the CVD epidemic in developing countries. He stresses the need to match renewed emphasis on community action with a commensurate commitment to explore and understand the cultural aspects of community life. Pearson<sup>30</sup> reviews the strong influences that education and income have on the epidemiologic transition and suggests how they might serve as a “double-edged sword of benefit and risk.” He calls on heart health organizations to increase their efforts in health education, access to health, and capacity building with emphasis on policy and environmental change strategies for improved cardiovascular health. Quite fittingly, Wilson<sup>31</sup> concludes this series by describing the mission and vision of the World Heart Federation and its activities in sub-Saharan Africa. She outlines how the organization is working together with the African Heart Network and the Pan African Society of Cardiology to build sustained capacity for health promotion, policy change, and effective clinical interventions.

Taken together, these manuscripts demonstrate the wealth of knowledge and expertise available to design and implement programs to help prevent the CVD epidemic from ever taking hold in sub-Saharan Africa. As most eloquently expressed in the Victoria Declaration,<sup>32</sup> “We have the scientific knowledge to eliminate most cardiovascular diseases.” But, in the words of Goethe, “Knowing is not enough; we must apply. Willing is not enough; we must do.” Perhaps this special supplement will serve as a springboard for action. Certainly, the time to *do* is now!

## REFERENCES

- World Health Organization. *World Health Report 2002. Reducing Risks, Promoting Healthy Life*. Geneva: World Health Organization; 2002.
- Seftel HC. The rarity of coronary heart disease in South African Blacks. *S Afr Med J*. 1978;54(3):99–105.
- Bertrand E. Coronary heart disease in Black Africans: an overview. *East Afr Med J*. 1995;72(1):37–41.
- Walker AR, Sareli P. Coronary heart disease: outlook for Africa. *J R Soc Med*. 1997;90(1):23–27.
- Mensah GA. A heart-healthy and “stroke-free” world through policy development and environmental change: a 2020 vision for sub-Saharan Africa. *Ethn Dis*. 2003;13[suppl2]:S2-4–S2-12.
- Armstrong TA, Bonita R. Capacity building for an integrated noncommunicable disease risk factor surveillance system in developing countries. *Ethn Dis*. 2003;13[suppl2]:S2-13–S2-18.
- Mokdad AH, Bales VS, Greenlund KJ, Mensah GA. Public health surveillance for disease prevention: lessons from the Behavioral Risk Factor Surveillance System. *Ethn Dis*. 2003;13[suppl2]:S2-19–S2-23.
- Beaglehole R, Sanders D, Poz MD. The public health workforce in sub-Saharan Africa: challenges and opportunities. *Ethn Dis*. 2003;13[suppl2]:S2-24–S2-30.
- Bovet P, Gervasoni J-P, Paccaud F. A two-week workshop to promote cardiovascular disease prevention programs in countries with limited resources. *Ethn Dis*. 2003;13[suppl2]:S2-31–S2-34.
- Mittlemark MB. The role of professional education in building capacity for health promotion in the Global south: a case study from Norway. *Ethn Dis*. 2003;13[suppl2]:S2-35–S2-39.
- Nchinda TC. Research capacity development for CVD prevention: the role of partnerships. *Ethn Dis*. 2003;13[suppl2]:S2-40–S2-44.
- Taub A. Transdisciplinary approaches to building the capacity of the public health workforce. *Ethn Dis*. 2003;13[suppl2]:S2-45–S2-47.
- Cooper RS, Amoah AGB, Mensah GA. High blood pressure: the foundation for epidemic cardiovascular disease in African populations. *Ethn Dis*. 2003;13[suppl2]:S2-48–S2-52.
- Daniel HI, Rotimi CN. Genetic epidemiology of hypertension: an update on the African diaspora. *Ethn Dis*. 2003;13[suppl2]:S2-53–S2-66.
- Mendis S. Challenges for the management of hypertension in low-resource settings. *Ethn Dis*. 2003;13[suppl2]:S2-67–S2-70.
- Madu EC, Richardson KD, Ozigbo OH, Baugh DS. Improving cardiovascular disease prevention and management in Africa: issues to consider for the 21st century. *Ethn Dis*. 2003;13[suppl2]:S2-71–S2-76.
- Smith SM, Mensah GA. Population aging and implications for epidemic cardiovascular disease in sub-Saharan Africa. *Ethn Dis*. 2003;13[suppl2]:S2-77–S2-80.
- Asma S, Mensah GA, Warren CW, Henson R. Tobacco use and the cardiovascular disease epidemic in developing countries: global crises and opportunity in the making. *Ethn Dis*. 2003;13[suppl2]:S2-81–S2-87.
- Barnoya J, Glantz SA. The tobacco industry and secondhand smoke: lessons from Central and South America. *Ethn Dis*. 2003;13[suppl2]:S2-88–S2-90.
- Pasternak RC. Optimal nutrition for the prevention of coronary heart disease: a worldwide challenge. *Ethn Dis*. 2003;13[suppl2]:S2-91–S2-96.
- Amoah AGB. Obesity in adult residents of Accra, Ghana. *Ethn Dis*. 2003;13[suppl2]:S2-97–S2-101.
- Osei K. Global epidemic of type 2 diabetes: implications for developing countries. *Ethn Dis*. 2003;13[suppl2]:S2-102–S2-106.
- Myers G. Lipid and lipoprotein testing in resource-limited laboratories. *Ethn Dis*. 2003;13[suppl2]:S2-107–S2-109.
- Rotimi C, Daniel H, Zhou J, et al. Prevalence and determinants of diabetic retinopathy and cataracts in West African patients with type 2 diabetes. *Ethn Dis*. 2003;13[suppl2]:S2-110–S2-117.
- Agodoa L. Lessons from chronic renal diseases in African Americans: treatment implications. *Ethn Dis*. 2003;13[suppl2]:S2-118–S2-124.
- Naicker S. Secondary glomerulonephritides. *Ethn Dis*. 2003;13[suppl2]:S2-125–S2-130.
- Ayala C, Croft JB, Keenan NL, et al. Increasing trends in pre-transport stroke deaths—United States, 1990–1998. *Ethn Dis*. 2003;13[suppl2]:S2-131–S2-137.
- Nishtar S. Cardiovascular disease prevention in low-resource settings: lessons from the Heartfile experience in Pakistan. *Ethn Dis*. 2003;13[suppl2]:S2-138–S2-148.
- Setel PW. Non-communicable diseases, political economy, and culture in Africa: anthropological applications in an emerging pandemic. *Ethn Dis*. 2003;13[suppl2]:S2-149–S2-157.
- Pearson TA. Education and income: double-edged swords in the epidemiologic transition of cardiovascular disease. *Ethn Dis*. 2003;13[suppl2]:S2-158–S2-163.
- Wilson E. The role of the World Heart Federation in cardiovascular health promotion and disease prevention in developing countries with a special emphasis on sub-Saharan Africa. *Ethn Dis*. 2003;13[suppl2]:S2-164–S2-166.
- Health and Welfare Canada. *The Victoria Declaration on Heart Health*. Ottawa, Canada: Presented at the International Heart Health Conference, 1992. Available at: <http://www.hc-sc.gc.ca/hppb/ahi/hearthealth/pubs/vic/vicdce01.htm>. Accessed on October 17, 2002.