Cardiovascular Health Promotion and Chronic Disease Prevention in Sub-Saharan Africa

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- Conflicts of interest: None

- Statements made in this presentation do not necessarily represent the views of the CDC.
OUTLINE

• Definition of terms
• Key resources
• Caveat lector
• Major messages
• Call-to Action
Africa, Sub-Saharan Africa, or the WHO African Region?
Public Health, Health Promotion, and Disease Prevention

- Public health
- Health promotion
- Primordial prevention
- Primary prevention
- Secondary prevention
What is Public Health?

• Public health is “population health” or “… what society does collectively to assure the conditions for people to be healthy”.

• Public health refers to the organized efforts of society, both governmental and non-governmental, to assure the population’s health.
Health Promotion (HP)

• HP involves the population as a whole in the context of their everyday life, rather than focus on people at risk for specific diseases.

• HP is directed towards action on the determinants or causes of health.

• HP combines diverse, but complementary, methods or approaches.

• HP calls for concrete public participation.

Modified from the WHO Working Group, 1984
Prevention and Control of CVD

<table>
<thead>
<tr>
<th>Level of prevention</th>
<th>Target population</th>
<th>Goals of prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Promotion</td>
<td>Entire population regardless of disease or risk factor (RF) status</td>
<td>Prevent risk factor development; reduce average risk of the entire population</td>
</tr>
<tr>
<td>Primary Prevention</td>
<td>Persons with no clinical CVD or stroke but who have one or more RFs</td>
<td>Prevent development of the first clinical CVD event or stroke</td>
</tr>
<tr>
<td>Secondary Prevention</td>
<td>Persons with established clinical CVD, stroke, or a CHD equivalent (diabetes)</td>
<td>Prevent recurrent events of CVD or stroke and their complications</td>
</tr>
</tbody>
</table>

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Preventing CHRONIC DISEASES
a vital investment

Preventing CHRONIC DISEASES
a vital investment

saving 36 000 000 lives
by 2015

www.who.int/chp

World Health Organization
Getting the Surveillance Data Right

• Less than 10% of deaths are registered in the African Region.
• Even when deaths are registered, often the causes are either not attributed reliably or not reported at all.
• Most countries in the African Region do not have health information systems capable of collecting, analyzing, and reporting data.
Coverage of Death Registration

Mortality data (1995 onwards), by cause, available to WHO

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The Five Major Messages

#1

CVD is not the leading cause of death in sub-Saharan Africa today. However, most data suggest that the burden of CVD is rapidly increasing.
Deaths by Broad Cause Group and WHO Region (2000)

- **AFR**
- **EMR**
- **SEAR**
- **WPR**
- **AMR**
- **EUR**

Projected Changes in Cerebrovascular Disease Mortality in Sub-Saharan Africa, 1990 to 2020

Murray & Lopez, 1996
Projected Changes in Ischemic Heart Disease Mortality in Sub-Saharan Africa, 1990 to 2020

Murray & Lopez, 1996
Ischemic Heart Disease Mortality Projections for WHO Africa Region 2005, 2015 and 2030

Projected Deaths (x 1,000)

The Five Major Messages

#2

Various health transitions are occurring rapidly in sub-Saharan Africa; as a result, CVD and other chronic diseases are likely to become the leading killers by 2020.
Evidence of the Health Transition In Sub-Saharan Africa

- Among town dwellers, intakes of food, especially fat, have risen and intakes of fibre-containing foods have fallen.
- Mean serum cholesterol level is almost double that of rural populations living traditionally.
- Level of physical activity has decreased.
- Obesity in females has risen enormously.

# Stages of Epidemiologic Evolution in CVD Patterns in Blacks

<table>
<thead>
<tr>
<th>STAGE</th>
<th>Description of Stage</th>
<th>Acculturation</th>
<th>Urbanization</th>
<th>Affluence</th>
<th>Sat-Fat Intake</th>
<th>Salt Intake</th>
<th>Smoking</th>
<th>CVD (HTN)</th>
<th>CVD (CAD)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Pre-colonial Africa</td>
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<td>1+</td>
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<tr>
<td>2</td>
<td>Modern Urban Africa</td>
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<td>1+</td>
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<td>2+</td>
<td>1+</td>
<td>2+</td>
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<tr>
<td>3</td>
<td>Black West Indies</td>
<td>2+</td>
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<td>4</td>
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<tr>
<td>5</td>
<td>Inner-City Black US</td>
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<td>6</td>
<td>Affluent Suburban US</td>
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<td>2+</td>
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<td></td>
</tr>
</tbody>
</table>

*RF Gillum. *NEJM* 1996;335:1597-8*
Epidemiologic Transition: STAGES

1. Age of Pestilence and Famine
2. Age of Receding Pandemics
3. Age of ‘Man Made’ (Degenerative) Diseases
4. Age of Delayed Degenerative Diseases
5. Age of Social Upheaval & Health Regression

(Models: Stages 1-3 Omran; Stage 4 Olshansky and Ault; Stage 5 Yusuf et al)
Deaths due to CVD (by WHO Region, 2000)

Proportion of Deaths Due to Specific Heart Diseases and Stroke, Sub-Saharan Africa, 1990

- Stroke: 47%
- Ischemic: 26%
- Rheumatic: 2%
- Inflammatory: 8%
- Other: 17%

Murray & Lopez, 1996
Stroke Mortality in Adults aged 30-69 years, in Nigeria, Tanzania, and Selected Countries, Projections for 2005

Leading Causes of Death From a Multi-Center Study of Adult Mortality in Tanzania, Ghana, and Ethiopia

- CVD: 10.7%
- Meningitis: 8.3%
- Malaria: 10.7%
- TB/AIDS: 18.6%

Standard Broad Groups of Causes of Death
Females, South Africa, 2001

- Diseases of the Circulatory System: 22.1%
- Infectious and Parasitic Diseases: 21.5%
- Ill-Defined Causes of Death: 14%
- Diseases of the Respiratory System: 11.6%
- Neoplasms: 8.1%

Percent of Deaths

Statistics South Africa, 2002
Projected Deaths, All Ages, 2005

The double burden

www.who.int/chp/chronic_disease_report/en/
The Double Burden of Disease
Deaths Due to CVD and Infectious and Parasitic Diseases in 30-69 Year-Olds, Sub-Saharan Africa, 1990

Murray & Lopez, 1996
Impact of Chronic Diseases in the WHO Region for Africa Over Next 10 Years

- Deaths from chronic diseases = 28 million
- Represents a 27% increase
- Diabetes alone will increase by 42%.
- Corresponding increase in infectious diseases 6%

Source of data: www.who.int/chp/chronic_disease_report/en
The Five Major Messages

#3

Many safe and effective interventions for the prevention and control of CVD and other chronic diseases exist and must be explored for their full health impact in Africa.
Age-adjusted mortality rates of CHD in North Karelia and the whole of Finland among males aged 35-64 years from 1969 to 1995.

Source: WHO
Effective Policy Change For CVD Prevention – Mauritius & Seychelles

- A government policy that changed the type of cooking oil available to the population of Mauritius:
  - Impact: ↓ in dyslipidemia.

- A comprehensive community-based CVD prevention program in the Seychelles:
  - Impact: Multiple policies enacted.
Population Attributable Fraction of Stroke Mortality for Various Risk Factors in Sub-Saharan Africa

Population-Based Approaches With Limited High Risk Strategies

Surveillance ★ Assurance ★ Research

Mensah. *Ethn Dis.* 2003;13[suppl2]:4-12)
Without an appropriate clinical and public health infrastructure, significant impact cannot be made.
• Estimated shortage of almost 4.3 million health professionals worldwide

• 57 countries, mostly in sub-Saharan Africa have critical shortages

• Sub-Saharan Africa has only 4% of health workers but 25% of the global burden of disease

• The Americas have 37% of health workers but only 10% of global burden of disease
The Public Health System

Assuring the Conditions for Population Health

- Community
- Health care delivery system
- Governmental Public Health Infrastructure
- Employers and Business
- Academia
- The Media
The Five Major Messages

#5

As country teams, you can make a difference;
Now is the time for action!
Major Challenges Requiring Action

1. Low level of public and professional awareness of the importance of CVD and related risk factors

2. Lack of ideal surveillance data and limited public health infrastructure for cardiovascular health promotion and chronic disease prevention.

3. Adverse impact of urbanization, and the nutritional & epidemiologic transitions.
Major Challenges Requiring Action

4. Adverse lifestyle and behavioral risk factors beginning in youth.

5. Rising prevalence of high BP and its impact on CVD, especially stroke.

6. Continuing burden of communicable diseases (including rheumatic fever) and other competing health priorities.
“We cannot afford to say, “we must tackle other diseases first – HIV/AIDS, malaria, tuberculosis – then we will deal with chronic diseases”. If we wait even 10 years, we will find that the problem is even larger and more expensive to address. Prosperity is bringing to our nation many benefits, but there are some changes that are not positive. As our diets and habits are changing, so are our waist-lines. Already, more than 35% of women in Nigeria are overweight; by 2010 this number will rise to 44%.”

Olusegun OBASANJO
President, Federal Republic of Nigeria
STATUS QUO  INVEST NOW

THE CAUSES ARE KNOWN. THE WAY FORWARD IS CLEAR. IT’S YOUR TURN TO TAKE ACTION.

World Health Organization

Preventing CHRONIC DISEASES a vital investment