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BACKGROUND DOCUMENT





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Acronyms and abbreviations

AFRO	WHO Regional Office for Africa
AU	African Union
COPD	Chronic obstructive pulmonary disease
CRDs	Chronic respiratory diseases
CVDs	Cardiovascular Diseases
DALY	Disability Adjusted Life Year
HRH	Human Resource for Health
LMICs	Low and middle income countries
NCDs	Noncommunicable Diseases
SCD	Sickle cell disease
UN	United Nations
WHO	World Health Organization

I. Introduction

1. Approximately 80% of the 35 million deaths worldwide due to NCDs, notably cardiovascular diseases (CVD), diabetes, cancer, and chronic respiratory diseases (CRDs), occurred in low and middle income countries (LMIC) including African countries¹. Globally, deaths from such diseases are projected to increase by a further 17% over the next 10 years, but the greatest increase (27%) is expected to be seen in the African region². The rise in NCD mortality reflects epidemiological, nutritional and demographic transitions occurring in the African continent. This rise is also due to factors such as: a decline in mortality from communicable diseases and conditions related to childbirth and malnutrition, and an increase in life expectancy and unhealthy lifestyles. Other reasons include multifaceted factors such as poverty, urbanization and globalization. NCDs are projected to exceed communicable, maternal, perinatal, and nutritional diseases as the most common causes of death by 2030.
2. Despite the actual trends and the fact that NCDs are the second leading cause of death and disability in the Region (Figure 1), these diseases are surprisingly neglected elements on the health agenda.



Figure 1. Estimated Proportional Mortality (%), WHO Africa Region, 2004. Source: Global Burden of Disease: data sources; methods and results. WHO Global Infobase (IB Ref: 199998a2).

¹ WHO. *Preventing chronic disease: a vital investment*. Geneva: WHO, 2005.

² UN General Assembly, Sixty-fifth session. Note by the Secretary-General transmitting the report by the Director-General of the World Health Organization on the global status of NCDs, with a particular focus on the development challenges faced by developing countries A/65/362, 13 September 2010

3. In 2008, NCD were responsible for the death of 2, 8 million people in the African region. The region has the highest age-standardized male NCDs mortality rates for all ages - for males (844 per 100,000) and for females (724 per 100,000). About half of all deaths due to NCDs occur in persons aged less than 70 making NCDs a significant contributor to premature death and disability in Africa.³
4. Some recent studies such as the countrywide survey of persons seeking health services above 50 years of age in Botswana have revealed that 67% of respondents had hypertension and 12.4% had diabetes. In Mauritius and Seychelles over 75% of deaths are due to the main NCDs, namely CVDs, diabetes and cancers with a significant number of these deaths occurring in individuals who are less than 60 years old (Figure 2). These two island states also have some of the highest rates of hypertension and diabetes and their risk factors (tobacco use, harmful use of alcohol, overweight and obesity and physical inactivity) in the Region and the world.
5. NCDs are gradually being seen as a health problem that needs to be addressed in the African Region. In 2006, Member States, at WHO Regional Committee for Africa, adopted the African Strategy for the Prevention and Control of NCDs, as a strategic framework for action.⁴ This strategy builds on the Global Strategy for the Prevention and Control of NCDs, which was endorsed by the World Health Assembly in 2000 which considered the four types of NCDs (CVDs, cancer, CRDs and diabetes) and their four risk factors (tobacco, alcohol, physical inactivity and unhealthy diet) together in order to emphasize common causes and highlight potential synergies in prevention and control.⁵
6. Based on the Regional Strategy and on the Action Plan for the Global Strategy for the Prevention and Control of NCDs, endorsed at the World Health Assembly in 2008, countries in the region are starting to implement evidence-based strategies for preventing and controlling these diseases.⁶ In this process several constraints on the capacity of countries to respond to the challenge of NCDs have been identified and they cut-across the six key health-systems components⁷, namely leadership and governance; health systems delivery; human resources for health; health financing; health information; and health technologies. NCDs prevention and control measures require well-functioning and strengthened national health systems; properly addressing Noncommunicable diseases in the context of this rising opportunity will contribute to overall improvements in health system and will consequently lead to reducing morbidity and mortality due to NCDs.

³ World Health Statistics, 2010, <http://www.who.int/whosis/whostat/2010/en/index.html>

⁴ WHO, Noncommunicable diseases: a strategy for the African Region, Harare, World Health Organization, Regional Office for Africa, 2000 (AFR/RC50/10)

⁵ WHO, Global Strategy for the prevention and control of NCDs, Geneva, World Health Organization, 2000 (Resolution WHA53.17/2000).

⁶ WHO, Action plan 2008-2013 for the Global Strategy on NCDs, Geneva, World Health Organization, 2008 (Resolution WHA61.14/2008).

⁷ Financing, governance, health workforce, health information, medical products and technologies, and health service delivery.

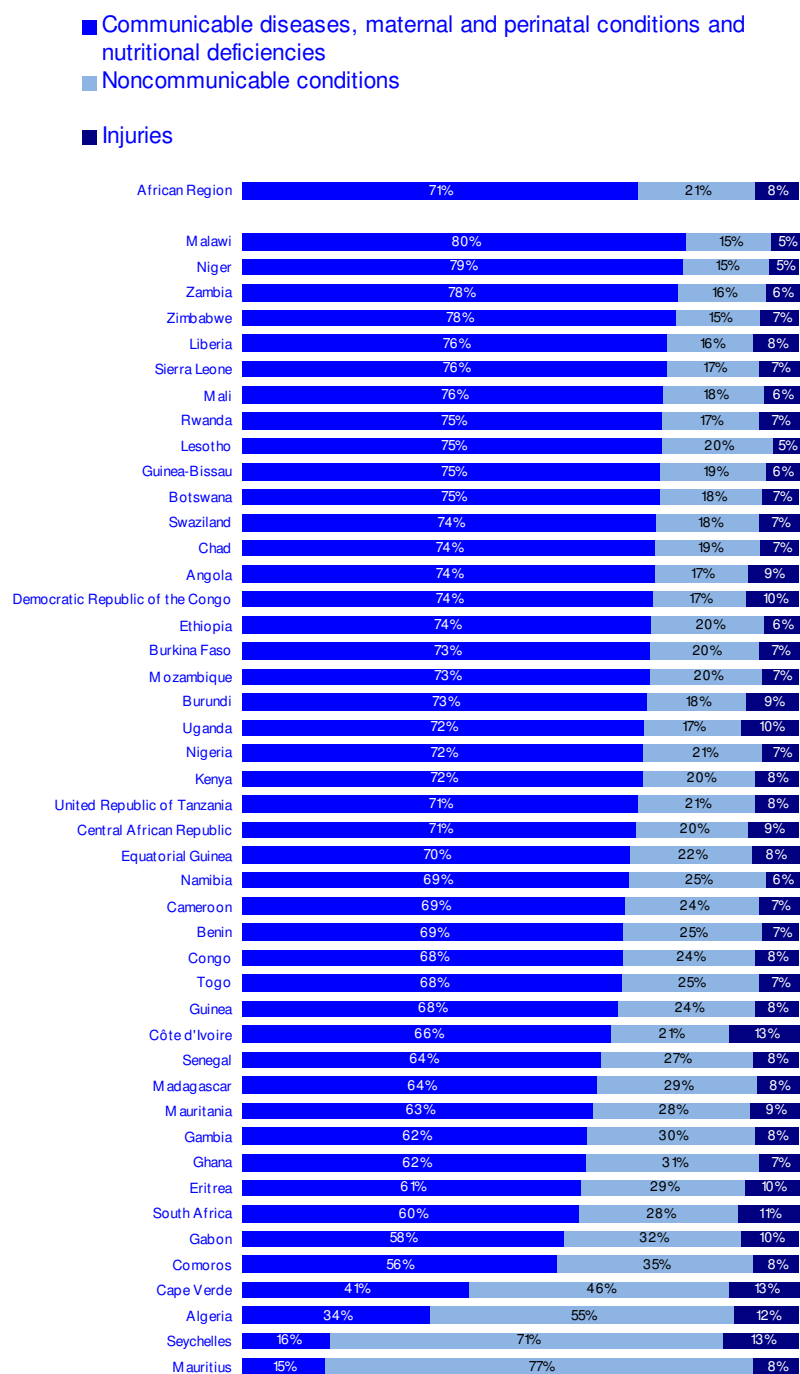


Figure 2: Burden of diseases as % of total DALYS by broader causes in the African Region, by country, 2004⁸

⁸ WHO. Health Situation in the African Region: Atlas of Health Statistics. World Health Organization. Regional Office for Africa, 2011

II. NCDs in the African region

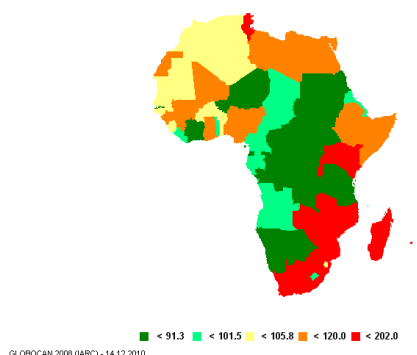
7. In addition to the common major NCDs, chronic non-communicable conditions such as sickle-cell disease (SCD), mental health conditions, violence and injuries, and oral and eye diseases were added to this review as they currently have a significant impact on health and development in the African Region.

Major NCDs

Cancer

8. Cancer is a latent public health crisis in Africa (Figure.3). Its prevalence is increasing as a result of rapid urbanisation, increasing life expectancy, unhealthy lifestyle, and exposure to a number of infections, pollutants and carcinogenic substances at the worksite and in the environment. Furthermore, the cost of treatment, especially with modern chemotherapy, is escalating and is proving to be beyond the reach of most African countries. This situation presents difficult choices to countries in finding a balance between provision of curative and palliative care, and investing in preventive strategies to reduce the burden of cancer.

International Agency for Research on Cancer
Organization
Estimated age-standardised incidence rate per 100,000
All cancers excl. non-melanoma skin cancer: both sexes, all ages



International Agency for Research on Cancer
Organization
Estimated age-standardised mortality rate per 100,000
All cancers excl. non-melanoma skin cancer: both sexes, all ages

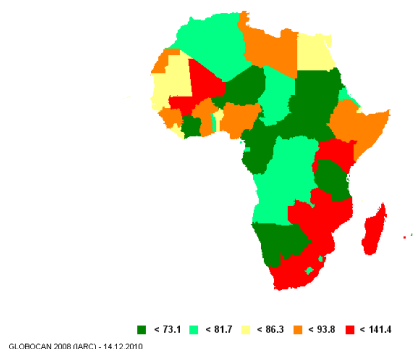


Figure 3. Incidence and mortality rates for cancers in Africa (excluding melanoma skin cancer). Source Globocan 2008 (IARC).

9. WHO estimates that in 2008, there were 681,000 new cases of cancer in Africa, and 512,000 people died from the disease. By 2030, it is projected that the figures will rise to 1.6 million new cases with 1.2 million deaths. In the Region, the top cancers among women are breast, cervical, stomach, lung, and colorectal cancer. Cervical cancer accounts for the greatest number of deaths. The top cancers affecting men are prostate, liver and oesophagus cancers, Kaposi sarcoma and colorectal cancer.⁹
10. Cancers associated with bacterial or viral infections, such as cervical, liver, and stomach cancer, make up a larger share of total cases in the Region, and as many as 36% of cancers in Africa are infection-related, exactly double the world average.¹⁰ Aflatoxins are cancer causing fungal metabolites and Aflatoxins exposure is strongly linked to an increased risk of liver cancer with the rate of liver cancer reported to be up to 60 times higher due to its synergistic effect with Hepatitis B Virus infection. This reflects weak public health and sanitation systems and the lack of effective preventive and screening services.
11. Survival rates for some types of cancers, such as oesophageal, liver, lung, and pancreatic cancer, are very low. For these cancers, primary prevention is the most practical and often the only possible intervention in the Region. For cancers of the large bowel, breast, ovaries, and cervix a number of reliable methods of early detection, diagnosis, and treatment can, in principle, be delivered through district health care facilities. For leukaemia, lymphoma, and testicular cancers, survival is low because countries have a low level of technology, scarce infrastructure, and low medical resources which compromise their prompt diagnosis and treatment. Along with the absence of appropriate cancer prevention and management policies, training, and comprehensive programmes delivering multi-disciplinary cancer care, there is also the problem of nearly 80% of patients presenting only when their disease is at a late stage meaning that only palliative care can be provided.

Chronic respiratory diseases (CRDs)

12. Preventable CRDs such as asthma and respiratory allergies, chronic obstructive pulmonary disease (COPD), occupational lung diseases, sleep apnoea syndrome and pulmonary hypertension constitute a serious public health problem in the Region. Lower respiratory tract infections, COPD, tuberculosis and lung cancer are each among the leading 10 causes of death worldwide. It is predicted that the burden of CRDs including asthma and COPD will worsen as a result of direct and indirect exposure to tobacco smoke and environmental pollution and factors such as poverty, lack of access to appropriate health care, malnutrition, low birth weight, and multiple early lung infections.
13. Although multiple determinants serve to increase the burden of CRDs, the direct and indirect exposure to tobacco smoke is the principal risk factor for their development. Poverty and socio-economic factors play an important role in increasing disease prevalence and severity through environmental determinants and may also result in adverse health outcomes caused by the lack of access to appropriate health care. Other important factors include heavy exposure to air pollution derived from indoor and outdoor sources, occupational related disorders, malnutrition and low birth weight, and multiple early lung infections.
14. Early detection of occupational asthma is vital to prevent further progression and to ensure cost-effective management. Asthma, although not curable, is a treatable disease with

⁹ Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. *GLOBOCAN 2008*, Cancer Incidence and Mortality Worldwide: IARC Cancer Base N°.10 [Internet]. Lyon, France: International Agency for Research on Cancer; 2010. Available from: <http://globocan.iarc.fr>

¹⁰ Parkin DM. The global health burden of infection-associated cancers in the year 2002. *Int J Cancer*, 2006;118:3030-3044.

preventable morbidity. It is also a known risk factor for COPD. Secondary and tertiary prevention involves avoidance of allergens and non-specific triggers. Optimal pharmacological treatment, including the use of anti-inflammatory medication, has been shown to be cost-effective in controlling asthma, preventing the development of chronic symptoms, and reducing mortality. Programmes for early detection of COPD have been suggested but their cost-effectiveness has yet to be fully evaluated. Long term decline in lung function may not be reversible, but effective management including smoking cessation, pulmonary rehabilitation and reduction of personal exposure to noxious particles and gases can reduce symptoms, improve quality of life, and increase physical fitness. In addition to this, evidence indicates that influenza vaccination is a cost-effective intervention for patients with COPD.

Cardiovascular diseases (CVDs)

15. CVDs include coronary heart disease (heart attacks), cerebro-vascular disease (stroke), raised blood pressure (hypertension), peripheral artery disease, rheumatic heart disease and congenital heart disease. They are top killers, causing about 12 million deaths throughout the world. The burden of CVDs is increasing rapidly, and it is now a public health problem throughout the African Region. CVDs have a major socioeconomic impact on individuals, families and societies in terms of health-care costs and lost productivity due to absenteeism and premature deaths. The epidemiology of CVDs in the African Region, reported mainly on hospitalized patients, may not represent the true pattern of heart disease but suggests a high burden of neglected conditions such as rheumatic valve disease, cardiomyopathies, and tuberculous pericarditis.
16. The WHO has reported that the number of disability adjusted life years (DALYs) lost to CVDs in sub-Saharan Africa rose from 5.3 million for men and 6.3 million for women in 1990 to 6.5 million and 6.9 million in 2000 respectively, and could have risen to 8.1 million and 7.9 million in 2010. They cause higher mortality in Africa than in developed countries,¹¹ and affects younger people and women disproportionately. Hypertension remains the most threatening risk factor. Across the WHO regions, the prevalence of raised blood pressure was highest in Africa, where it was 46% for both sexes combined. Still, less than 10% of Africans have their blood pressure controlled.
17. Extrapolations from studies in Nigeria and elsewhere indicate that 5% of deaths could be due to hypertension and that the reduction in attributable risks associated with treatment could be 2%, over 10 times higher than in the United States.¹² The usual risk factors are all relevant in Africa and are well demonstrated by the WHO STEPwise approach to surveillance of NCDs.¹³ People often exhibit multiple risk factors, as shown in a recent publication from South Africa which reported that 32.1% of men and 18.9% of women over 30 had a 20% or higher likelihood of developing CVDs in the next 10 years.¹⁴ The most cost-effective methods of reducing risk among an entire population are population-wide interventions, combining effective policies and broad health promotion policies affecting reduction of salt intake, increasing physical activity

¹¹ Reddy KS, Yusuf S. Emerging epidemic of cardiovascular disease in developing countries. *Circulation* 1998;97:596-601.

¹² Cooper RS, Rotimi CN, Kaufman JS, Muna WFT, Mensah GA. Hypertension treatment and control in sub-Saharan Africa: the epidemiologic basis for policy. *BMJ* 1998;16: 614-617.

¹³ World Health Organization. STEPS country reports. <http://www.who.int/chp/steps/reports/en/> (accessed August 10, 2010).

¹⁴ Alberts M, Urdal P, Steyn K, Stensvold I, Tverdal A, Nel JH et al. Prevalence of cardiovascular diseases and associated risk factors in a rural black population of South Africa. *Eur J Cardiovasc Prev Rehabil* 2005;12: 347-354.

and healthy diet. In addition, individual-centred approaches, such as WHO-PEN¹⁵ have been shown to be effective in CVD control.

Diabetes Mellitus

18. Over the past few decades, Diabetes mellitus has emerged as an important NCD in sub-Saharan Africa.^{16;17} The WHO estimates that more than 180 million people worldwide have diabetes.¹⁸ In 2000, the prevalence of diabetes in the WHO African Region was estimated at 7.02 million people, out of which about 0.702 million (10%) had type 1 diabetes and 6.318 million (90%) had type 2 diabetes.¹⁹ In 2010, mortality attributable to diabetes in sub-Saharan Africa was estimated at 6% of total mortality. The STEPS survey undertaken in many African countries reported diabetes prevalence based on fasting blood glucose concentration, which varies widely from one country to another, ranging from 3 to 15%.²⁰ The islands of Seychelles and Mauritius have some of the highest rates of diabetes in the Region. According to the International Diabetes Federation (IDF) the number of diabetes cases for sub-Saharan Africa will increase by 98%, from 10.2 million in 2010 to about 19 millions in 2030.
19. The absolute and relative mortality rates from diabetes are highest in the 20–39 year age-group—i.e. the most economically productive population. Owing to misconceptions indicated by popular health beliefs, many people in Africa fail to take appropriate measures for the prevention and control of diabetes and its related risk factors²¹. Obesity, a major risk factor for type 2 diabetes, is still perceived as a sign of good living as it confers respect and influence. Persistent poverty and deprivation in much of sub-Saharan Africa means that social and other determinants fuelling lifestyle risk factors of diabetes are unlikely to decrease significantly unless socio-culturally appropriate health promotion campaigns and other measures to counteract them are implemented.
20. In contrast to previous beliefs, diabetes is common in sub-Saharan Africa although rates of less than 3% have been recorded. In rural and urban communities in west, east and South Africa, frequencies of 3–10% are noted. In most African countries, the patient has to pay for all parts of diabetes care since health-care systems are state-funded and priority is given to communicable diseases. Thus, when an individual with diabetes cannot afford the cost of drugs, the situation could be fatal.²² There is a critical need for better coordination of efforts on diabetes across the African Region by supporting the development of comprehensive and integrated national NCDs plans including diabetes and collaboration amongst all stakeholders in order to build on existing accomplishments and avoid duplication of efforts.

¹⁵ WHO-PEN: [Protocols for health promotion, prevention and management of NCDs at primary care level](http://www.afro.who.int/en/.../2257-who-pen-protocols.html). <http://www.afro.who.int/en/.../2257-who-pen-protocols.html>.

¹⁶ Motala AA, Omar MAK, Pirie FJ. Epidemiology of diabetes in Africa. In: Ekoe J-M, Rewers M, Williams R, Zimmet P, eds. *The epidemiology of diabetes mellitus (2nd edn)*. Chichester: Wiley, 2008: 133–146.

¹⁷ Levitt NS. Diabetes in Africa: epidemiology, management and health care challenges. *Heart* 2008; 4: 1376–1382.

¹⁸ World Health Organization. Diabetes programme. Geneva: WHO; 2008

http://www.who.int/diabetes/facts/world_figures/en/index2.html

¹⁹ Roglic G, Unwin N, Bennett PH, Mathers C, Tuomilehto J, Nag S, Connolly V, King H: The burden of mortality attributable to diabetes: realistic estimates for the year 2000. *Diabetes Care* 2005, **28**(9): 2130–2135.

²⁰ Mendis S, Abegunde D, Oladapo O, Celletti F, Nordet P. Barriers to management of cardiovascular risk in a low-resource setting using hypertension as an entry point. *J Hypertens*. 2004; 22:59–64.

²¹ Awah PK, Kengne AP, Fezeu LL, Mbanya JC. Perceived risk factors of cardiovascular diseases and diabetes in Cameroon. *Health Educ Res* 2007; **25**: 23–29.

²² Beran D, Yudkin JS. Diabetes care in sub-Saharan Africa. *Lancet* 2006; **368**: 1689–1695.

Haemoglobinopathies

21. Haemoglobinopathies, such as thalassaemia and sickle-cell disease (SCD), and glucose 6 phosphate dehydrogenase deficiency are common diseases in African countries, largely due to persistence of consanguinity, an acceptable cultural practice.
22. SCD is one of the major genetic diseases in most countries in sub-Saharan Africa, and has recently been recognized as a public health problem (AU²³, WHO²⁴ and UN²⁵ resolutions). Its prevalence depends on that of Sickle Cell Trait (SCT) and where the prevalence of SCT is higher than 20%, at least 2% of newborn will be affected.²⁶ In many countries in west and central Africa the prevalence of SCT varies between 20 and 30%, reaching 45% in some secluded areas of Uganda.²⁷ Population-based data on SCD in Africa is lacking as most studies are hospital-based. National policy and approaches to the management of SCD are scarce, and where control programmes exist they have neither a national coverage nor the basic facilities to manage patients.

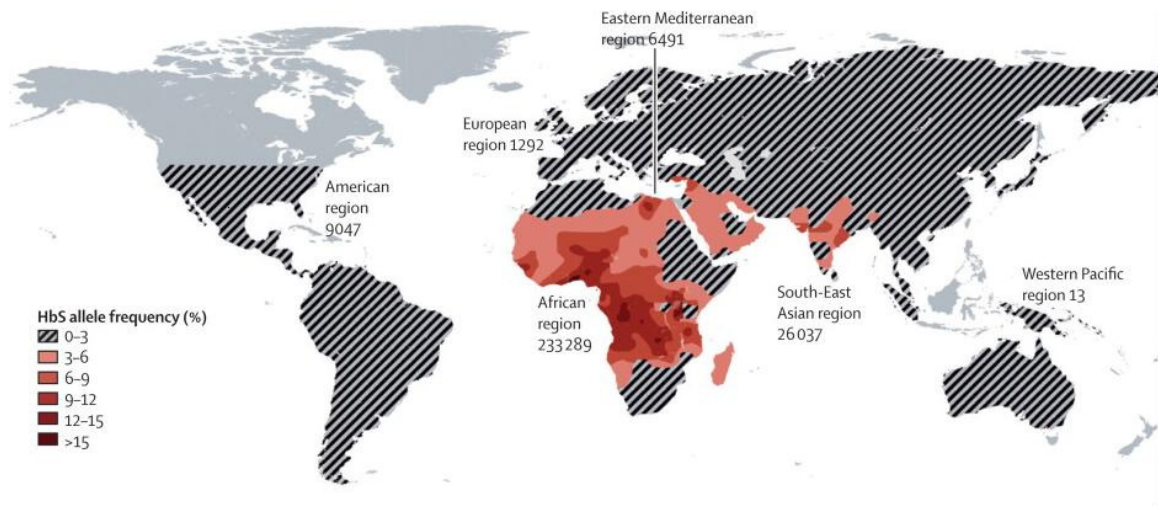


Figure 4. Global distributions of HbS; This map shows the distribution of the HbS allele. The figures indicate estimates for the combined yearly total number of individuals affected by HbSS, HbSC, and HbS/β-thalassaemia by WHO region. Seminar - Sickle cell disease. David C Rees, Thomas N Williams, Mark T Gladwin. *Lancet* 2010; 376: 2018–31

23. Systematic screening for SCD is not commonly practiced and diagnosis is usually made when severe complications occur. Presently, even in countries where stem cell transplantation can be contemplated, there are no widely acceptable public health interventions for the clinical cure of SCD. Most of SCD manifestations are however readily amenable to treatment using available interventions. However the majority of patients, specifically vulnerable groups,

²³ African Union. Documents Assembly/AU/Dec. 73–90 (V), Assembly/AU/Decl. 1–3 (V) and Assembly/AU/Resolution 1 (V), 2005; WHO. Sickle-cell anaemia, Geneva, World Health Organization, 2006 (Resolution EB117.R3/2006); WHO. Sickle-cell anaemia. Geneva, World Health Organization, 2006 (Resolution WHA/59R20.9)

²⁴ WHO. Sickle-cell disease: a strategy for the WHO African Region. AFR/RC60/8. World Health Organization. Regional Office for Africa, 2010.

²⁵ UN General Assembly. Recognition of sickle-cell anaemia as a public health problem, 2008 (A/RES/63/237).

²⁶ Cook GC, Zumla AI (eds), *Manson's tropical diseases*, 21st edition, London, WL Saunders, 2003.

²⁷ Dennis-Antwi JA, Dyson S, Ohene-Frempong K. Healthcare provision for sickle cell disease: challenges for the African context. *Diversity in Health and Social Care*. 2008; 5: 241-254.

including children under-five years, adolescents and pregnant women, do not benefit from these interventions.

24. In addition, laboratory facilities for accurate diagnosis are limited. Adequately trained health professionals are few, specialized health care facilities are insufficient and effective drugs, vaccines and safe transfusion are usually unavailable. Consequently, the majority of patients with SCD die before the age of five years; and survivors suffer end-organ damage which shortens their life-span. Thus, to improve management of SCD there is a crucial need for early case identification and implementation of comprehensive health care management (CHCM). It is also important to note that SCD, being a multisystem disease, contributes to other NCDs i.e. blindness, stroke, deafness, etc.
25. Despite logistic and economic constraints, neonatal SCD screening together with CHCM has been successfully practiced in some parts of Africa.^{28;29} For example in Benin the under-five mortality rate of SCD is ten times lower than the overall local under-five mortality rate.^{30;31} These findings are consistent with those from developed countries, demonstrating the benefit of newborn screening and the close follow up of children using the CHCM. In addition, screening at birth offers information for policy makers to adapt and plan health provision costs and genetic counselling for those with the trait in later life. Strategies for SCD control in the African Region evolves around primary health care approaches and using health promotion to ensure policy development and implementation, legislation and regulations, expanding primary and secondary prevention.

Other Noncommunicable conditions

Mental and neurological conditions

26. Mental and neurological disorders or conditions remain a major challenge to public health in the region and is one of the contributors to NCDs burden and vice-versa. They are prevalent in all countries of the region and they contribute to morbidity and premature mortality. In our Region, the population is beset by numerous mental and neurological disorders that are a major cause of disability. It has been estimate that over 12.5% of the global burden of disease is caused by mental and neurological disorders.³²
27. In the African Region, 3.4% of the burden of disease is considered to be attributable to mental and neurological disorders (figure 5). Moreover, it is estimated that about 80% of those suffering from these disorders don't receive any kind of treatment³³. In addition to the disability caused by these disorders, the problem is made worse by the social handicap brought about by the stigma. Some mental disorders such as: major depression or unipolar disorder, alcohol disorders, post traumatic stress disorder and epilepsy are closely linked to NCDs.

²⁸ Tshilolo L, Aissi LM, Lukusa D, Kinsiam C, Wembonyama S, Gulbis B, Vertongen F. Neonatal screening for sickle cell anaemia in the Democratic Republic of Congo: experience from a pioneer project on 31204 newborns. *J. Clin. Pathol.* 2009; 62; 35-38.

²⁹ Rahimy MC, Gangbo A, Ahouignan G, Adjou R, Deguenon C, Goussanou S, Alihonou E. Effect of a Comprehensive Clinical Care Program on Disease Course in Severely III Children with Sickle Cell Anemia in a Sub-Sahara Africa Setting. *Blood.* 2003 Aug 1;102(3):834-838.

³⁰ Rahimy MC, Gangbo A, Adjou R, Deguenon C, Goussanou S, Alihonou E. Effect of Active Prenatal Management on Pregnancy Outcome in Sickle Cell Disease in an Africa setting. *Blood* 2000; 96 :1685-1689.

³¹ Rahimy MC, Gangbo A, Ahouignan G, Alihonou E. Newborn screening for sickle cell disease in the Republic of Benin. *J Clin Pathol.* 2009 Jan; 62(1):46-48.

³² WHO. Regional strategy for mental health 2000-2010. World Health Organization. Regional Office for Africa, 2000.

³³ WHO. mhGAP roundtable report, Abuja October 2009. To be published.

28. Major depression occurs in about 1.2% of the population with attendant risks of suicide. It is often not properly diagnosed by primary health care workers and is therefore not treated appropriately in most cases. Major depression is projected to increase by 5 fold by 2021 if appropriate measures are not put in place³⁴. The global prevalence of epilepsy is estimated to be between 0.5-1.0percent (about 50 million people) but according to reports from some African countries, the rate could be much higher³⁵.

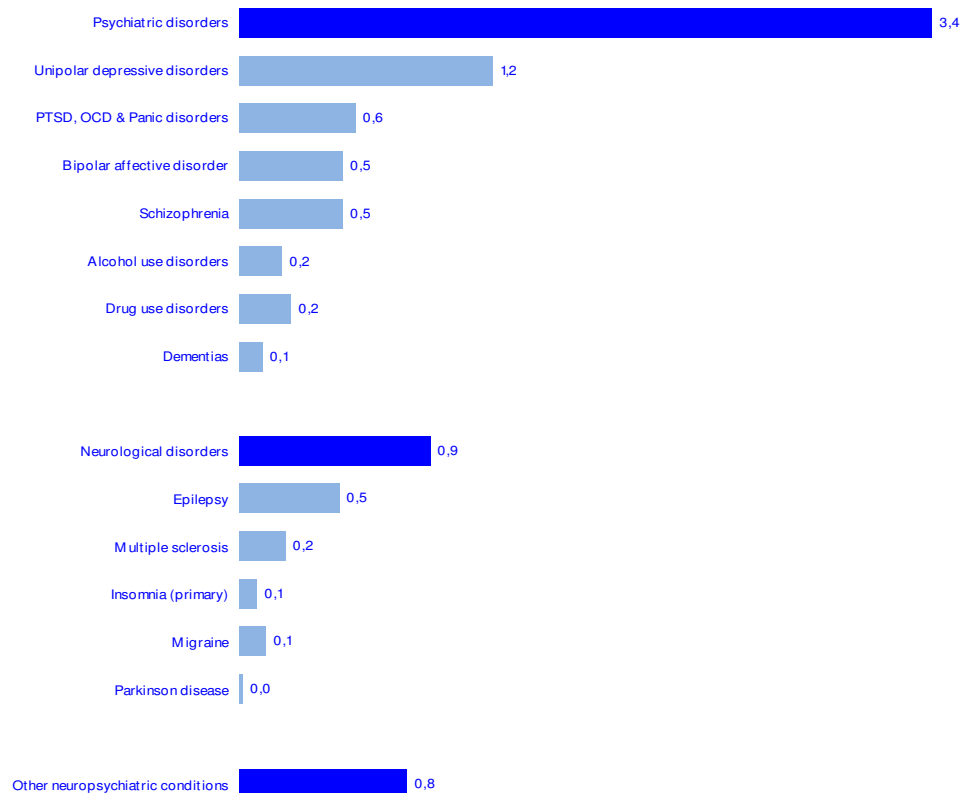


Figure 5. Distribution of causes of neuropsychiatric burden of diseases (% of total DALYs) in the African Region, 2004³⁶.

29. The interactions between mental disorders and other health conditions are widespread and complex. Mental disorders, including alcohol and drug dependence are risk factors for the development of communicable and non-communicable diseases, and contribute to accidental and non-accidental injuries. They are also associated with risk factors for chronic diseases such as smoking, reduced activity, poor diet, obesity, and hypertension.
30. On the other hand, many health conditions increase the risk for mental disorder through direct impact on the brain such as malaria, HIV, tuberculosis, cortical strokes and diabetes or through psychological impact arising from factors such as the acute trauma of the diagnosis; the difficulty of living with the illness; the long-term threat of decline and shortened life expectancy, or lengthen episodes of mental illness.
31. Stressful life experiences such as exposure to violence and poor physical health are also recognized risk factors for mental disorders and common situations in many countries in the

³⁴ WHO. World Health report 2001: Mental health: new understanding, new hope. World health Organization, 2001.

³⁵ WHO. Regional Strategy for mental health. 2000-2010 World Health Organization. Regional Office for Africa, 2000.

³⁶ WHO. Health Situation in the African Region: Atlas of Health Statistics. World Health Organization. Regional Office for Africa, 2011

Region. Affected by highly disabling conditions such as depression, neurological and substance abuse disorders, which are associated with stigma, discrimination and human rights violation, and impoverished because of both increased costs of health care and lost employment opportunities, poor people bear a disproportionate burden of suffering and see themselves helpless to work more productively and thus gather the conditions necessary to rise out of poverty.

32. Although not captured in the MDGs, mental health is strongly associated with poverty, social exclusion, unemployment and violence; hence the contribution of mental health to the development cannot be ignored.

Violence and injuries

33. Injuries, whether unintentional or intentional, are major public health problems in the region. Unintentional injuries comprise road traffic injuries, burns, falls, drowning and poisonings. Intentional injuries, or violence, comprise three major groups; interpersonal violence, collective violence and self-directed violence.
34. In 2004, over 5.7 million people worldwide lost their lives due to injury.³⁷ Of these 769,000(13.3%) were from the African Region. The main causes of death from unintentional injuries are road traffic injuries (23%), falls (8%), drowning (7%), fires (6%) and poisoning (6%). The major causes of death from violence are suicide (15%), homicide (11%) and war (3%).
35. The African Region is particularly affected by road traffic injuries and violence. The region has one of the highest rates of road traffic deaths globally at 32.2 deaths per 100,000 populations (world average 18.8)³⁸. The region contributed 20% of the global deaths while possessing only 2% of the world's registered vehicles. Road traffic injuries are the fourth leading cause of death in people aged 15-44 years. In 2004 violence was responsible for 35.5% of all injury deaths in Africa, and at a rate of 37 deaths per 100,000 populations it was considerably higher than the global average of 25 deaths per 100,000 population.³⁹
36. In addition to the deaths, non-fatal outcomes have substantial impacts which include trauma and disability. In the African Region, 10% of the population (81.2 million people) is affected by some form of disability. There are severe social, developmental and economic consequences. In 2004, road traffic injuries and interpersonal violence were the 11th and 12th leading causes of morbidity (3.4% of total DALYs).
37. Of particular concern is the issue of child injuries. Worldwide, injuries are a leading cause of death and disability among children, accounting for over 950,000 deaths with unintentional injuries accounting for over 90%.⁴⁰ In the African Region they caused 212000deaths (21.2%). Road traffic injuries alone are the leading cause of death among 15 to 19 year olds. In addition to these deaths, tens of millions of children suffer non-fatal injuries, many left with some form of disability, often with lifelong consequences. In some countries the proportion of deaths due to injuries among children aged 1-4 years old is significant enough that attaining the MDG 4 will require addressing child injury.

³⁷ Global Burden of Disease, 2004 update. Geneva, World Health Organization, 2008.

³⁸ Status Report on Road Safety in Countries of the WHO African Region, Brazzaville, WHO Regional Office for Africa, 2010.

³⁹ Kobusingye O et al, eds. Violence and Health in the WHO African Region, Brazzaville, WHO Regional Office for Africa, 2010.

⁴⁰ Peden M et al, eds. World Report on Child Injury Prevention,. Geneva, World Health Organization. and New York, United Nations Children's Fund, 2008.

38. Deaths due to injuries are projected to rise in rank by the year 2030. In 2004, road traffic injuries, suicide and homicide were the 9th, 16th and 22nd leading causes of deaths respectively. By 2030 they would have risen in rank to 5th, 12th and 16th, respectively.
39. The economic costs of injuries are considerable. They impose heavy costs on individuals and society. There are few global estimates of the costs of injuries but the costs of road traffic crashes globally are estimated at USD 518 billion. Road traffic crashes cost most countries between 1-2% of GNP³⁸.
40. Violence, particularly child maltreatment, intimate partner and sexual violence and mental disorders in general have been shown to have a range of other health consequences⁴¹. Abuse and other violent events in childhood have been associated with increased risk of alcoholism, drug abuse, depression, suicide attempts, smoking exposure to sexually transmitted infections including HIV/AIDS and unwanted pregnancies, physical inactivity and severe obesity. They also increase the likelihood of engaging in risky behavior such as smoking and harmful use of alcohol and drugs. Through these behaviors they can lead to cancers, cardiovascular diseases, diabetes, liver diseases and other chronic disorders. Because some of the ill health resulting from violence occurs years or decades later, it is often difficult to trace its roots. Injuries and violence can be prevented. Many evidence-based, multisectoral interventions for the prevention and control of injuries and violence exist.

Oral diseases

41. Dental caries and periodontal diseases affect the vast majority of people across all socioeconomic contexts, resulting in oro-facial infections and tooth loss when inadequately treated⁴². Increasing incidence rates of caries in Africa are attributable to widespread adoption of sugar-rich diets and inadequate exposure to fluorides. Tooth decay is of particular concern in resource poor situations because of its negative impact on childhood nutrition, growth and weight gain⁴³.
42. Oral chronic diseases share the same risk factors and determinants with major NCDs. It is clear that a successful approach to oral health needs to take into account these circumstances effectively focusing on the common risk factors of other NCDs and ensure equitable and universal access to affordable and appropriate primary oral health care. In 2007, the World Health Assembly (WHA60.17) agreed on an action plan for oral health and integrated disease prevention in which effective use of fluoride, promotion of a healthy diet and organization of appropriate oral health services are among the priority orientations.

Eye diseases

43. Significant shifts in the pattern of causes of blindness have been documented, with a declining trend for the communicable causes and a progressive increase in age-related chronic eye conditions. In Sub-Saharan Africa, there are approximately 5.9 million people with blindness and 26.3 million people with visual impairment. The causes of avoidable blindness are primarily, cataract, glaucoma, diabetic retinopathy, corneal opacities, trachoma, childhood blindness and onchocerciasis. Refractive errors affect a significant proportion of the population. Blindness has profound human and socioeconomic consequences in all societies. The cost of

⁴¹ Global burden of disease update 2004, WHO 2008

⁴² Kwan S, Petersen PE. Oral health: equity and social determinants. From: *Equity, social determinants and public health programmes*. Editors Blas E, Kurup AS. WHO 2010.

⁴³ Sabbah W, Tsakos T, Sheiham A, Watt R. The role of health-related behaviors in the socioeconomic disparities in oral health. *Social Science & Medicine*. 68 (2009) 298–303.

lost productivity and of rehabilitation and education of the blind constitute a significant economic burden for the individual, the family and society.

44. More than 82% of all blind people worldwide are 50 years of age or older. Although the prevalence of blindness among children is about 10 times lower than that among adults, childhood blindness remains a high priority because of the expected number of years to be lived with the condition. Studies indicate also that females of all ages have a significantly higher risk for being visually impaired than males.
45. Blindness prevention needs to be a part of an eye health comprehensive approach that includes promotive, preventive, curative and rehabilitative eye care services. Unfortunately focusing on blindness, namely cataract, has prevented early detection and interventions for other blinding conditions/causes such as congenital cataract glaucoma and has left out promotion and preventive activities.

III. Risk factors and the key determinants

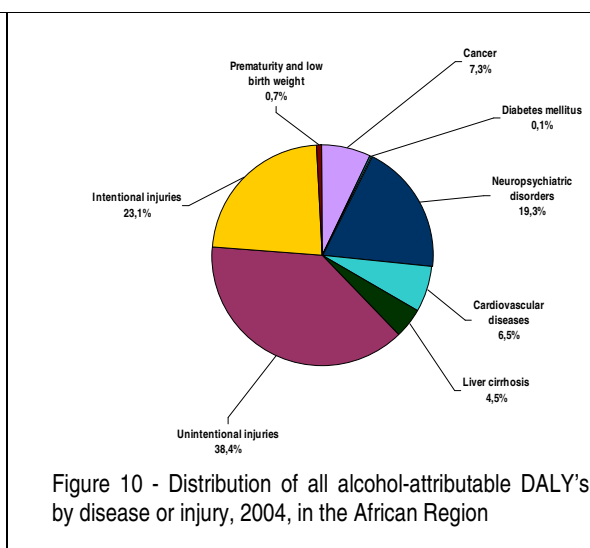
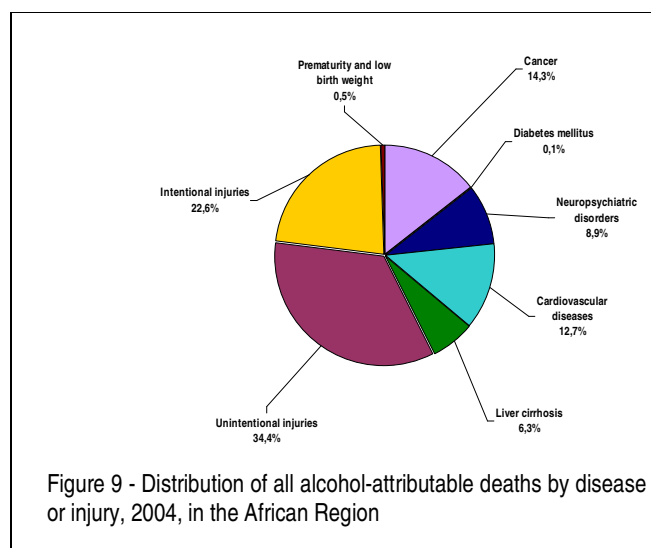
46. Health gains can be achieved much more readily by tackling the social and environmental determinants of NCDs than by making changes in health policy alone. Policy decisions of sectors like agriculture, trade, finance, taxation, food production, pharmaceutical production, industry, education, transportation and urban development can have a major influence on the population levels of risk factors like tobacco use, unhealthy diet, physical inactivity, overweight and obesity and the harmful use of alcohol. Therefore, gains can be achieved much more readily by influencing public policies in these sectors than by making changes in health policy alone.
47. Strategies for reducing risk factors for NCDs aim at providing and encouraging healthy choices for all. They include multisectoral policies and plans, as well as programmes related to surveillance, advocacy, legislations, environmental interventions, health-system strengthening, and community mobilization. As the underlying determinants of NCDs lie outside the health sector, strategies need the involvement of both public and private actors in multiple sectors. Different settings may be considered for action, for example, schools, workplaces, households and local communities.
48. The universality of a social gradient in health and health behaviours suggests that incidence of NCDs are a combination of lifestyle choices and socio-environmental influences. A number of NCDs share multiple risk factors. The adoption of a preventive and collaborative approach is therefore more rational and effective than one that is curative only and disease specific. In addition to these modifiable risk factors; other factors such as age and heredity have a bearing on occurrence of diseases such as SCD.

Risk factors

Alcohol

49. Alcohol consumption remains one of the key preventable risk factors for major NCDs. Data from an unpublished WHO report indicate that the overall adult per capita consumption of both recorded (taxed) and unrecorded alcohol in the WHO Africa region in 2004 was estimated to be 6.2 litres of pure alcohol with considerable variation between countries and regions⁴⁴.

50. This value corresponded almost exactly to the average global level (6.13 litres) but with seven out of ten adults in the region abstaining from alcohol this means that those who do drink do so at a markedly higher level, thus, greatly increasing the risk of harm and premature death. The main causes of death attributable to alcohol in Africa are injuries (especially for men), cancer and CVDs (especially for women)⁴⁴.



51. Heavy episodic drinking is one of the most important indicators for acute consequences of alcohol use, such as injuries. According to the Global Status Report on Alcohol and Health the African region presents the highest prevalence of heavy episodic drinking. About 25.1% of those who drink have weekly heavy episodic drinking occasions⁴⁵. This means that effective prevention strategy in the Region need to target both levels and patterns of alcohol consumption; therefore bringing substantial public health benefits and reduces the burden of NCDs.
52. The WHO's CHOICE model⁴⁶ describes and summarizes cost-effectiveness analyses of different alcohol policies⁴⁷. Some of these policies are already being implemented by countries in the Region, but its generalization will come through the implementation of regional and global strategies. Figure 11 below shows the cost per DALY gained (vertical axis) for ten different policy options⁴⁸ for the group of AFRO (E) countries.⁴⁹
53. It demonstrates that the most cost-effective policy options are increased taxation and increasing the coverage of taxed alcohol⁵⁰, Reducing access to retail outlets and banning the

⁴⁴ WHO. Alcohol, health and policy responses in the African Region: status report. WHO Regional Office for Africa. To be published.

⁴⁵ WHO. Global Status Report on Alcohol and Health. World Health Organization 2011.

⁴⁶ <http://www.who.int/choice/sitemap/en/>

⁴⁷ These analyses calculate the cost in international dollars (I\$) of implementing a range of alcohol policies, estimating their impact on reducing disability-adjusted life years (DALY). This makes it possible to calculate the cost of each intervention in I\$ per DALY gained.

⁴⁸ WHO Regional Office for Africa. Handbook for action to reduce harmful use of alcohol in the African Region. To be published.

⁴⁹ (Botswana, Burundi, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe)

⁵⁰ This can be done by bringing untaxed alcohol into the regulated tax system

advertising of alcohol are also highly cost-effective. Implementing brief advice programmes in primary care settings for hazardous and harmful alcohol consumption, although more expensive, at I\$822 per DALY gained, is still cost-effective, in particular when compared with other health care based interventions.

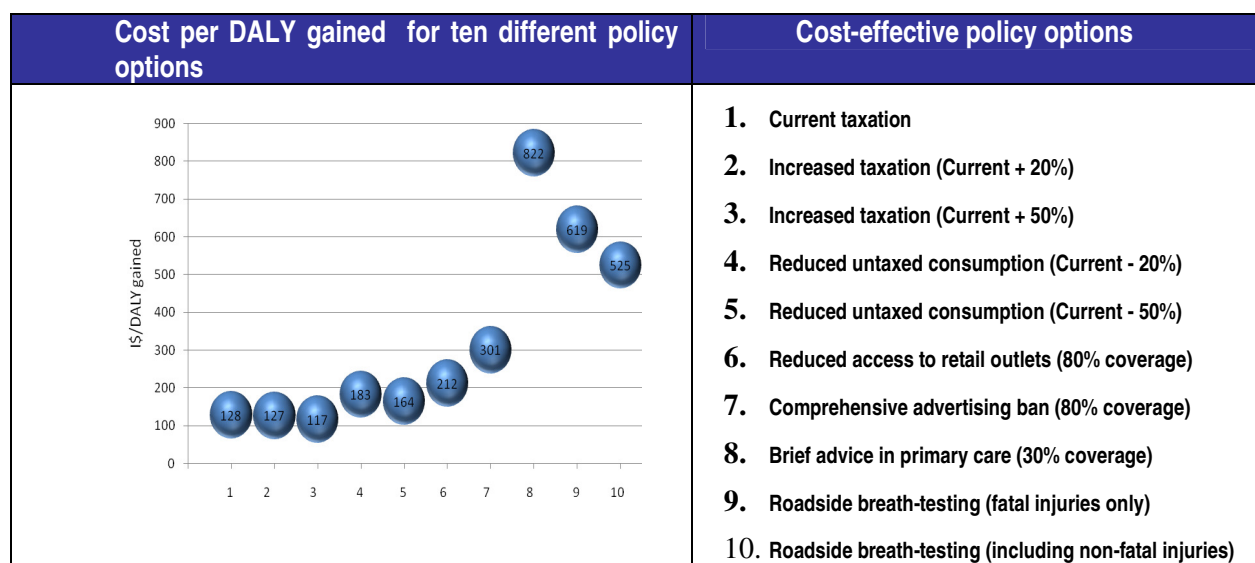


Figure 11: Cost per DALY gained (vertical axis) for ten different policy options in AFRO(E) countries

54. The adoption in 2010 of both the global strategy and the African strategy to reduce the harmful use of alcohol will allow countries individually and collectively to take more effective action to reduce the harmful use of alcohol and consequently prevent NCDs.
55. A recent survey conducted in the Region showed that only 10 countries had recent alcohol policies. As part of national efforts to address NCDs countries need to prioritize the implementation of both the global and regional strategies, endorsed in 2010. To support countries in the implementation of evidence-based policy options that have the potential to reduce the occurrence of heavy drinking episodes and the prevalence of alcohol use disorders that impact on NCDs (regulating the availability, price and marketing of alcohol and improving the capacity of health services to support initiatives for brief intervention to reduce hazardous and harmful drinking), several structures and mechanisms have been put in place at global and regional levels, such as the Regional Network of WHO national counterparts, task forces and working groups. At regional level, and as requested in the Resolution AFR/RC60/R2, an action plan is being developed in consultation with Member States. A consultation with stakeholders on their role in the implementation of the regional strategy is planned.

Tobacco use

56. Tobacco use is the leading preventable cause of death. Increasing levels of tobacco use in middle- and low-income countries contribute to increased deaths from cardiovascular and lung diseases, as well as cancers. Every year, about 6 million people die from a tobacco-related disease such as ischemic heart disease (heart attack), cerebrovascular disease (stroke), cancer and lung ailments (e.g. chronic obstructive pulmonary disease, pneumonia)⁵¹. The

⁵¹ WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

annual death toll from the epidemic of tobacco use could rise to 8 million by 2030 at which point tobacco-attributable deaths will represent almost 10% of all deaths globally⁵². Unfortunately, tobacco users who die prematurely deprive their families of income, raise the cost of health care and hinder economic development.

57. There are more than 4000 chemicals in tobacco smoke, of which at least 250 are known to be harmful and more than 50 are known to cause cancer⁵³. In adults, second-hand smoke causes serious cardiovascular and respiratory diseases, including coronary heart disease and lung cancer. In infants, it also causes sudden death while in pregnant women, it causes low birth weight. Smokers are therefore not only putting themselves at risk, but also expose 1.8 billion non-smokers to similar risks⁵⁴. In 2004, 40% of children, 33% of male non-smokers and 35% of female non-smokers were exposed to second-hand smoke⁵⁵. In the African region, 44% of youth are exposed to second hand smoke in public places⁵⁶. This exposure led to over 600,000 deaths globally – more than a quarter of them being children⁵⁷.

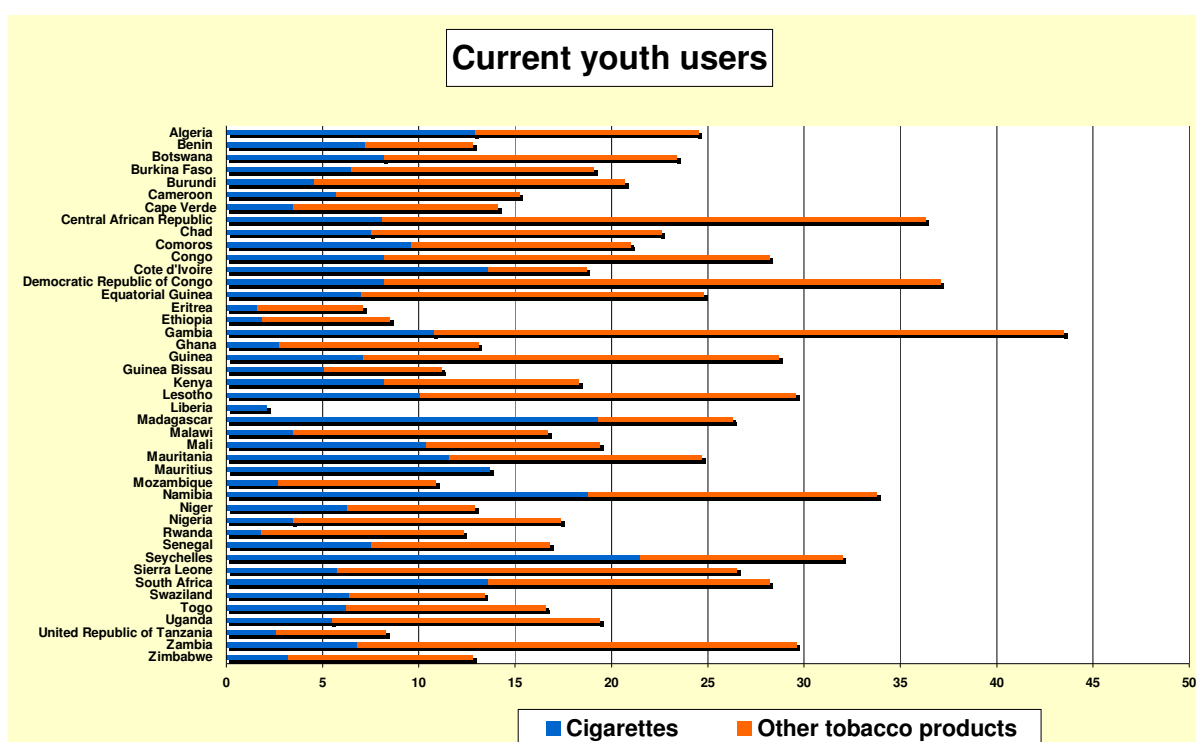


Figure 12: Trends on tobacco use among youth in the African region

58. Trends on tobacco use among youth in the African region have shown an increase of the prevalence especially of other tobacco products than cigarettes (Figure 12)⁵⁸. An increase of

⁵² WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

⁵³ WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

⁵⁴ WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

⁵⁵ WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

⁵⁶ <http://www.afro.who.int/en/clusters-a-programmes/hpr/health-risk-factors/tobacco/tobacco-country-profiles.html>

⁵⁷ WHO Report on the Global Tobacco Epidemic, 2009: Implementing smoke-free environments, Geneva, World Health Organization, 2009

⁵⁸ <http://www.afro.who.int/en/clusters-a-programmes/hpr/health-risk-factors/tobacco/tobacco-country-profiles.html>

tobacco use among girls has also been recorded (from 4.6% to 36.6%) to the extent that the rate of uptake of girls to smoking has become almost similar to that of boys⁵⁹. Despite this evidence, only about 56% of students reported being taught in school about the dangers of tobacco use⁶⁰.

59. As of February 2011, 41 countries in the WHO African Region have ratified the WHO Framework Convention on Tobacco Control (FCTC). Implementation of the WHO FCTC clearly demonstrates the political will for tackling the tobacco epidemic as well as the tobacco industry whose objectives hinder good public health. The WHO FCTC and its guidelines provide the foundation for countries to implement effective tobacco control policies and manage tobacco control programmes.
60. Countries in the African region are developing and enforcing tobacco control measures based on the WHO FCTC obligations such as ban on smoking in public places (23 out of 46 countries); bans on tobacco advertising, promotion and sponsorship (24 out of 46 countries); and health warnings on mandated areas of tobacco products packages (5 out of 46 countries)⁶¹.
61. This is progress but a lot still needs to be done. It is also important to note that raising tobacco taxes is also a most effective way to reduce tobacco use, especially among young and poor people. A tax increase that raises tobacco retail prices by 10% decreases tobacco consumption by up to 8% in LMIC⁶². This strategy needs to be utilized by more countries in the African region.

Unhealthy diet and physical inactivity

62. Unhealthy diet and lack of physical activity, along with tobacco use and harmful use of alcohol are the main risk factors for chronic NCDs. These factors lead singly or in combination, along with some other factors, to conditions of overweight and obesity, raised blood pressure, raised glucose and raised cholesterol levels and chronic respiratory conditions which eventually lead to a number of NCDs.
63. Over the past few decades there has been a significant change in the diet and lifestyle in the population. This change has influenced the type and amount of food that is consumed and the amount of physical activity that is done. This change has been triggered by factors related to urbanization, globalization and changes in other areas such as transportation, in the home and in the workplace. Many individuals are now consuming excessive amounts of calorie dense (usually nutritionally poor) foods and doing very little leisure physical activity. This partially explains the increasing occurrence of overweight and obesity in all sections of the population with significantly higher levels among women. This situation exists along with persisting malnutrition especially among children⁶³. Early childhood undernutrition may increase the risk of NCDs in adulthood, especially when the undernourished individuals later adopt lifestyles with high consumption of sugars and fats and reduced physical activity.
64. In 2005, according to WHO estimates, more than one billion people worldwide were overweight (BMI >25) and more than 300 million were obese (BMI>30). It is being increasingly documented that mean body mass index, overweight and obesity are increasing worldwide due

⁵⁹ <http://www.afro.who.int/en/clusters-a-programmes/hpr/health-risk-factors/tobacco/tobacco-country-profiles.html>

⁶⁰ <http://www.afro.who.int/en/clusters-a-programmes/hpr/health-risk-factors/tobacco/tobacco-country-profiles.html>

⁶¹ Parties' reports on WHO FCTC implementation: http://www.who.int/fctc/reporting/party_report/en/

⁶² WHO technical manual on tax administration, Geneva, World health organization, 2010

⁶³ Global health risks: mortality and burden of disease attributable to selected major risks. Geneva, World Health Organization, 2009.

to changes in diet and level of physical activity. Individuals of all ages and all over the world are affected or are at risk of this condition which is responsible for 5% of deaths in the world⁶⁴. In several countries in the Africa Region overweight and obesity have reached epidemic proportions (Figure 13) and levels above 30-50 % are being documented in adults with higher rates seen among women.

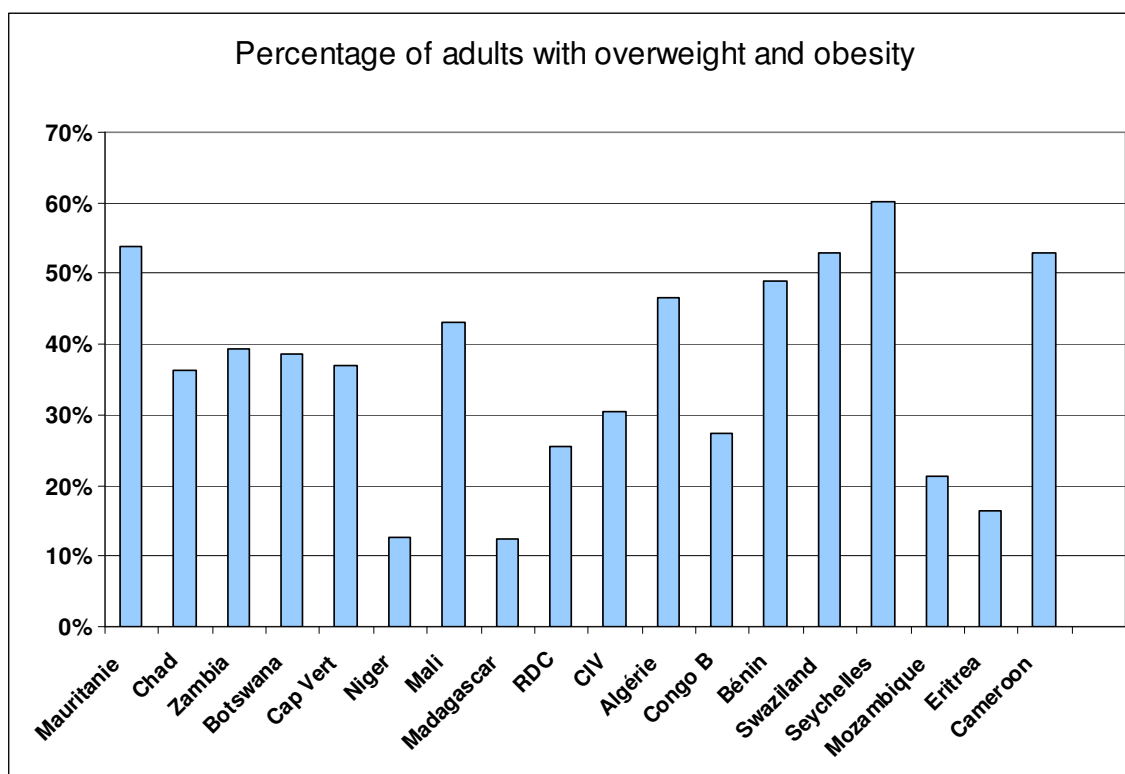


Figure 13: Overweight and Obesity - AFRO STEPS Database 2003-2009

65. At present, type 2 diabetes is one of the most common complications of obesity. Over 75% of risk of diabetes is attributable to obesity and three quarters of people with type 2 diabetes are obese⁶⁵. The risk of cardiovascular disease is also considerably greater among obese people, and this group has an incidence of hypertension that is five times the incidence among people of normal weight.
66. Low fruit and vegetable intake is an important cause of death especially in low and middle income countries. Insufficient intake of fruit and vegetables is estimated to cause around 14% of gastrointestinal cancer deaths, about 11% of ischemic heart disease deaths and about 9% of stroke deaths worldwide⁶⁶. Most of the benefit of consuming fruits and vegetables comes from reduction in cardiovascular disease, but fruits and vegetables also prevent a number of cancers. STEPS survey data show that in the African Region the intake of fruit and vegetable varies considerably among and within countries. It is however generally low and few individuals manage to take the daily recommended amount (five servings or 400 grammes). A number of

⁶⁴ *Global health risks: mortality and burden of disease attributable to selected major risks*. Geneva, World Health Organization, 2009.

⁶⁵ Parvez Hossain, M.D., Bisher Kavar, M.D., and Meguid El Nahas, M.D., Ph.D.: The New England Journal of Medicine: Obesity and Diabetes in the Developing World — A Growing Challenge, N Engl J Med 2007; 356:213-215, January 18, 2007 <http://www.nejm.org/>

⁶⁶ *Global health risks: mortality and burden of disease attributable to selected major risks*. Geneva, World Health Organization, 2009.

factors related to economic, cultural and agricultural environments influence the amount of fruits and vegetables consumed.

67. It has been demonstrated that participation in regular physical activity reduces the risk of coronary heart disease and stroke, type 2 diabetes, hypertension, colon cancer, breast cancer and depression. Additionally, physical activity is a key determinant of energy expenditure, and thus is fundamental to energy balance and weight control. Lack of physical activity has been identified as the fourth leading risk factor for global mortality (6% of deaths globally) ⁶⁷. Physical inactivity is estimated to cause around 21-25% of breast and colon cancer burden, 27% of diabetes and around 30% of ischemic heart disease burden.
68. Levels of physical inactivity are moderately high and probably rising in many countries of the Region according to STEPS survey data. These have major implications for the general health of people and for the prevalence of NCDs such as cardiovascular disease, diabetes and cancer and conditions such as raised blood pressure, raised blood sugar and overweight. Most of the physical activity in the population of the Region is associated with occupational activities especially in the rural setting and physical activity level is generally lower among women in the urban setting. Target of physical activity that gives health benefits is the equivalent of 2.5 hours per week of moderate-intensity activity or 1 hour per week of vigorous activity – approximately equivalent to 600 MET⁶⁸ are considered an important target for population health benefits, the protective effects are expected to continue at higher levels¹.

Key determinants of health

69. In 2005, the World Health Organization (WHO) established the Commission on Social Determinants of Health (CSDH) to support tackling the social causes of poor health and avoidable health inequalities. The Commission was set up to gather the evidence on what can be done to promote health equity and to gain support from policy makers, civil society researchers and communities through action on social and economic determinants.
70. Social and economic determinants of health are the conditions in which people are born, grow, live, work and age⁶⁹. Evidence has shown that health disparities exist within and between countries and population groups as well as between geographical locations within a country.
71. The key determinants of health are rooted in political, economic, social and environmental contexts and often do not fall under the control of the health sector. The major external drivers are both structural and intermediary in nature and these include globalization, education, trade, employment and work conditions, urbanization, civil conflicts, health systems, social policies and services. These have a direct impact on health outcomes through influence on social, cultural and behavioral practices such as food consumption, use of tobacco, alcohol and drugs, physical inactivity, violence, unsafe sex and health seeking or risk-taking behavior.
72. These socioeconomic factors including physical and cultural environments require multi-disciplinary and multi-sectoral actions to reduce the equity gap through action on the key social and economic determinants of health⁴⁵.

⁶⁷ Global health risks: mortality and burden of disease attributable to selected major risks. Geneva, World Health Organization, 2009.

⁶⁸ MET is, energy expenditure measured in units of resting energy expenditure minutes per week

⁶⁹ CSDH (2008). Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social and Economic Determinants of Health, Geneva. World Health Organization. The report can be accessed here http://www.who.int/social_determinants/en/ (accessed on March 2011).

73. The sixty-second World Health Assembly adopted a resolution calling for the reduction of health inequities through action on the social determinants of health (Resolution WHA62.14). Similar calls have been made in the World Health Report 2008, the Algiers Declaration, the Libreville Declaration (2008), the Ouagadougou Declaration (2008) and the Nairobi Call to Action (2009). The Regional Committee of African Ministers of Health adopted the Regional Strategy for addressing the key Determinants of Health in the African Region⁷⁰ and adopted a resolution urging Member States to document the current situation with respect to the impact of key determinants of health and their relationship to health status⁷¹ e.g., MDGs, HIV and AIDS, Malaria, NCDs and other priority public health conditions.
74. According to the report on health inequalities in the WHO African Region⁷², the African Region shows widespread health disparities in various health outcome measures such as infant and child mortality, maternal mortality and stunting and in access to health services indicators. There are wide inequities, within and between countries, in health services coverage, safe water supply and sanitation, and health outcomes. The health system, itself a determinant of health, has not been adequately prepared to address the “causes of the causes” as regards the major communicable diseases, maternal and child health problems and the increasing prevalence of chronic and non-communicable diseases (NCDs).
75. Reducing the social disparities in health (i.e., health differences occasioned by social and economic factors such as education and income) will require strategies that address their root causes of the causes of ill-health, disability and premature deaths. The prevalence of health-related behaviors known to be strong risk factors for morbidity and premature mortality, such as smoking, diet, exercise, and alcohol and drug use, vary across different social groups. Although these behaviors reflect choices made by individuals, they are created and influenced by factors outside the control of individuals, families and community in general.
76. The strategies to reduce the prevalence of NCDs must therefore address the social gradient in health – by addressing the underlying factors that cause those gradients. On the other hand, strategies to reduce social inequalities in health must also address NCDs particularly among vulnerable groups. Social policies in sectors other than health should have a major bearing on both risk factors for NCDs and the determinants. Efforts to prevent and control NCDs should be based on integrating health in all policies e. g., international trade agreements as well as in marketing policies should seek to promote and protect health.
77. Measures to tackle NCDs should therefore address both the health behaviors and the determinants likely to influence health outcomes. Attention should be paid on developing and implementing social policies combined with community based interventions that seek to reach vulnerable population groups in various settings.

Benefits and Co-benefits of NCDs risk reduction

78. A group of four diseases and their risk factors account for a majority of the preventable diseases and death in the WHO African Region. These diseases share risk factors with others

⁷⁰ WHO, (2010a) A strategy for addressing the key determinants of health in the African Region. AFR/RC60/3 . Brazzaville: Health Promotion Cluster.

http://www.afro.who.int/index.php?option=com_docman&task=doc_download&gid=5621 – accessed 24 March 2011.

⁷¹ WHO, (2010b) A strategy for addressing the key determinants of health in the African Region. AFR/RC60/R1. Brazzaville: Health Promotion Cluster.

http://www.afro.who.int/index.php?option=com_docman&task=doc_download&gid=5726 – accessed March 24, 2011.

⁷² WHO, (2010c), Health Inequities in the African Region of the World Health Organization: magnitudes, trends and sources. World Health Organization, Regional Office for Africa, Brazzaville 2010.

NCDs and related conditions (such as oral diseases, eye diseases, sickle-cell diseases, mental disorders and injuries) where coordinated action can be synergistic.

79. The diagram on benefits and co-benefits of NCD risk reduction shows the evidence of the intimate connection between these non-communicable diseases and related conditions, their risk factors and social determinants. It also shows that the wider determinants of NCDs lie largely outside the control of the health sector alone and are for example, closely related to poverty. There is a need, therefore, to promote the adoption of approaches to the prevention and control of NCDs that involve all government departments at national levels. Health gains can be achieved much more readily by influencing public policies in sectors like trade, taxation, education, development and transport, agriculture and food, urban and pharmaceutical production than by making changes in health policy alone.
80. By taking a health-in-all-policies approach, a government can ensure that NCD risk factors and determinants are addressed by policy-makers and stakeholders with effective involvement of sectors outside health, costs and benefits can be shared across all sectors, and co-benefits can be achieved among sectors that otherwise may not have worked together.
81. Around CVDs, cancer, CRDs and diabetes and their risk factors, lies a cluster of related other non-communicable diseases. Among them are: mental health disorders, injuries, oral diseases, eye diseases and genetic disorders. Each of these conditions exerts a toll on global health, often not counted both in numbers of deaths, as well as in a considerable burden of years lived in disability.
- 82.

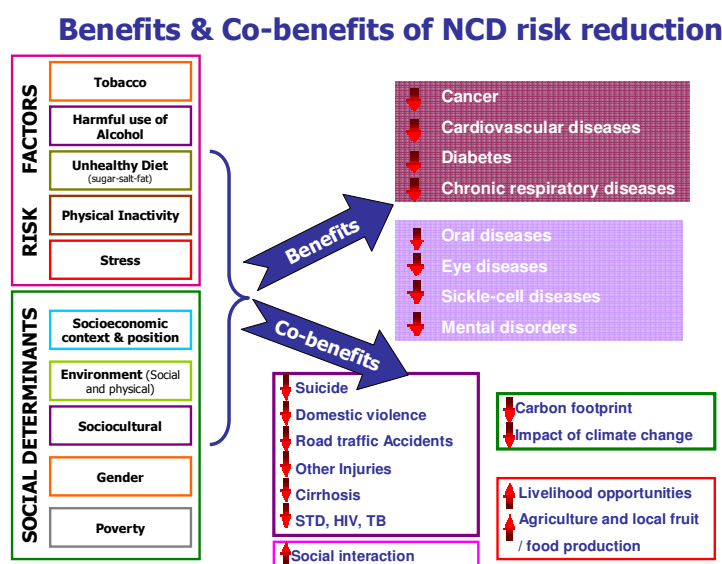


Figure 14: Benefits and co-benefits of NCDs risk reduction

83. Determinants confer significant and measurable benefits and co-benefits for the 4 major NCDs and the other noncommunicable conditions as well as for some more global development indicators.
84. The causes of main NCDs are well established and are well-known. The most important modifiable risk factors, together with stress, are tobacco use, the harmful use of alcohol,

unhealthy diet and physical inactivity. These risk factors, in conjunction with key determinants of health such as socioeconomic context and position, gender and poverty explain, together with other non-modifiable factors such as age and heredity, explain the majority of NCDs.

85. But because risk factors also contribute to other communicable and noncommunicable conditions, such as tuberculosis and HIV and mental health disorders, acting on them would reduce not only NCDs but a range of all related conditions. For instance reducing obesity would reduce diabetes; reducing the four NCDs risk factors would improve oral health. Technically, the added benefits can be accounted for by estimating (Fig. 14):
- Common cause and co-benefits of risk reduction: The reduced burden of the other diseases based on prevention of the four NCDs. For instance reducing obesity would reduce certain forms of musculo-skeletal illness; reducing the four NCDs risk factors would improve oral health reducing dental caries, periodontal diseases and oral cancer; addressing workplace stress would improve mental health and cardiovascular illness; reducing the harmful use of alcohol would lower a major cause of violence and injury; avoiding tobacco use and unhealthy diet would decrease the prevalence of cataract and diabetic retinopathy and reduce the number of NCD's.
 - Common opportunities for intervention and wider system benefits: There are significant health benefits to be gained from addressing co-morbidities using common approaches to managing co-existing disease within strengthened health systems. In fact health systems strengthened with the common tools of promoting health literacy, self-management of chronic disease, patient-centered care, community participation, and universal access to prevention and care would be better equipped to handle a whole range of chronic diseases from HIV/AIDS and depression, to diabetes and genetic disorders like sickle cell anemia. Furthermore, reducing the four main NCDs would directly reduce certain other forms of chronic disease; for instance, reducing stroke would have a positive impact on a major form of dementia.

IV. Global, regional and national response in addressing NCDs

86. The global response to address NCDs formally started in 2000. At the time Member States endorsed at the fifty-third World Health Assembly in May 2000 the Global Strategy for the Prevention and Control of Noncommunicable Diseases. This initiative was followed by the endorsement of several other resolutions such as the WHO framework Convention on Tobacco control in 2003, the Global Strategy on Diet, Physical activity and health in 2004, the resolution WHA60.23 on Prevention and control of noncommunicable diseases: implementation of the global strategy in 2007; the Resolution WHA61.4 on Strategies to reduce the harmful use of alcohol in 2008 and the Global Action Plan to prevent NCDs, endorsed at the Sixty-first World Health Assembly also in 2008. At the same time several important publications contributed to further strengthen the need to address and respond to the growing burden of NCDs, such as the WHO report "Preventing Chronic Diseases: a vital investment"⁷³ and the Lancet series on chronic diseases⁷⁴.

⁷³ WHO. Preventing chronic diseases: a vital investment. Geneva: World Health Organization, 2005.

⁷⁴ Horton R. The neglected epidemic of chronic disease. Lancet 2005; 366:1514.

87. In the African region the response is based on global and regional strategies as well as implementation frameworks which provide clear strategic directions to guide Member States, partners and the WHO Secretariat in addressing the rapid rise of NCDs. These political commitments from Member States and from WHO are referred in the following documents:
- The 11th General Programme of Work 2006-2015⁷⁵ and the Medium Term Strategic Plan (MTSP 2008 -2013).
 - Achieving Sustainable Health Development in the African Region: Strategic Directions for WHO /AFRO 2010-2015.
 - Action Plan for the Global strategy for the Prevention and Control of NCDs (2008 – 2013)⁷⁶;
 - Vision 2020 Global Initiative for the Elimination of Avoidable Blindness : action plan 2006-2011⁷⁷.
 - Regional Strategy on NCDs and specific regional strategies on cardiovascular diseases, diabetes, cancer, oral health, blindness and sickle cell disease.
 - Ouagadougou Declaration on Primary Health Care and health Systems in Africa⁷⁸
 - Libreville Declaration on Environment and Health and Algiers Declaration for Research (2008).
 - Mauritius Call for Action for diabetes, cardiovascular diseases and other NCDs (2009).
88. In order to support Member States to establish national policies and plans for NCD prevention and to provide technical guidance to countries in implementing and monitoring cost-effective approaches for the early detection of cancers, diabetes, hypertension and other cardiovascular risk factors, WHO also developed the WHO Package of Essential Noncommunicable Disease Interventions (WHO PEN) for primary care in low-resource settings. This package shows that cost-effective, evidence-based interventions exist and if effectively delivered can reap future savings in terms of reduced medical costs, improved quality of life and productivity; with the support of the Regional Office it is being implemented in several countries in the Region.
89. Although several important global, regional and national initiatives have been launched to address the challenge of shaping an appropriate response to NCDs⁷⁹, countries' capacity to translate into concrete action such instruments needs to be evaluated. In order to map the progress achieved in capacities of countries to address NCDs and guide Member States and WHO in prioritizing future actions and technical assistance required to address NCDs, a survey⁸⁰ was conducted in the 46 countries in the region during 2009-2010. This survey

⁷⁵ WHO. Engaging for Health. 11th General Programme of Work, 2006-2015. A Global Health Agenda. Geneva: World Health Organization, 2006.

⁷⁶ WHO. 2008-2013 action plan for the global strategy for the prevention and control of noncommunicable diseases : prevent and control cardiovascular diseases, cancers, chronic respiratory diseases and diabetes. Geneva: World Health Organization, 2008.

⁷⁷ IAPB. Vision 2020, WHO. Global Initiative for the Elimination of Avoidable Blindness : action plan 2006-2011 Geneva: World Health Organization, 2007.

⁷⁸ WHO. Ouagadougou Declaration on Primary Health Care and health Systems in Africa: achieving better health for Africa in the new millennium: Burkina Faso: April 2008. World Health Organization Regional Office for Africa, 2008.

⁷⁹ WHO, Noncommunicable diseases: a strategy for the African Region, Harare, World Health Organization, Regional Office for Africa, 2000 (AFR/RC50/10)

⁸⁰ A self-administered questionnaire was sent to national NCD focal points of all the forty-six Member countries in the Region in late 2009. The global survey instrument was developed through the process of multiple consultations within WHO, coordinated by WHO/HQ. This instrument was discussed, reviewed and subsequently adapted to make it suitable for the conditions prevailing in the countries of the Region. The process of filling of the forms and clarifications to

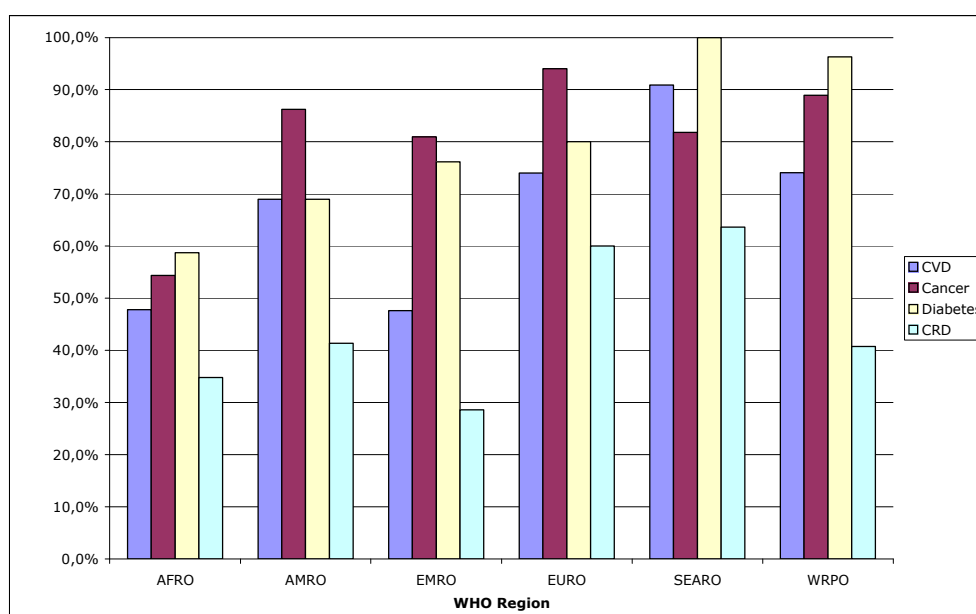
covered five areas: public health infrastructure; status of policies, strategies, action plans and programmes; health reporting/information systems, surveys and surveillance; health system capacity and health promotion, partnerships and collaboration.

Public health infrastructure for NCDs prevention and control

90. 43 out of 46 countries in the region reported having a separate unit/department within the Ministry of Health for NCDs prevention and control. 41 of them reported having a comprehensive role to play in the sense that they were responsible for planning, coordination of implementation and monitoring and evaluation. Although 30 countries reported having funding for NCDs prevention and health promotion, only 18 reported having funding for health care and treatment.
91. Governments' general revenue allocation and international donors were the main source of funding for NCDs prevention and control. Still, the adequacy of financial resources to address NCDs was not studied.

Policies, strategies, action plans and programmes for NCD prevention and control

92. Although in 22 out of the 46 countries, national-level NCD policies/strategies/programmes/plans were reported to be present, only 9 countries said they were operational and only 7 reported having a dedicated budget for its implementation.
93. The policies/strategies/programmes/action plans that are operational cover, in general, major diseases and risk factors. Chronic respiratory disease was the least covered. Diabetes and cancer followed by hypertension were the most targeted diseases for NCDs control. Tobacco (22 countries), followed by alcohol use (20 countries) were the most targeted risk factors.



queries was facilitated by the WHO Regional and country offices. All countries in the Region responded to the survey in the first half of 2010

Figure 6: Percentage of countries in WHO Regions with policies, plans or strategies for CVD, cancer, CRD and diabetes

94. Except for tobacco (with 52,2% of the countries reporting having a specific policy, strategy or action plan), cancer (41.3%) and diabetes (41.3%), all other disease categories and related risk factors programmes and plans (such as diet, physical inactivity and obesity) were much less implemented.

Health reporting/information systems, surveys and surveillance

95. Mortality and morbidity surveillance was largely hospital-based. Poor data quality and non-involvement of the private sector were identified as additional areas of concern. 58.7% of the countries reported having a cancer registry but only 34.8% have it for diabetes.
96. At least one NCD risk-factor survey was reported to have been completed in 87% of the countries, with tobacco surveys being the most prevalent. 14 countries have integrated the risk-factor questions into the national health reporting systems.

Health system capacity for NCD prevention, early detection, treatment and care

97. Primary prevention and health promotion approaches and risk factor and disease management of NCDs components have been integrated into the health care system by most countries in the Region. Still this integration of NCDs approaches in the health system, when compared to other regions, is low (figure 7).
98. Blood pressure measurement is generally available at primary health care in the Region (44 countries), followed by weight measurement ((34 countries) and blood glucose measurement (30 countries). On the other hand, breast cancer screening by palpation, mammogram, colonoscopy and peak flow measurement spirometry was reported to be poor.
99. National guidelines for the management of diabetes were reported to be available in 52.2% of the countries followed by hypertension in 47.8% of the countries. For other diseases and risk factors, their availability is reduced.

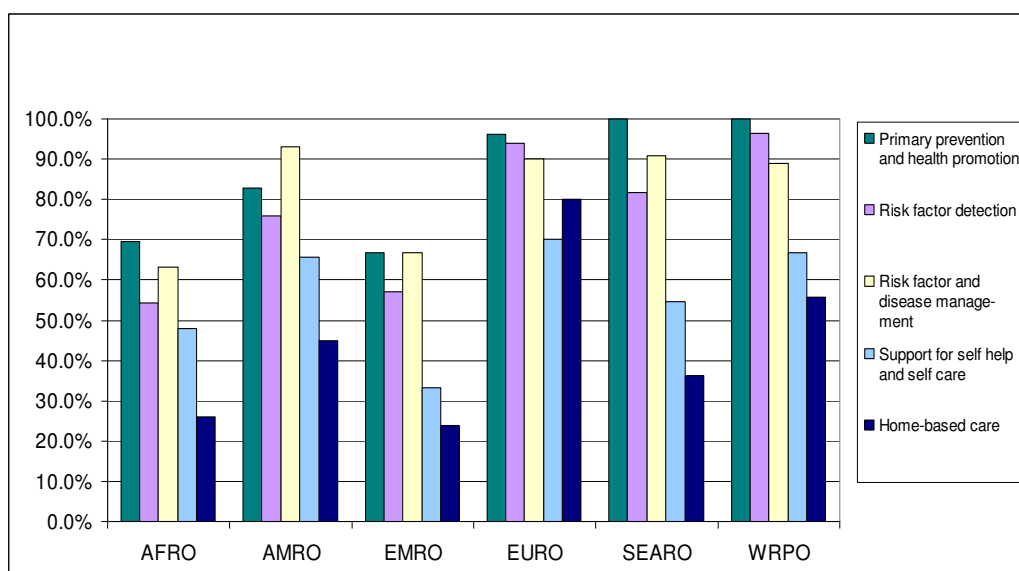


Figure 7: Percentage of countries with select components integrated into their health care system

100. All countries in the Region reported having essential list of medicines. However, in some countries, NCD-related drugs even if they are in this list they are not generally available. For example insulin was reported to be available in only 33 of the countries in the Region, metformin was available in only 31 countries, oral morphine in only 16 of the countries and statins in only 12 countries.
101. Availability of high-end treatment options (dialysis, radiotherapy, chemotherapy and retinal photocoagulation) was either very limited or inexistent (renal transplantation) in the public health systems of the countries. The role of the private sector, which manages a major share of these diseases in most of the countries, was not covered in the survey.
102. Lack of emphasis on self-care or home care and poor coverage of NCD service by health insurance were identified as additional areas of concern.
103. The growing heavy burden of NCDs concomitantly with a non controlled morbidity and mortality due to infectious diseases place the African region in a heavy dual burden of disease, in the context of under-resourced health systems especially as it relates to human resources for health. The African region has disproportionate burden of disease globally with some weak / worst health indicators that can partially be explained by the low quality and quantity of services offered due to multiple factors.
104. One of the factors is the weak health systems including the availability and performance of the Human Resource for Health (HRH) or health workforce especially as it relates to NCDs. The average threshold for the whole African region is 1.6 per 1000 of professional health workforce (doctors, nurse and midwives) compared to the required minimum density threshold of 2.3 required to at least offer meaningful health service delivery. The majority of Member states (36 out of 46) have an average of only 0.8 per thousand constituting a crucial HRH crisis. To reduce this shortfall significant investment and resources to build the necessary human and

institutional capacity to produce additional health workers, mid-level and multi tasks and fully integrating approaches in NCDs prevention and control are extremely urgent.

Health promotion, partnerships and collaboration

105. Partnerships and collaborations were reported to be established in 35 Member countries to support the implementation of key NCD-related activities. These included multiple sectors and covered diverse areas like tobacco, diabetes, hypertension, cancer, unhealthy diet, alcohol, etc. The main mechanism for this partnerships and collaborations are cross-departmental ministerial committee.

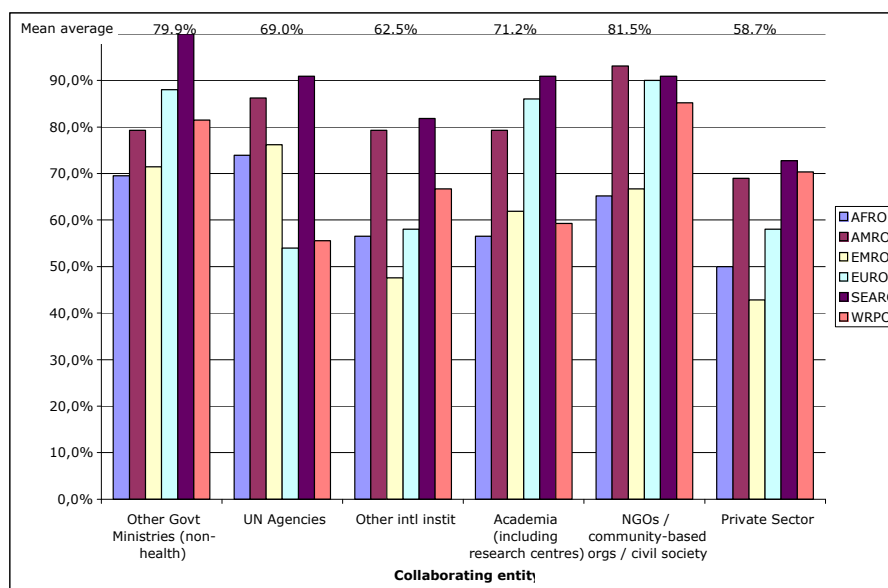


Figure 8. Most prominent key-stakeholders in countries

106. The most prominent key-stakeholders are UN agencies, followed by other government ministries and by NGO's/community based organizations and civil society (Figure 8). While fiscal measures to influence behavior (consumption of tobacco and alcohol) were reported to be in place in 10 countries, legislation to regulate marketing of food to children was present in only three countries.

V. Challenges and opportunities in addressing NCDs: the role of the health sector

107. Bearing a double-burden of infectious and chronic diseases the African Region faces now added challenges. The UN General Assembly resolution A/RES/64/265 adopted in May 2010, underscored the need for:
 - The development of a national multisectoral framework for the prevention and control of NCDs. This includes (i) the establishment of a high-level national multisectoral mechanism for planning, guiding, monitoring and evaluating enactment of the national policy with the effective involvement of sectors outside health; (ii) develop and implement a

comprehensive policy and plan for the prevention and control of NCDs, and for the reduction of modifiable risk factors; and (iii) evidence-based legislation, together with fiscal and other relevant policies, that are effective in reducing modifiable risk factors and their determinants.

- The integration of the prevention and control of NCDs into the national health plan. This includes (i) the establishment of an adequately staffed and funded NCDs unit within the Ministry of Health; (ii) establishment of high-quality surveillance and monitoring system; and (iii) incorporation of evidence-based, cost-effective primary and secondary prevention interventions into the health system, with emphasis on primary care.
 - The strengthening of health systems, enabling them to respond more effectively and equitably to the health-care needs of people with NCDs. This includes (i) ensuring that the infrastructure of the health system, both the public and private sectors, has the elements necessary for the effective management and care for chronic conditions; (ii) implementing and monitoring cost-effective approaches for the early detection of breast and cervical cancers, hypertension and other cardiovascular risk factors; (iii) taking action to help people with NCDs to better manage their own conditions, and provide education, incentives and tools for self management and care; and (iv) developing mechanisms for sustainable health financing in order to reduce inequities in accessing health care.
108. Constraints on the capacity of countries to respond to these challenges due to the general neglect or low priority accorded by national governments to non-communicable diseases, to weak health systems, and reduced funding opportunities risk to jeopardize the country's efforts to address NCDs in the Region.
 109. The health sector has a stewardship role in exerting influence across all sectors of government and in adopting approaches to policy development that involve all government departments. Public health interests need to be above all other interests and guide policy development and political decisions on matters concerning the protection of the population health. Governments need to adapt their health and broader government systems – such as regulatory and tax policies, education, trade, agriculture and food policies – in ways needed to address health-related risk factors like tobacco use, the harmful use of alcohol, unhealthy diet, overweight and obesity and thus prevent NCDs.
 110. Tackling these risk factors demands that these industries are closely regulated and monitored, indeed in the long run the goal is to reduce consumption of such products. The well resourced industries whose main focus is profit rather than public health, have been and continue to resist such changes that are good for public health. Their resources and influence in policy making circles makes progress slow and in effect hinders control of non-communicable diseases.
 111. Scarcity of resources, lack of sustainable health financing mechanisms and irregular access to essential medicines and other supplies could seriously jeopardize advances in preventing NCDs. Barriers to planning and provision of care for people with NCDs further compound the problem. These include infrastructural problems such as poor laboratory support, obsolete equipment and an overall lack of facilities at all levels of the health system.
 112. Furthermore, Africa has weak health information systems and an extremely low output in NCDs research. Monitoring NCDs, NCDs related health risk factors, and their socio-economic and political determinants will constitute a major challenge for the African Region.

113. The issue of availability of health personnel is also of great concern and production of inappropriate types and numbers of health professionals is a reality in many countries within the Region. Current training systems do not ensure high levels of competency for management of NCDs. The changing pattern of NCDs and socio-demographic factors imply that an urgent adjustment of existing health manpower structures is needed to cope with current and future challenges.
114. Countries will also be faced with new challenges indirectly resulting from NCDs. In fact, the rise of NCD prevalence will confront governments with more pressure on already weak health systems and difficult decisions on resource allocation for health. This will be even more complicated in a region where donor funding plays an important role in health systems and where vertical programmes are aimed at specific diseases thus discouraging or undermining the strengthening of health systems in general and of a more holistic approach to prevention and treatment.
115. Constraints on country's capacity to respond to the challenge of NCDs have been identified and they cut-across the six key health-systems components. Still this fact constitutes an opportunity for the Region. Emerging evidence seems to show that NCDs can provide the basis for strengthening national health systems' capacity in LMIC due to its characteristics that call for a response that needs to be integrated, responding to a range of population health needs, sustained in time and across a continuum of care. Countries in the Region need to be advised on how to transform their health systems in order to sufficiently manage NCDs. This measure should be further strengthened by adequate and effective referral systems to provide specialised care where needed. The collaboration among all stakeholders to support programme implementation and to build on existing accomplishments is imperative so as to avoid duplication of efforts.
116. The evidence emerging from the scanty data collected in our region shows clearly that there is need to act to address the risk factors that are known to cause non-communicable diseases. The adoption by the World Health Assembly of the WHO Framework Convention on Tobacco Control (WHO FCTC) provided public health with a unique opportunity to use an international legal instrument to address the most preventable cause of diseases, disability and death – tobacco! The full implementation of the treaty will make a big contribution in reducing the epidemic of non-communicable diseases. It is a process and instrument worth emulating in other areas of public health, particularly the risk factors for NCDs.

VI. The political and policy relevance of addressing NCDs

117. Individuals and their families in all countries struggle to cope with the impact of NCDs. But it is the poorest that are the most vulnerable. NCDs must be viewed as a leading health and development challenge in Africa and in the world because of the major health and socio-economic implications for affected persons, families, communities and countries. In addition to reduction of life expectancies, NCDs compromise sustainable development efforts and poverty reduction initiatives.
118. The UN high level meeting creates a major, timely opportunity to bring NCDs to the global health agenda and together with it will create the momentum for a more in-depth analysis of existing national health systems and on the changes and responses that are needed so that

these systems address effectively all health conditions. The African Region faces a double burden of diseases and its capacity to effectively deal with the already existing and growing burden of NCDs inadequate. The growing burden of NCDs will add more pressure to the already weak health systems in the Region and the inadequate response from health systems will only contribute to further increase health inequities.

119. The meeting will also constitute an opportunity for countries to position NCD prevention as central to country development and to advocate for the integration of NCDs into the priorities of the global and national development agendas, including through poverty reduction initiatives.
120. Despite this increasing recognition of the pressing need to address the growing magnitude of NCDs and their risk factors and the negative impact on socioeconomic development, official development assistance to support low- and middle-income countries in the African region in building sustainable institutional capacity to tackle NCDs remains insignificant.
121. Political opportunities for progress seem to be building at global level but a coordinated effort and concerted action are necessary to bring together health and development stakeholders in addressing common causes of high burden of NCDs.
122. If the high mortality and heavy disease burden experienced by countries in the African region (and beyond) are to be comprehensively reduced, global development initiatives and international partners must take into account prevention of NCDs, including them as an integral part of work on global development and in related investment decisions, and to support the implementation of intervention projects, exchange of experience among stakeholders, and regional and international capacity building programmes. As the Action Plan states, instruments like the Millennium Development Goals provide opportunities for synergy, as do strategies for poverty reduction.
123. At the same time understanding that NCDs and their risk factors limit the countries ability to reach development goals such as MDG1 (poverty reduction), MDG4 (reduce child mortality), MDG5 (improve maternal health) and combat AIDS, malaria and tuberculosis (MDG6) is an essential step to bring together the health and development agendas in promoting and improving health for all in the African Region. The Ouagadougou declaration on primary health care and health systems in Africa in its call for action refers to the importance of NCDs as being central to the MDGs.

VII. Conclusion and way forward

124. Although cost-effective interventions to address NCDs exist they have not been recognized or centrally positioned in the global or national political agendas. The few financial and human resources devoted to this issue are testimony of such neglecting. Positioning NCDs in the centre of this global debate can contribute to engage all actors in a concerted international action against NCDs in LMIC and especially in the African Region.
125. The upcoming 2011 UN High-level Summit as well as the Moscow Ministerial Conference are monumental milestones in placing NCDs high on the political and development agenda and should contribute to accelerate progress in addressing these diseases and its associated risk factors in the African region.

126. This Regional Consultation aims at sensitizing Ministers about the issues of noncommunicable conditions and identifying the challenges, opportunities and synergistic areas for integrating the prevention and control of NCDs in the development agenda at global, regional and national levels. The deliberations from this meeting will help to reach consensus on a common position regarding required actions for NCDs prevention and control in the African region. The agreed common position(s) will become the African Region position during the Moscow and the New York meetings and eventually serve as a basis for the development of sustained comprehensive and integrated National NCD action plans and programmes and within the national health strategic and development plans..