

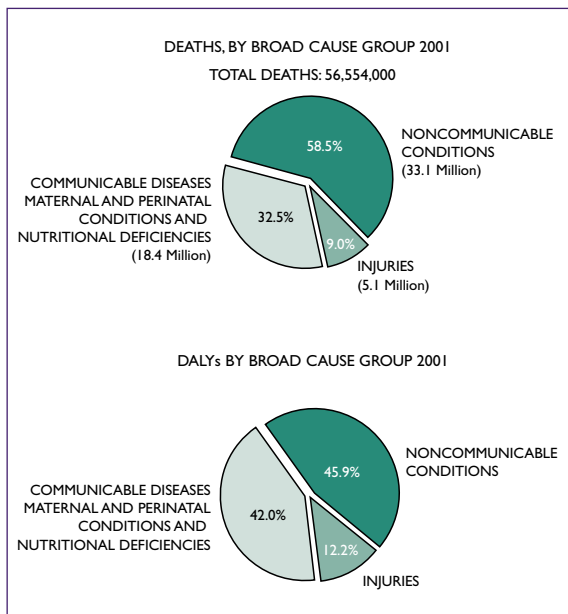
# CHRONIC DISEASE - KEY RISK FACTORS INCLUDE HIGH CHOLESTEROL, HIGH BLOOD PRESSURE, LOW FRUIT AND VEGETABLE INTAKE

## FACTS:

- 7 of the top 12 leading risks to health - high blood pressure, high cholesterol, obesity, physical inactivity and insufficient consumption of fruits and vegetables - together with alcohol and smoking, account for more than half the global burden of disease.
- Raised blood pressure is estimated to cause 7.1 million deaths, about 13% of the global total. There are at least 600 million hypertensives worldwide.
- Raised cholesterol is estimated to cause about 4.4 million deaths, about 7.9% of the global total.
- Low fruit and vegetable intake accounts for 2.7 million deaths.

## CHRONIC DISEASE RISK FACTORS

Chronic conditions, including cardiovascular diseases (CVD), diabetes, obesity, cancers and respiratory diseases, account for 59% of the 56.5 million deaths annually and 45.9% of the global burden of disease. Five out of the 10 leading global disease burden risk factors identified by *World Health Report 2002* - high blood pressure, high cholesterol, obesity, physical inactivity and insufficient consumption of fruits and vegetables - are strongly related to diet and physical activity. Together with alcohol and tobacco use, these preventable risks play a key role in the development of chronic diseases, which frequently involve overlapping risk factors and chronic conditions.



There is good evidence that a change in dietary habits, physical activity and tobacco control can produce rapid changes in population risk factors and disease burden prevalence for these chronic diseases.

## KEY RISK FACTORS INCLUDE:

### HIGH BLOOD PRESSURE

Blood pressure is a measure of the force that the circulating blood exerts on the walls of the main arteries. The pressure wave is easily felt as the pulse; the highest (systolic) pressure is created by the heart contracting, and the lowest (diastolic) as the heart fills. Raised blood pressure is almost always without symptoms. High blood pressure levels damage the arteries that supply blood to the heart, brain, kidneys and elsewhere, producing a variety of structural changes.

In recent decades it has become increasingly clear that the risks of stroke, heart disease, renal failure and other diseases, are not confined to a subset of the population with particularly high levels of blood pressure, but rather continue amongst those with relatively average but above optimal blood pressure. The main modifiable causes of high blood pressure are diet, especially salt intake, levels of exercise, obesity and excessive alcohol intake. Most adults have blood pressures that are sub-optimal for health. Across WHO regions, the range between the highest and lowest age-specific mean systolic blood pressure levels is estimated at about 20 mmHg. Globally, this indicates that about two thirds of strokes and half of heart disease, are attributable to sub-optimal blood pressure (systolic blood pressure >115 mmHg).

World wide, high blood pressure is estimated to cause 7.1 million deaths, about 13% of the total and about 4.4% of the total disease burden. There are, by a conservative estimate, at least 600 million hypertension sufferers worldwide.

### HIGH CHOLESTEROL

Cholesterol is a fat-like substance found in the blood-stream as well as in bodily organs and nerve fibres. Most body cholesterol is made by the liver from a wide variety of foods, especially from saturated fats. A diet high in saturated fat, low in unsaturated fat, heredity and some



WORLD HEALTH ORGANIZATION

## GLOBAL STRATEGY ON DIET, PHYSICAL ACTIVITY AND HEALTH



# CHRONIC DISEASE - KEY RISK FACTORS INCLUDE HIGH CHOLESTEROL, HIGH BLOOD PRESSURE, LOW FRUIT AND VEGETABLE INTAKE

metabolic conditions such as diabetes, determine an individual's level of LDL or 'bad' cholesterol.

Cholesterol is a key component in the development of atherosclerosis, the accumulation of fatty deposits on the inner lining of arteries. Mainly as a result of this, cholesterol increases the risks of heart disease, stroke and other vascular diseases.

Almost one fifth (18%) of global stroke events (mostly nonfatal events) and about 56% of global heart disease are attributable to total cholesterol levels above 3.2 mmol/l.

This amounts to about 4.4 million deaths (7.9% of the total) and 2.8% of the global disease burden.

## LOW FRUIT AND VEGETABLE INTAKE

Fruits and vegetables are important components of a healthy diet. Accumulating evidence suggests that they could help prevent major diseases such as CVD and certain cancers, principally of the digestive system. There are several mechanisms by which these protective effects may be mediated, involving antioxidants and micronutrients, such as flavonoids, carotenoids, vitamin C and folic acid, as well as dietary fibre. These and other substances block or suppress the action of carcinogens and, as antioxidants, prevent oxidative DNA damage.

Fruit and vegetable intake varies considerably among countries, in large part reflecting the prevailing economic, cultural and agricultural environments. WHR 2002 analysis assessed the levels of mean dietary intake of fruit and vegetables (excluding potatoes) in each region, measured in grams per person per day.

Low intake of fruit and vegetables is estimated to cause about 19% of gastrointestinal cancer, and about 31% of ischaemic heart disease and 11% of strokes worldwide. 2.7 million deaths are attributable to low fruit and vegetable intake.

Of the disease burden attributable to low fruit and vegetable intake, more than four fifths is from heart diseases and the balance from cancers.

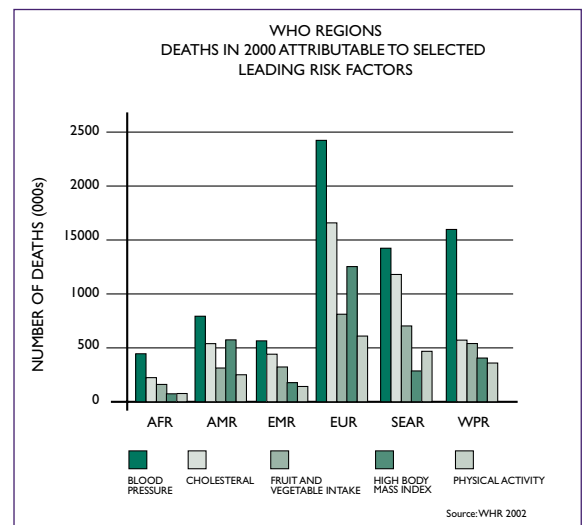
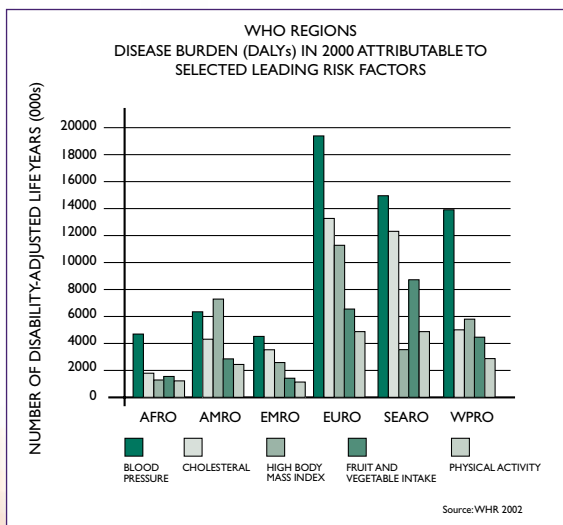
## WHY IS THIS HAPPENING?

The rise in CVD reflects a significant change in diet habits, physical activity levels, and tobacco consumption worldwide as a result of industrialization, urbanization, economic development and food market globalization. People are consuming a more energy-dense, nutrient-poor diet and are less physically active. These are no longer only diseases of the developed world: some 80% of all CVD deaths worldwide took place in developing, low and middle-income countries, while these countries also accounted for 86% of the global CVD disease burden. In developing countries people are being exposed to these risk factors for longer periods and a high proportion of disease takes place in people of working age.

## WHAT CAN BE DONE?

The most cost-effective interventions to reduce these risk factors are population-wide programmes to:

- Reduce salt in processed foods, cut dietary fat, particularly saturated fats
- Encourage more physical activity
- Encourage higher consumption of fruits and vegetables
- Cease smoking



## KEY CONTACTS

DR P. PUSKA  
World Health Organization  
Tel: +41-22-791 4703  
Fax: +41-22-791 4186  
Email: puskap@who.int

DR S. MENDIS  
World Health Organization  
Tel: +41-22-791 3441  
Fax: +41-22-791 4151  
Email: mendiss@who.int

Mr D. PORTER  
World Health Organization  
Tel: +41-22-791 3774  
Fax: +41-22-791 4186  
Email: porterd@who.int

