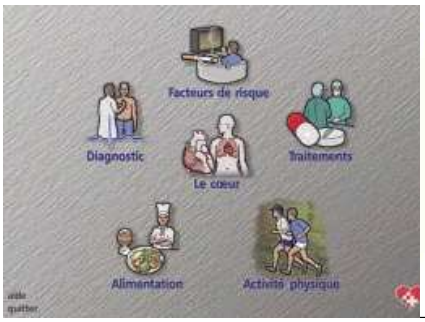
PROGRAMME FOR CARDIOVASCULAR DISEASES CONTROL AND PREVENTION IN AFRICA

Primary intervention intented to reduce premature mortality by hypertension, diabetes, tobacco use and other CVD risk factors in sub-saharian Africa

Partnership between IFHA, the ACP States, the Brussels Free University (UL-B) and the World Health Organization (WHO)





Amendment History		
Date	Activity	Location
Dec 2003	Review of the training of trainers programme for CVD and hypertension control in Africa (sponsored by the US Centres for Deseases Control - CDC)	Accra - Ghana
Nov 2003	Publication of the guidelines for hypertension and CVD management in Africa in the journal of hypertension	Milan - Italy
May 2003	International conference on hypertension and CVD in Africa	Brussels – Belgium
Nov 2002	First ACP programme presentation	Brussels – Belgium
Juillet 2002	African leaders general assembly decision considering hypertension and CVD as public health problem priority (AHD 179)	Durban – South Africa
May 2002	Signature of MoU with WHO and ULB – Erasme Hospital for CVD and hypertension control and prevention in Africa	Geneva - Switzerland
April 2002	Second regional CVD experts strategic review meeting	Kinshasa- DR Congo
Nov 2001	First regional CVD experts strategic review meeting	Libreville – Gabon
April 2001	Agreement of EU for review metings funding	Brussels – Belgium
March 2001	First draft of the project document submitted to the EU for experts review meetings funding	Brussels – Belgium
Feb 2001	Kick off meeting for the preparation of the CVD control in Africa programme	Yaounde - Cameroun
Dec 2000	First colloquim on hypertension and CVD in Africa	Brussels - Belgium

Preamble

Current evidences suggest that cardiovascular diseases (CVD) in general and Hypertension in particular are responsible for significant morbidity, disability and mortality in Africa. To meet the challenge of this current situation and avert the emerging epidemic at the initiative of ULB a Colloquium was organized on December 2000 in Brussels in collaboration with the support of European Union (EU), World Health Organization (WHO), African Union (AU) and the Belgian Ministry of International Cooperation with the aims:

- To establish a better approach for the treatment of HBP and related risk factors in the Sub-Saharan Africa region; and
- To explore the ways and means of mobilizing resources, undertaking research and conducting health interventions on cardiovascular diseases (CVD) in the countries of Sub-Saharan Africa region.

In its conclusions, the Colloquium called, inter alias, for the organization of an Experts meeting to examine the followings issues:

- the need to gather epidemiological information according to a standardized method in order to establish a link between arterial blood pressure and the dimension of global risk
- devise a strategy to control arterial hypertension and others CVD risk factors based on direct data obtained in those populations;
- the need to establish the real impact of therapeutic interventions

Under the high auspices of H.E. El Hadj OMAR BONGO, President of the Republic of Gabon in close collaboration, and with the support of WHO and the EU, the Experts meeting was held in November 2001 in Libreville and adopted the Libreville Declaration on Cardiovascular diseases.

In July 2002 the Libreville Declaration was presented to the African Union Summit in Durban which adopted the Decision AHG/DEC. 179 in which the HBP is considered as a major public health problem in Africa.

From May 10 to 12 2003, an International Conference on Hypertension and CVD in Africa was convened in Brussels (Belgium) under the high patronage of Belgian King Albert II, in collaboration with EU, AU, WHO, World hypertension League, World Heart Federation, Pan-African Society of Cardiology and brought together prominent scientists, researchers, state holders and potential sponsors. The aim of the Conference (as a follow-up the Libreville meeting) was to set up specific and priority strategies to help containing or averting the emerging CVD epidemic in Sub Saharan Africa.

Because of the significant success and the enthusiasm generated by the Brussels Conference, the participants unanimously decided to set up a structure, called “International Forum for Hypertension control and Cardiovascular disease prevention in Africa, IFHA” as an umbrella organization to coordinate and guide future efforts in the field of Hypertension and CVD control in Africa.

They also recommended that IFHA should undertake its activities in collaboration with some Associations and Centers dealing, inter alia, with training matters within the African region such as local universities, Free Brussels Universities (ULB),WHO and the International Center for Cooperation, Consulting and Training for Africa (CICEFA).

A. Background

During the last decades the burden of non-communicable diseases (NCD) on morbidity and mortality has considerably increased in developing countries [1]. For Sub-Saharan Africa (SSA), NCD accounted for 28% of morbidity and 35% of mortality in 1990 and it is estimated that by the year 2020, 60% of morbidity and 65% of mortality in this region will be attributable to diseases such as cardiovascular diseases (CVD), diabetes, cancers and asthma [1]

Thus, SSA will have to cope with infectious diseases that are still prominent and the epidemics of emerging NCD that are linked by lifestyle determinants such as changes in dietary habits, tobacco use and physical inactivity. However, major contributors include poverty, rapid socioeconomic mutations due to urbanization and globalization, shortage of adequate health care facilities and the inexistence of clear health policies [1,2]. As the result of better control of infectious diseases and fight against poverty, life expectancy in ACP countries is rising sharply and people are exposed to these risk factors for longer periods [3].

The ongoing focus (by governments and local health planners) on poverty and other health priorities such as AIDS, malaria, and malnutrition has resulted (for many obvious reasons) in an underestimation and lack of policy and action on the predicted future impact of chronic diseases in general and CVD in particular. Paradoxically, there are many opportunities currently available for these populations to move through policy to action while maintaining the same attention on the other pressing health and developmental issues.

The most rapidly rising of the NCD are CVD mainly hypertension; affecting more than 20 million persons in SSA with high mortality rates [4]. Hypertensive patients in SSA commonly develop complication of stroke, cardiac failure, renal failure, and blindness [5]. According to 2002 world health report [4], in 2001 CVD were responsible for 1 million deaths in SSA of which more than 500.000 were accounted for hypertension related complications. Such outcomes place a severe financial burden on health systems and monopolize scarce health resources.
The bourgeoning CVD epidemic is currently a substantial cause of preventable death and disability throughout education, training and information and cost effective management of high-risk patients.

Socio-economic impact of CVD

The economic burden of CVD is considerable [6]. The cost of stroke for the year 2002 was estimated to be as high as 49.4 billion in the U.S.A (6) while costs after hospital discharge were estimated to amount to 2.9 billion Euros in France [7]. Clearly, even a fraction of such amounts can cause enormous economic damage to under-resourced countries. Given the high burden of disease and costs due to CVD, high priority should be given to preventing CVD in developing nations in which high-cost case-management is hardly a feasible option. However, the increasing rates of CVD and the rising expectations of affected people are likely to boost the needs for acute medical treatment for these diseases. This is likely to place an enormous pressure on the already fragile health care systems and threaten the viability of poorly funded public health and primary health care services. In some developing countries, the health budget per capita does not exceed US$10 per year, which is severely insufficient to address the increasing burden of non-communicable diseases (NCDs) and which adds to the ongoing burden of infectious diseases

IMPLICATION FOR ACTION

Due to socioeconomic constraints and the competing demands from infectious diseases, it is important that African countries develop cost-effective strategies for CVD control and emphasize on primary prevention for promotion of global health.
To this regard, WHO and IFHA recently developed strategies, aiming to reduce CVD burden in low-resource settings through cost-effective integrated management of cardiovascular risk addressing hypertension, smoking cessation and diabetes. The present program challenge is to build local capacity for effective and sustainable management of CVD in SSA using these strategies.

NECESSITY AND NEED OF PARTNERSHIP

In the framework of its 6th program the European Union has made the fight against CVD a high priority. In that regard, EU supported and sponsored the first part of this program that lead to elaboration of guidelines for management of hypertension and other CVD risk factors in Africa (ICA4-2000-50035). The same holds for ACP-EU Cooperation whose social aspect of the Cotonou Agreement deals, among other things, with health matters.

International partnerships on the fight against key communicable diseases such as Malaria, HIV/AIDS, TB and the initiative "For a world without tobacco" through concerted efforts between WHO, UNAIDS, World Bank, UNICEF,AU, UNDP and EU give yielding satisfactory results, particularly in the establishment of the Global Fund.

To reduce the progression of CVD, the same struggle is needed in a framework of international partnership requiring financial support, political and scientific sponsorships. In due cause, African Leaders adopted the Durban Decision (AHG/Decision179) that emphasized the need to address arterial hypertension and CVD risk in Africa. The WHO and ULB-ERASME HOSPITAL (Free Brussels University) have lent leadership support to this program and subsequent support is gathered from World Hypertension League (WHL) and World Heart Federation (WHF), major steps in development of the present Initiative that needs to be joined and supported by the ACP group of states.

Currently the program is fully supported by WHO and it become necessary that certain Institutions of Africa region within the framework of the Cotonou Agreement, which provide resources for Health, be involved in the implementation of the action plan directly or /and through institutions deal with cooperation, training issues such as Free Brussels University, CICEFA and African Universities who have been involved in the project since the stating of it.

B. Overall objective

The main objective of this project is to assist African countries to reduce the toll of morbidity, disability and premature mortality due to CVD through prevention and cost effective control of hypertension,tobacco use and others cardiovascular risk factors.

C. Project purpose

The project purpose is to improve cardiovascular health care through capacity building for adequate management and prevention.

D- Specific objectives

1) Enable workers at various levels of health care settings to detect and manage hypertension and other CVD risk factors such as tobacco use

2) Promote cardiovascular health at all population level
3) Evaluate policies on drugs and organize the supply of effective, low-cost generic cardiovascular drugs in African settings
4) Provide countries with the policy and the experience to establish national strategies for preventing CVD and other major NCD integrated in their existing health care systems
5) Create a network of African health professionals committed to the control and prevention of hypertension and other CVD risk factors

E. Expected Results

a) At institutional level in participating countries (Nationwide)

- Skills of practitioners strengthened and quality of detection, prevention and treatment of patients with hypertension and other CVD risk factors through intensive training/education program improved
- Global Health service capacity enhanced that integrate CVD (NCD) prevention and control activities among existing health programs
- National centers of excellence for CVD control and prevention established and equipped
- National Committee/ League for fight again Hypertension Created
- Adequate information for health decision-markers to guide their strategic choices/priority actions regarding CVD Provided
- List of most cost-effective essential cardiovascular drugs generated, to assist in the control and prevention of hypertension and other CVD risk, and organize a permanent drug supply mechanism.

b) At local population level

- Global awareness in regard with CVD risk factors increased , through Information, Education and Communication (IEC) and community adoption of healthy diet and lifestyle
- Culturally and socio-economically preventive programs adapted to the expectations and priority needs of the population established
- Effective lifestyle courses in primary and in secondary schools introduced
- Patients access to treatment and essential cardiovascular drugs Facilitated
- Healthy active population guarantee for sustainable and durable socioeconomic development increased
- All cardiovascular morbidity and mortality rates reduction by approximately 20% in 5 years.

Agenda

Table 1: **activities timetable and expected outcome results**

Activities	Period	Indicator
Training of health professionals involved in CVD control and prevention at various levels	YEAR1 TO YEAR 5	5 trainers trained /country AT NATIONAL LEVEL 300 health PROFESSIONAL trained /country AT PROVINCIAL LEVEL 650 Community workers trained /country AT DISTRICK LEVEL
Implementation and diffusion of WHO and IFHA strategies for management, assessment and prevention of Hypertension and CVD risk in AfricaN region	YEAR1 TO YEAR 4	Availability of local recommendations for CVD management Development and Validation of cost-effective methods for identifying and managing exposed individuals at high risk of CVD
Health service capacity enhancement to integrate CVD prevention and control activities among existing health programmes	YEAR1 TO YEAR4	CVD strategies integrated among other ongoing health programmes.
Development of national centres of excellence concerning prevention and control of CVD	YEAR1 TO YEAR5	2 active centres/country (1 in urban and 1 in rural areas)
Elaboration of the list of essential Cardiovascular drugs and facilitated patients access to CVD treatment	YEAR1 TO YEA3 409/2004-12/2006	1.000 patients on treatment/ country[1] 50% patients treated and controlled Reduction in CVD events
Community based interventions for CVD risk reductions at populations levels	YEAR1 TO YEAR 5	Increase population awareness in regard with CVD risk factors and healthy lifestyle promotion (salt intake reduction, smoking cessation, alcohol, food labelling, physical activity promotion, etc.)

F. Risks and assumptions

Risk and assumptions have been identified at the level of each individual project and are contained in the logical framework. They include the following:

- No significant conflict occurs in the country's project areas

[1] *As shown in the budget table in the annex1, 1000 patients over 5 years per country means € 26,735 /year/country, therefore, an average generic drug budget of about € 134/patient/year in the project.*

- Stability and improvement of the socioeconomic conditions
- Government policies will continue to support NCD programs
- Effective national and eventually regional medical and scientific supporting organization
- National NCD programs are effectively supported and implemented by all partners involved
- Co-operation of the relevant authorities/partners will be maintained throughout the whole project period
- The management and administrative structures necessary for the implementation are set-up and maintained effectively
- Active community participation on project activities is sustained
- Adequate expertise will be available, as required
- Staff turnover will remain low
- No maintenance problem for technical equipment and materials

G. Activities

In order to achieve the program, the specific actions below will be undertaken:

a) Training and Education of health workers : priority of the Program

1. The major challenges for health care providers in delivering a comprehensive CVD risk management program involve lack of knowledge and appropriate skills to deal with chronic conditions, the insufficient emphasis on teaching CVD prevention in undergraduate courses and the already over-burdened nature of this workforce. To ensure the necessary skills and expertise, health workers training program in appropriate assessment and management of hypertension and other CVD risk such as smoking quitting must be implemented at various settings levels.

2. The program consists every year of:
   - 2 continental workshops targeting university teachers and principal national monitors (Training of Trainers),
   - 4 national seminars in all participating countries (for other health and social workers as doctors, nurses, community health workers, socio -anthropologists)

3. The training strategies are to teach methods of:
   - blood pressure measurements
   - global CVD risk assessment and management approaches according to IFHA guidelines
   - advise and promote healthy diet, physical activity, smoking cessation
   - disseminate information on the latest research progress on CVD risk prevention approach

4. Evaluation: Health workers knowledge and skills will be evaluated at the end of each workshop, when starting the program, 3 months later and every 6 months during the program life.

5. Other Training Activities
   - Development of special training program for Teachers of primary and secondary schools in order to promote healthy life style early in the youths.

   Some of regional training activities as well as community base education and Information program will be implement and execute in conjunction with African Specialized operational training institution namely CICEFA

6. Certification:

   At the end of each workshop, a certificate will be delivered to each participant, and accredited by the WHO and the IFHA and FREE BRUSSELS UNIVERSITY.

b) ***Health Care System and Cardiovascular Risk Assessment and management***

Barriers to control of CVD in Africa include: inadequate chronic disease surveillance systems and registries, inadequate allocation of monetary, administrative and healthcare provider resources for CVD management, lack of standardized guidelines for management of CVD, and under equipped and poorly standardized health facilities for CVD management.

1. Cost-effective interventions for CVD prevention

The program aims to apply, disseminate and implement WHO CVD and IFHA recommendations for management of Hypertension and other CVD risk factors in various settings levels in SSA countries.
The WHO module has been designed to address 3 scenarios, representing the range of healthcare facilities encountered in low and medium resource settings. The scenarios represent three combinations of essential health resources: facilities, and equipment, the skill level of the health workers delivering the program, and the range of health services, both diagnostic and therapeutic, that are available (scenario 1 at the level of primary care while scenario 3 at tertiary care)[(8)].

2. Treatment gaps and drugs supply

Treatment of high blood pressure with antihypertensive drugs resulted in a lower incidence of major CVD events. The main benefit is due to lowering blood pressure per se rather than to a particular drug property. Thus, all hypertensive patients should benefit generic anti-hypertensive medication during the whole project duration taking in consideration the cost-effective aspect.
In fact, inexpensive and effective generic drugs such as thiazide diuretics, beta blockers, reserpine, calcium antagonists and oral hypoglycemic are available for management of Hypertension and diabetes.
In each country, national centre of excellence will be supplied with essential CVD generic drugs, and equipped with essential materials.

3. Community based intervention program

Barriers to CVD control and prevention include inadequate mechanisms for raising awareness of CVD among care seekers, lack of community involment in the health framework and lack of social support system.

This program aims to promote health education in the community addressing most relevant CVD risk factors (salt intake reduction, smoking cessation, alcohol consumption reduction, increase in physical

activity, body weight reduction, less consumption of fat and promotion of fruit and vegetables…) and to involve the community in preventive measures.
Ideally, community program should include as many of the following, as their resources will allow:

- Detection, education, and referral for other cardiovascular risk factors.
- Multiple strategies to improve compliance with treatment, including public, patient, and professional education activities incorporating culturally sensitive approaches as well as environmental supports, such as informative food labeling, heart-healthy menus in restaurants, and safe trails for walking and cycling
- Multiple centers to reach all segments of the population, including all healthcare settings, schools, work sites, churches, mosques, community centers, supermarkets, and pharmacies.
- Intensive use of media for cardiovascular health promotion

STRATEGIES

One important aspect of this project is to promote and develop information systems at various settings levels as well as high risk patient and at community level.
In that regard we plan to:

- Develop health education program adapted to local conditions and taking into account socio-cultural realities.
- Ensure promotion through the media and other local communication channels.
- Elaborate the brochures for the information and education of patients and general population
- Prepare and disseminate recommendations for management of High blood pressure and other CVD risk factors adapted to health setting context

H) <u>In the area of logistic</u>

The program will ensure that adequate essential drug, equipments, materials and consumables are available by working with the relevant authorities and partners.

I) <u>participating countries</u>

The project is of interest for all SSA countries of WHO /Afro region, but will start by the following 20 countries: Angola, Benin, Burkina-Faso, Cameroon, Congo, Democratic Republic of Congo, Gabon, Gambia, Ghana, Kenya, Mali, Mozambique, Nigeria, Rwanda, Senegal, South-Africa, Tanzania, Uganda, Zambia and Zimbabwe.
The main selection criteria of these countries that are important to start the proposed activities for sustainability are:

1. Existence of institutional framework for CVD control and prevention (human resources, infrastructure …)
2. Presence of baseline capacity for CVD control
3. Existence of health policy and program to address CVD at ministry level
4. Ability to support financially the long term development of the project (drugs purchase and subsidies)
5. Experts of these selected countries, actively participated since 2 years in the first phase of the project that lead to elaboration and establishment of Directives for assessment and management of Hypertension in SSA.
6. Higher of success of project implementation

Training of trainers will be organized alternatively in English, French and Lusophone region. Each country will organize its own training activities as appropriate with national experts.

In each country one center of excellence will be created, covering 1 urban and 1 rural demonstration areas. The experience gain from this center will help the participating countries to extend the program to other areas.

J) Budget

To be indicated

K) Programme coordination

The activities defined in this proposal will be implemented by Free Brussels University/Erasme hospital in partnership with WHO/Afro.

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Stearing committee :

- 1 WHO representative
- 1 AU representative
- 1 CICEFA representative
- 1 country representative (*see table2 below*)

Table 2: list of country representatives*

Countries	Representatives	Function
Angola	Pr Manuel Vidigal	Head Dpt of Cardiology – Luanda University Hospital
Benin	Pr Hippolyte Agboton	Chief Cardiovascular Division – Cotonou Medical School
Cameroon	Pr Katleen Ngu Blackett	Head Dpt of Preventive Medecine – Yaounde Medical School
Burkina-Faso	Pr Dyemkouma Francois Xavier	Medical Officer – Bobo Diolasso School of Public Health
Congo	Pr Jean Louis Nkoua	Chief cardiovascular Division – Brazzaville University Hospital
D. R. of Congo	Pr Jean René Mbuyamba	Chairman – Congolese League of Hypertension
Gabon	Pr Pierre André Kombila	Director of Health – Gabonese Ministry of Public Health
Gambia	Dr Ousmane Nyan	Division of CVD Program – Banjul medical research centre.
Ghana	Pr Albert Amoah	Dean of Accra Medical School
Kenya	Pr Elijah Ogola	Chief Dpt of Medecine – Nairobi Medical School-Kenya
Mali	Pr Mamadou Traoré	Deputy Director of Bamako School of Public Health
Mozambique	Pr Albertino Damasceno	Head Dpt of Cardiology – Maputo School of Medecine
Nigeria	Pr Basden Onwubere	President – Nigerian Society of Hypertension-Lagos
Rwanda	Pr Emmanuel Gasakure	Head cardiology department – Butare School of Medecine
Senegal	Pr Moustapha Saar	Head of Preventive Cardiology Division – Dakar Medical School
South-Africa	Pr krisela Steyn	South Africa Medical Research Centre: Cardiovascular Division – Cape Town-South Africa
Tanzania	Pr Albert Ntaziwa	Sr Scientific Officer – CVD Branch, Tanzanian Ministry of Health
Uganda	Pr Maurice Rutangirwa	Director of Mulago Heart Institute-Uganda
Zambia	Pr Emmanuel Nyemdwa	Sr Public Health Officer - Zambian Ministry of Public Health
Zimbabwe	Dr Jiffah Chifamba	Sr Scientific Officer – Harare Medical School-

		Zimbabwe

* All these experts actively participated to the three experts consultative meetings held in Africa in 2001 and 2002. They also attend the international conference on hypertension and CVD in Africa that took place in Brussels at Erasme Hospital on May 10-12, 2003

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