

Africa's Neglected Chronic Disease Burden: setting priorities for research, practice and policy

One of the British Academy's UK-Africa Academic Partnerships has been offering a fresh approach to tackling chronic disease in Africa. Dr Ama de-Graft Aikins reveals the key insights of a report published in November 2010.

HIV/AIDS, malaria and tuberculosis (TB) dominate the global agenda on African public health, and command significant proportions of donor funding and government health budgets. This is to be expected, as infectious diseases cause an estimated 69 per cent of deaths on the continent. What is less publicised, but equally important, is the significant burden of chronic non-communicable diseases in many African countries. In both men and women, age-specific mortality rates from chronic diseases as a whole are higher in sub-Saharan Africa than in virtually all other regions of the world. The World Health Organization (WHO) predicts that over the next decade, Africa will experience the largest increase in death rates from cardiovascular disease (CVD), cancer, respiratory disease, and diabetes. The rise in chronic-disease deaths is likely to be compounded by co-morbid relationships between infectious diseases of poverty such as HIV/AIDS and TB, and major chronic diseases like CVD, diabetes and cancers.

In February 2009, the British Academy, the Royal Society and the Ghana Academy of Arts and Sciences organised a conference in Accra, Ghana, entitled 'Africa's Neglected Epidemic: Multidisciplinary Research, Intervention and Policy for Chronic Disease'. The conference had three aims:

1. to discuss Africa's chronic disease burden from multidisciplinary and multi-institutional perspectives;
2. to highlight challenges and good practices in research, practice and policy; and
3. to formulate a new set of policy recommendations.

Twelve key experts from academia, international health and development agencies presented research and ideas on these core areas. This article presents key insights from the report that was subsequently commissioned by the British Academy.¹

Chronic disease prevalence, morbidity and mortality

Cardiovascular diseases (CVD), cancers, diabetes, genetic diseases (including sickle cell anaemia) and chronic obstructive pulmonary disease (including asthma) have been identified as major causes of disability and death in the region. The report focused on CVD (stroke and hypertension), diabetes and cancers.

Prevalence

While prevalence rates vary widely across countries and sub-regions there are some interesting within-country trends relating to gender, class and rural-urban location. In terms of gender, stroke and cancer rates, for example, are higher in women compared to men in many African countries. Obesity, a major risk factor for a range of chronic diseases, is also higher in women compared to men. Data on hypertension provides important insights on class and rural-urban

differences. Hypertension, or high blood pressure, has been identified as 'the most powerful, highly prevalent, independent, modifiable risk factor at the population level' for stroke. In many countries, hypertension prevalence rates are extremely high and exceed the rates of other prevalent chronic diseases. Rural prevalence rates range between 20 and 25 per cent, while urban and semi-urban rates exceed 30 per cent. Within urban populations, hypertension prevalence is higher among salaried and mainly sedentary workers (e.g. civil servants) compared to low-income informal sector and mainly mobile workers (e.g. street hawkers). In many countries hypertension detection, treatment and management are poor. Therefore experts predict that the burden of stroke morbidity and mortality is set to rise to epidemic proportions in the future.

Morbidity and mortality

Chronic disease morbidity and mortality rates are higher in Africa and among African populations in Europe than rates recorded in Europe and other parts of the world. For example, Africans are particularly susceptible to the cardiovascular and renal complications of diabetes. Clinical studies since the late 1980s show that in some countries like Cameroon and South Africa, up to 50 per cent of people with diabetes develop chronic complications. In the UK in the 1990s, mortality from end-stage renal failure was between three and six times higher within African and African-Caribbean groups compared to Asian and the general UK population.

Generally, age-specific mortality rates due to chronic diseases as a whole, in both men and women exceed rates in other parts of the world. For example, adult stroke deaths in Nigeria and Tanzania are significantly higher than rates in Canada, the UK, Brazil, Pakistan, India and China.

The socio-cultural and economic context of chronic diseases

Urbanisation, globalisation, rapidly ageing populations, poverty, poor lifestyle practices, weak health systems, and weak leadership and governance are key factors implicated in the rising prevalence rates of chronic diseases and in the high rates of complications, disability and death. Three factors are worth highlighting here: lifestyle, poverty and health governance.

Lifestyle and diet

Chronic diseases have non-modifiable and modifiable risks. The non-modifiable risks or 'inherent factors' are age and genetics. The modifiable risks include poor diets, physical inactivity, obesity, high blood pressure and lifestyle practices such as cigarette smoking and high alcohol consumption. In many African countries the prevalence rates of

these modifiable risk factors are high, particularly in urban areas. A series of WHO surveys show that physical activity is low in urbanised populations and high in rural populations in West, Central and South Africa. Poor diets, low in fruits and vegetables and high in saturated fats, are more prevalent in urban settings. Salt intake – a risk factor for hypertension – is high in both rural and urban populations in many countries. Obesity rates are high, and as noted previously, women are more likely to be obese compared to men. In Ghana, demographic data shows that female obesity rates have trebled over the last 15 years: from 10 per cent in 1993, to 30.5 per cent in 2008. While an increase is recorded across the country, educated wealthy urban women are more likely to be obese compared to uneducated poor rural women.

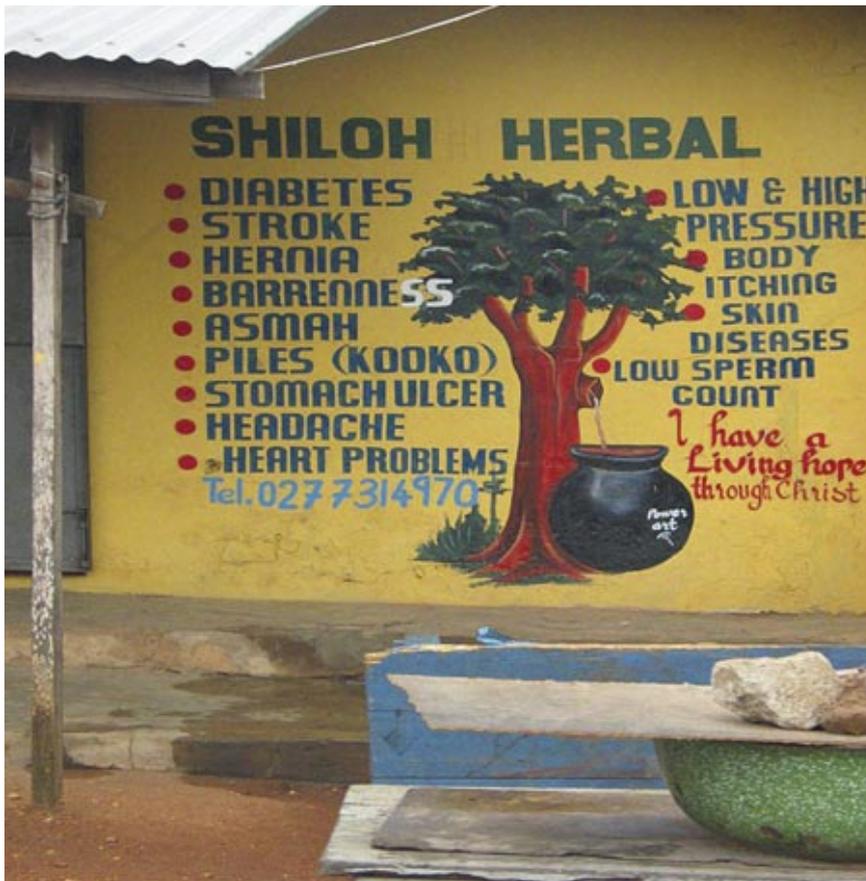


Figure 1. A herbalist advertises chronic disease treatment.

The socio-cultural context is an important mediating factor for chronic disease risks in many settings. Diet and food practices are major risk factors for the broad range of chronic diseases. Some traditional African diets, and traditional cooking and food preservation methods (e.g. curing fish and meat with salt) contribute to the risk burden. Cultural attitudes to body size and image have also received attention. High obesity rates among African women have been attributed to the associations many African societies draw between fat, beauty, wealth and health. These associations have been reinforced by HIV/AIDS. Thinness is often associated with poverty and illness – and increasingly rapid and sustained weight loss is linked with HIV and AIDS in many

countries. However, research shows that the increased consumption of poor diets high in fat and processed nutrients is more strongly associated with globalisation, urbanisation and westernisation. In West Africa, food consumption patterns have changed from traditional diets based on locally produced coarse grains such as millet and sorghum, to modern diets based on imported wheat and rice. This change has been attributed to the aggressive marketing of processed foods by multinational food companies in the region, as well as to changes in food production and supply policies enforced by development partners such as the World Bank and the IMF over the last 20 years. This suggests that, while lifestyle and culture are important factors in chronic disease risk, the role of geopolitical processes are equally important and must be acknowledged and addressed.

Poverty

Almost half of the continent lives in absolute poverty, on less than US\$1.25 a day. Between 1995 and 2000 Africa experienced an urban growth rate of 4.3 per cent compared to 0.5 per cent in Europe. It is estimated that by 2025 over 70 per cent of Africa's population will be living in urban areas, many in crowded slums and settlements. It is becoming clear that poverty and poverty-related stresses are risk factors for chronic diseases. Africa is experiencing a 'protracted polarised' health transition (Frenk *et al.*, 1989) with two key elements. First, populations have lived with a protracted co-existence of infectious and chronic diseases over the last few decades. Second, the double burden of disease is polarised across socio-economic status. While wealthy communities experience higher risk of chronic diseases, poor communities experience higher risk of infectious diseases and a 'double jeopardy' of infectious and chronic diseases. The double jeopardy is largely attributable to the rising burden of infectious diseases of poverty, such as TB and HIV/AIDS and the co-morbid relationships between these infectious diseases and chronic diseases (in particular diabetes, cardiovascular diseases and cancers). Poverty-related stressors, such as overcrowded and unsanitary environments, malnutrition and psychosocial stress, are also risk factors for chronic diseases. For example, under-nutrition and malnutrition are associated with the

prevalence of atypical diabetes, some cancers, and some cardiovascular diseases. Under-nutrition among children has been linked with an increased risk of adult obesity.

Health governance

African health policy-makers and their development partners prioritise infectious diseases and health issues noted explicitly in the Millennium Development Goals (MDGs). Therefore chronic diseases are neglected. Health facilities in most countries lack the appropriate basic and sophisticated equipment, medicines are either expensive or unavailable, health professionals are poorly trained in chronic disease

diagnosis and management, and lack appropriate knowledge and skills. The medical and psychosocial vacuum created by inefficient biomedical services is filled by competitive traditional medicine and faith healing systems that offer unregulated chronic disease care to both urban and rural communities.

The neglect of chronic diseases by governments and health ministries is partly due to the fact that the economic and developmental impact of chronic diseases has been underestimated. Two trends have become evident. Firstly, chronic diseases affect the most economically productive age in many countries. For example, diabetes affects individuals in their early forties in countries like Ghana and Tanzania and reduces life expectancy by 2 and 7 years, respectively. Because rates of chronic complications, disability and death are high, the chronic disease burden has significant implications on quality of life for sufferers and their families, and on the productivity of sufferers and their primary care-givers. Secondly, chronic disease care is costly for governments. A study in Tanzania showed that between 1989 and 1990 the government spent approximately US\$138 per diabetic patient per year. This translated to 8.1 per cent of the total budgeted health expenditure for the year, and exceeded the allocated US\$2 per capita health expenditure for that year. Similarly in Cameroon, the direct medical cost of treating a diabetic patient between 2001 and 2002 was US\$489, which represented 3.5 per cent of the national budget for that year. Since both countries had an additional burden of CVD, cancers and other chronic diseases, the cumulative economic impact of chronic diseases on government budgets was likely to be much higher then, and is likely to have increased in subsequent years.

Developing chronic disease interventions and policy: five priority areas

Five priority areas were identified by conference speakers for addressing chronic disease research, practice and policy in Africa:

1. strengthening research on epidemiological surveillance, primary and secondary prevention;
2. developing multidisciplinary collaborations to conduct research and inform practice;
3. engaging in multi-country research;
4. developing multi-institutional collaborations between researchers, healthcare providers, policy-makers, NGOs, and lay communities to bridge the gap between research, practice and policy; and
5. investing in postgraduate training in chronic disease research to produce the next generation of multidisciplinary chronic disease researchers.

There was a consensus that Africa's chronic disease burden constituted an urgent developmental problem, and that political and policy inaction was likely to have devastating costs in terms of life and welfare. There was recognition that part of the challenge of developing and implementing chronic disease policies was to understand the processes and political economies of policy-making in Africa. Firstly, some speakers observed that the economic impact of chronic diseases on some government budgets was immense and unsustainable. For this reason, robust research was needed to measure the

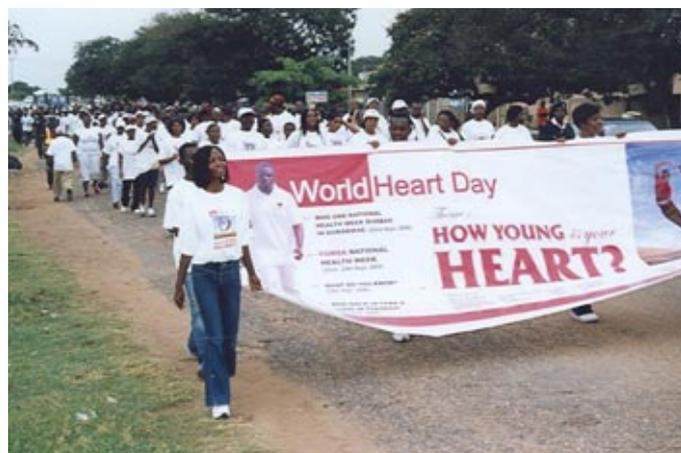


Figure 2. Marching for heart health in Ghana.

current economic impact of chronic disease regionally, and to forecast the implications for public health, development and governance. Secondly, the relationships between national policy-making and international economic and political pressures needed to be better understood. Research was required to examine the extent to which the health MDGs could support a chronic disease agenda for Africa and the role of policy-makers in pushing such an agenda.

Note

1 *Africa's Neglected Epidemic: Research, Intervention and Policy for Chronic Diseases*, by Ama de-Graft Aikins, published by the British Academy in November 2010, see www.britac.ac.uk/intl/Africa_Chronic_Disease.cfm

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In 2006, the British Academy awarded funding for a UK–Africa Academic Partnership, with Dr de-Graft Aikins (then at the University of Cambridge) as the lead UK partner, and Dr Daniel Kojo Arhinful as the lead partner at the Noguchi Memorial Institute for Medical Research, University of Ghana. The number of partners has expanded from 17 in 2006 to 40 in 2010, and includes multidisciplinary researchers based in West, East and South Africa, as well as from Europe and the United States.

The partnership has published a flagship special issue on Africa's chronic disease burden in the online journal *Globalization and Health* (available at www.globalizationandhealth.com/series). In 2010, the partnership co-convened an international symposium in Malaysia, entitled 'Prioritising Chronicity: an agenda for public health research on chronic health conditions for sub-Saharan Africa and Asia'. Proceedings from the symposium can be accessed at <http://www.med.monash.edu.my/News-and-Events/Prioritising-Chronicity.html>

A position paper based on the conference titled 'Rethinking Health Systems: a focus on chronicity' will be published by the *Lancet* in November 2010.
