

**House of Representatives
Committee on Foreign Affairs
Subcommittee on Africa, Global Health, and Human Rights
June 23, 2011
Global Strategies to Combat the Devastating
Health and Economic Impacts of Alzheimer's Disease**

Congressional Testimony by Jeffrey Cummings, MD, DSc

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Key points:

- Alzheimer's disease is an age-related disease and becomes more common when there are more elderly persons
- The number of elderly in the African population is increasing rapidly and the number of persons with Alzheimer's disease is rising
- The approximately 36 million elderly persons in sub-Saharan Africa predicts approximately 9 million persons with Alzheimer's disease now, rising to nearly 15 million by 2030.
- Most of the care of Alzheimer patients is provided by family caregivers who bear much of the emotional and financial toll of the disease; the increase in the number of Alzheimer patients in Africa will greatly increase the demands made on families
- The care of patients with cognitive impairment is costly (\$172 billion annually in the US now); African economies will be strained to provide proper care for African elderly with Alzheimer's disease (current expenditure \$2.9 million USD annually).
- Risk factors for Alzheimer's disease (high blood pressure, diabetes, head trauma, low educational level) are common in African countries and will increase the number of Alzheimer's disease patients beyond that associated with healthy brain aging
- Stroke is a risk factor for Alzheimer's disease; stroke is two-fold more common in Black Africans than in White Africans.
- Nutritional status is poor in much of Sub-Saharan Africa and nutrition of the elderly has received little attention. Poor nutrition is a risk factor for dementia and Alzheimer's disease.
- Stress is a risk factor for cognitive impairment and Alzheimer's disease; famine, war, and refugee status are sources of extreme stress and contribute to an elevated risk of cognitive impairment among Africans
- Behavioral problems such as agitation, depression, and sleep disturbances are common complications of Alzheimer's disease and significantly increase the burden of the disease for patients and caregivers. These symptoms have been reported in 70% of persons with dementia in developing countries.
- Dementia has been under-prioritized; policies to be supported include increasing awareness, social protection, access to good quality age- appropriate healthcare and addressing problems of disability.

Aging in Africa

Between 2005 and 2030, the population of Sub-Saharan Africa over age 60 will approximately double from 36,594,000 to 71,033,000. The population over age 80 will almost triple during this same time period from 2,626,000 to 6,550,000 (Cohen and Menken, 2006; Velkoff et al, 2007). Between 2030 and 2050 the number of older people in this region is projected to double again to over 139 million (Velkoff et al, 2007).

The average annual growth rate of those over age 60 in Sub-Saharan Africa is 2% and will increase to 4% in the next 45 years. This contrasts with growth rate of older persons in developed countries of 2% and a projected decrease to less than 1% (Velkoff et al, 2007).

Prevalence of cognitive impairment in Africa

Rates of cognitive impairment are high in elderly African populations varying among surveyed populations from 24 to 37% (Guerchet et al, 2010). This would translate to approximately 9 million affected persons now and 20 million by 2030.

Surveys of communities in Central Africa reveal prevalence rates of dementia similar to those observed in higher-income countries with approximately 10% of those over age 65 affected (Guerchet et al, 2010). This will translate into 3.6 million persons with dementia now and over 7 million by 2030.

Studies in Nigeria suggested a somewhat lower prevalence of Dementia (2.3%) among elderly (Kalaria et al, 2008).

The current cost of caring for dementia patients in Africa is estimated at 2.9 billion (Kalaria et al, 2008).

Aging and dementia in developing countries

WHO projects that by 2025 $\frac{3}{4}$ of the estimated 1.2 billion people aged 60 years and older will reside in developing countries. By 2040, there will be 81.1 million cases of dementia in the developing world. The largest number will reside in China and India (Kalaria et al, 2008).

Behavioral problems such as agitation, depression, and sleep disturbances increase the burden of the disease for patients and caregivers. These symptoms have been reported in 70% of persons with dementia in developing countries (10/66 Dementia Research Group, 2004; Kalaria et al, 2008).

Dementia has been under-prioritized; policy guidelines include social protection, access to good quality age- appropriate healthcare and addressing problems of disability (Prince et al, 2008).

Incontinence, hearing impairment, and mobility impairment are consistently associated with dementia in developing countries (Prince et al, 2011). These contribute importantly to the disability associated with dementia.

Risk factors for Alzheimer's disease and vascular dementia in Africa

Hypertension is present in 24.4% of Black South Africans; 31.8% of Black South African women are obese; the prevalence of diabetes is at least 8%; the African diet is becoming Westernized with increased fat intake (Bourne et al, 2002).

Stroke is twice as common in Black than White South Africans (Opie and Seedat, 2005).

The rapid urbanization of the Black African population is associated with more diabetes, hypertension and obesity – risk factors for Alzheimer's disease (Opie and Seedat, 2005).

Nutrition attention in Africa has been directed to infants, children, and pregnant and lactating women. Malnutrition is common in the elderly and is under treated. Folate deficiency is common and is associated with cognitive impairment (Charlton and Rose, 2001).

Smoking is a risk factor for stroke and stroke contributes to the occurrence of Alzheimer's disease. 28.1% of adult African males smoke (Akinboboye et al, 2003).

General points:

- The world's population is rapidly aging and with the increase in older persons all diseases of the elderly are increasing.
- Alzheimer's dementia affects 10% of those over the age of 65 and the diseases is progressing in the brain in twice that number
- Currently there are 35 million Alzheimer's dementia victims in the world; this will grow to 65 million in 2030 and 117 million by 2050.
- Alzheimer's disease strikes a family; not an individual. A minimum of 2 family members are impacted by each person with Alzheimer's dementia
- There are no therapies that prevent or slow the progression of Alzheimer's disease.
- New technologies and new diagnostic criteria are allowing earlier diagnosis of Alzheimer's disease.

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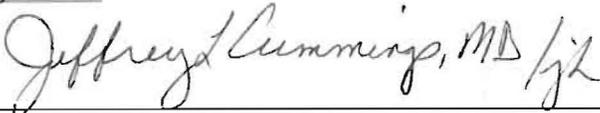
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**United States House of Representatives
Committee on Foreign Affairs**

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<p>4) Funded through an NIA Alzheimer Center grant from 1991 to 2010.</p> <p>5) Cleveland Clinic Foundation received federal funds including grants to Dr. Steve Rao for study of Alzheimer's disease.</p>	
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