

# Chronic Noncommunicable Diseases in the Caribbean:

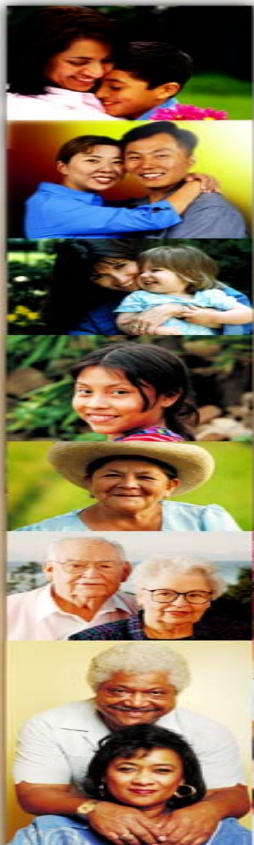
## An Update

Workshop on Policy Analysis and Decision-Making  
with Emphasis on CNCDs

Barbados, 15–17 October 2007

Branka Legetic, MD, PhD

Regional Adviser on CNCDs



# The Need for a Public Health Response to Chronic Diseases

*“The total number of people dying from chronic diseases is double that of all infectious diseases (including HIV/AIDS, tuberculosis and malaria), maternal and perinatal conditions, and nutritionally deficiencies combined.”*

-Source: World Health Organization. *Preventing Chronic Diseases: a vital investment*.  
Geneva: 2005.

# The growing epidemic of chronic diseases, driving factors and what they contributed to:

- *Driving factors*

- Urbanization
- Globalization
- Technology
- Aging

- **Behavioral risk factors**

- Unhealthy diet
- Physical inactivity
- Tobacco and alcohol use



- *Social and economic burden*

- *Disproportionate burden of chronic diseases on the poor*



## The poor world is getting the rich world's diseases

"Europeans have been exporting their maladies throughout history. They seem to be doing it again, but in a new way. In the past the problem was infection. Now illnesses associated with Western living standards are the fastest growing killers in poor and middle-income countries. Chronic disease has become the poor world's greatest health problem".

*The Economist, 11 August 2007*

# Major chronic diseases, risk factors and protective factors

- Hypertension and other cardiovascular diseases
- Cancers
- Diabetes
- Chronic respiratory diseases
- Injuries and violence
- Mental health disorders
- Risk factors of unhealthy diet, physical inactivity, tobacco, and alcohol use
- Protective factors: fruit & vegetable intake, physical activity, education, employment, social status, health insurance, etc.

# Global Situation

Chronic Diseases are the Major Cause of Death

**IN ALMOST ALL COUNTRIES**

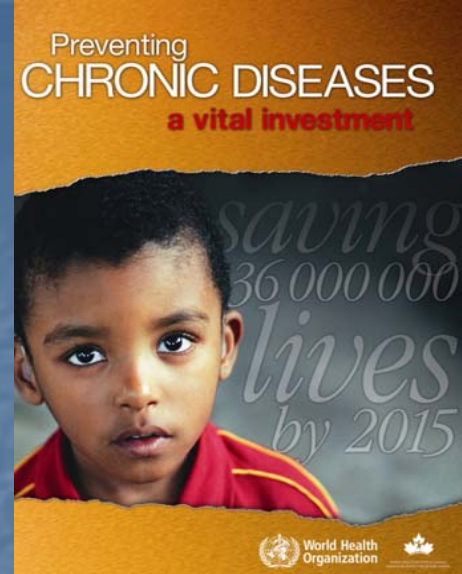
60% of all deaths are due to chronic diseases

35,000,000+ people will die from chronic diseases in 2006

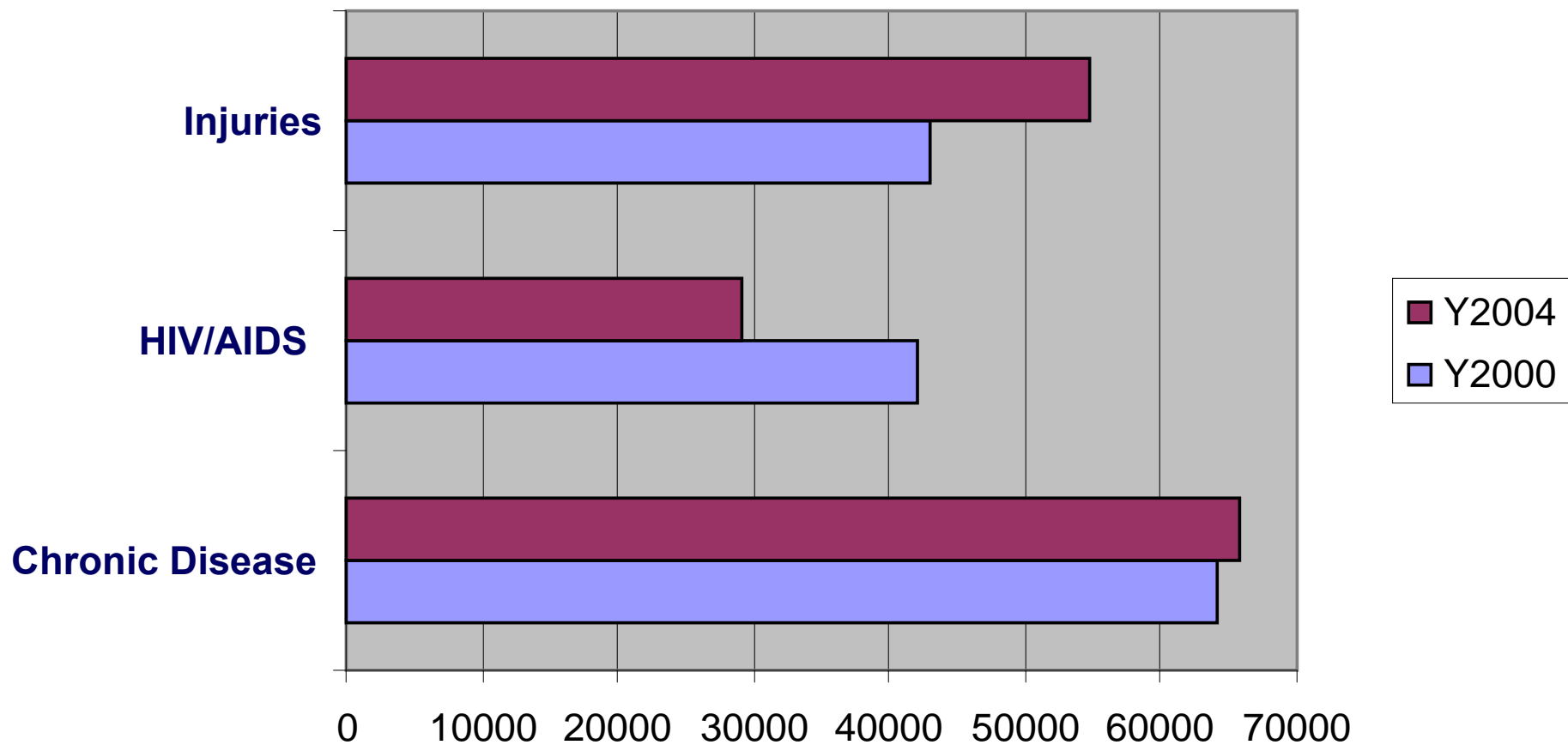
**THE POOREST COUNTRIES ARE THE WORST  
AFFECTED**

80% of chronic disease deaths will occur in  
low- and middle-income countries

The problem has **SERIOUS IMPACT**



# Potential Years of Life Lost <65 years by main causes, 2000 & 2004, CARICOM Countries (except Jamaica)

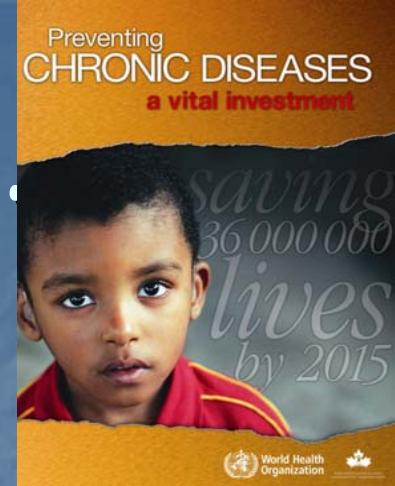


Source: CAREC, based on country mortality reports

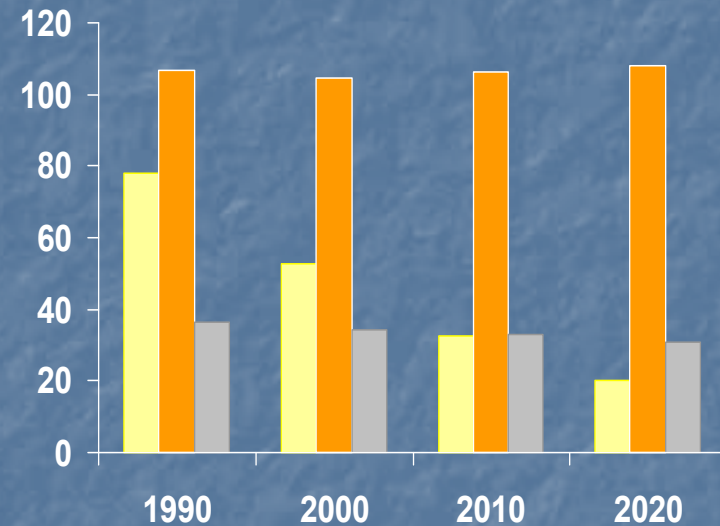
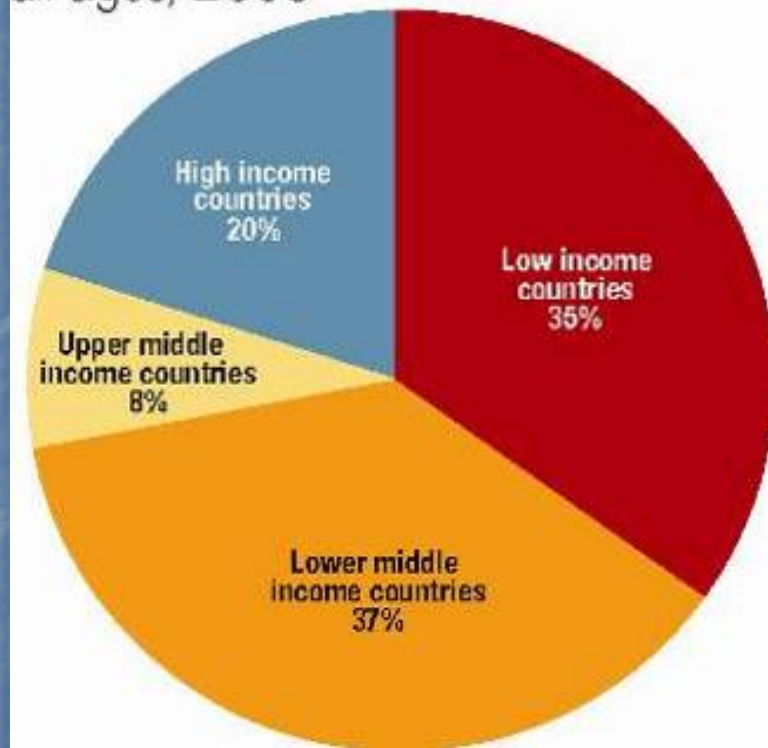
**Note: Chronic Disease includes heart disease, stroke, cancer, diabetes, hypertension, chronic respiratory disease**

**'Injuries' includes traffic fatalities, homicide, suicide, drowning, falls, poisoning**

# The threat is growing...



**Projected global distribution of chronic disease deaths**  
by World Bank income group,  
all ages, 2005

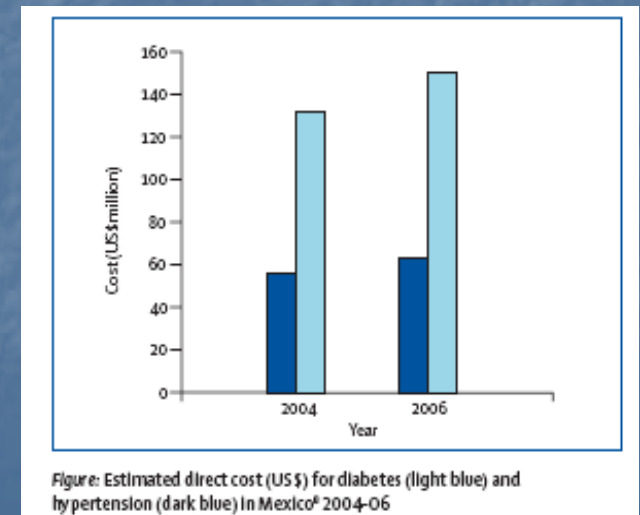


**Estimated Trends in Disability-Adjusted Life Years by Cause in Latin America and the Caribbean, 1990-2020**

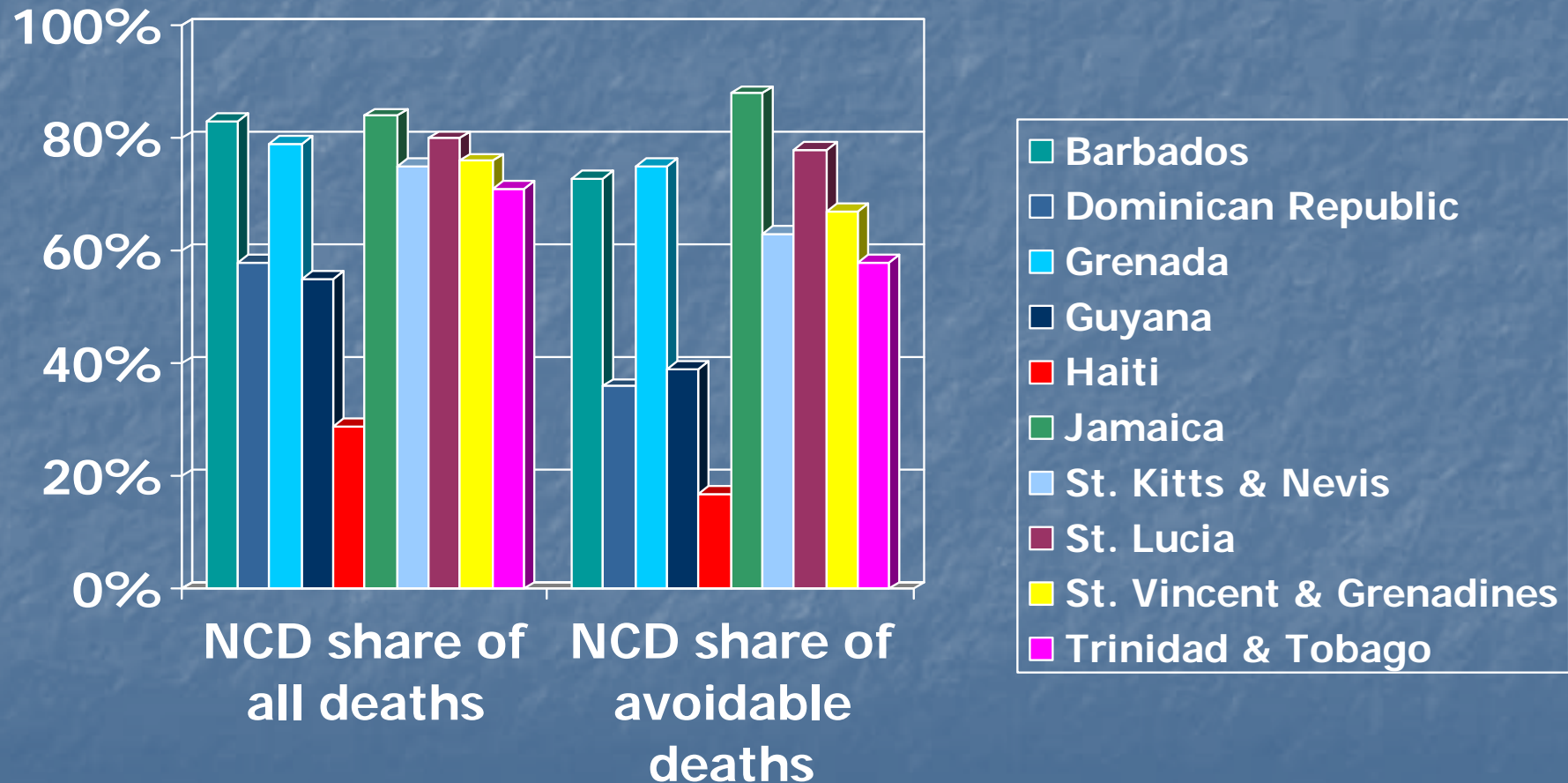


# Economic Impact

- Cost per person per year(USA):
  - Obesity: \$ 395
  - Smoking: \$230
  - Aging: \$ 225
- Direct cost of obesity: around 7% of health budget (\$70 billion)
- In direct cost, 10 times higher
- Direct cost of Diabetes (PAHO study)



# The Burden of NCDs



# Costs of NCDs

- **Household:** hits working-age adults
  - *Direct:* Medical expenses, lost wages
  - *Indirect:* Time invested by caregivers, diminished development of human capital
- **Firm:** absenteeism, productivity
- **Public sector**
  - NCDs more complex and costly to treat
  - Drives costly technology trajectory

# Macroeconomic impact?

- Estimates are highly speculative
  - 1.0% of GDP (cardiovascular)
  - 1.1–2.1% of GDP (obesity in China, India)
  - 1.5% of GDP (tobacco in China)
  - 2.5–15% of health budgets (diabetes)

# Major Cost Drivers

- Aging explains less than half of increase
- Rising **demand** at all levels of system
- Rising **incidence of NCDs**
- **Technological** innovation and choices
- Imperfect **insurance** and inefficiencies

# Prevention Saves Lives and \$\$

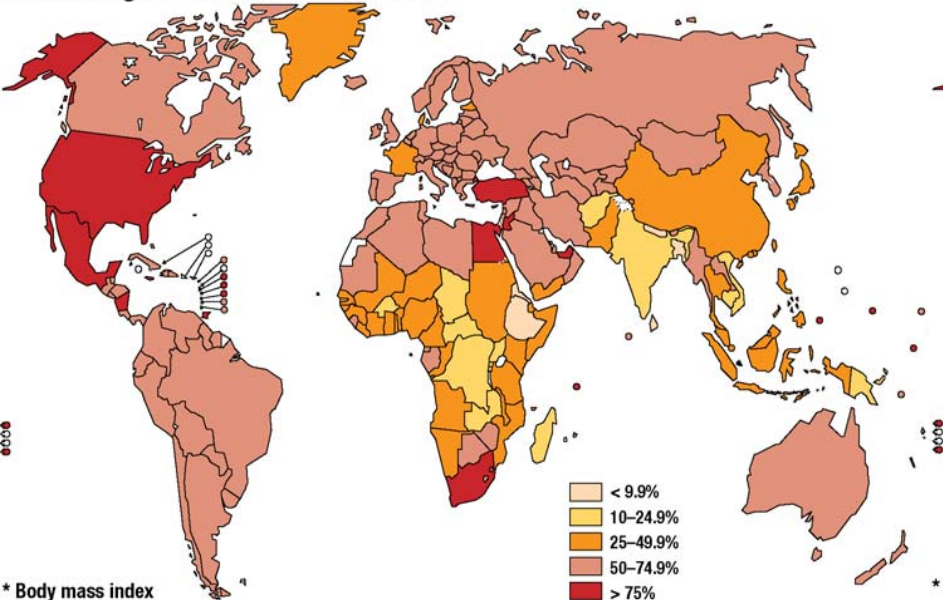
- Simple, affordable measures could reduce lost years of life by **one third**
- Many NCDs are **preventable** or manageable
  - Brazil: *53% of deaths due to 7 easily controllable causes*
- An ounce of prevention = **pounds** of cure
  - Bypass costs 100x simple prevention

# Global Situation 3

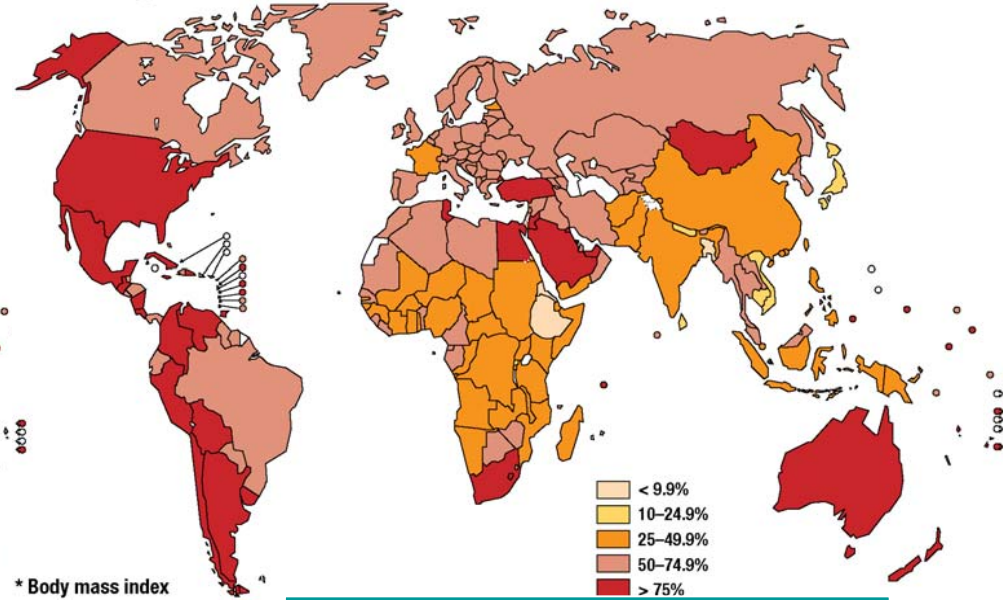
- THE RISK FACTORS ARE **WIDESPREAD**
- THE **THREAT** IS GROWING

# The threat is growing...

Projected prevalence of overweight (BMI\*  $\geq 25$  kg/m<sup>2</sup>), women aged 30 and above, 2005



Projected prevalence of overweight (BMI\*  $\geq 25$  kg/m<sup>2</sup>), women aged 30 and above, 2015



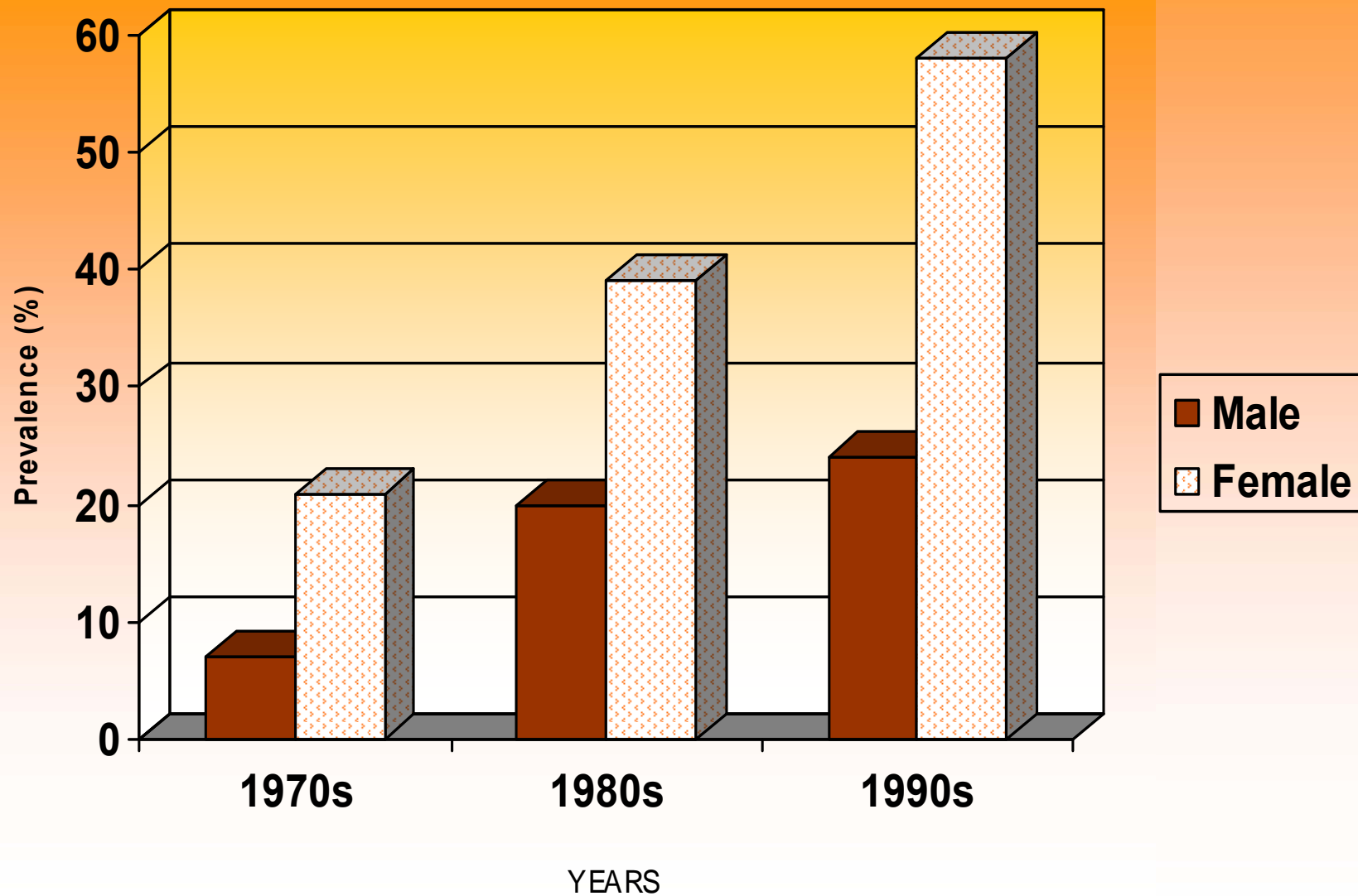
**2002**  
Obese: 356 million  
O/wt  $\geq 25$ : 1.4 billion

**2007 (partial update)**  
Obese: 521 million  
O/wt  $\geq 25$ : 1.545 billion

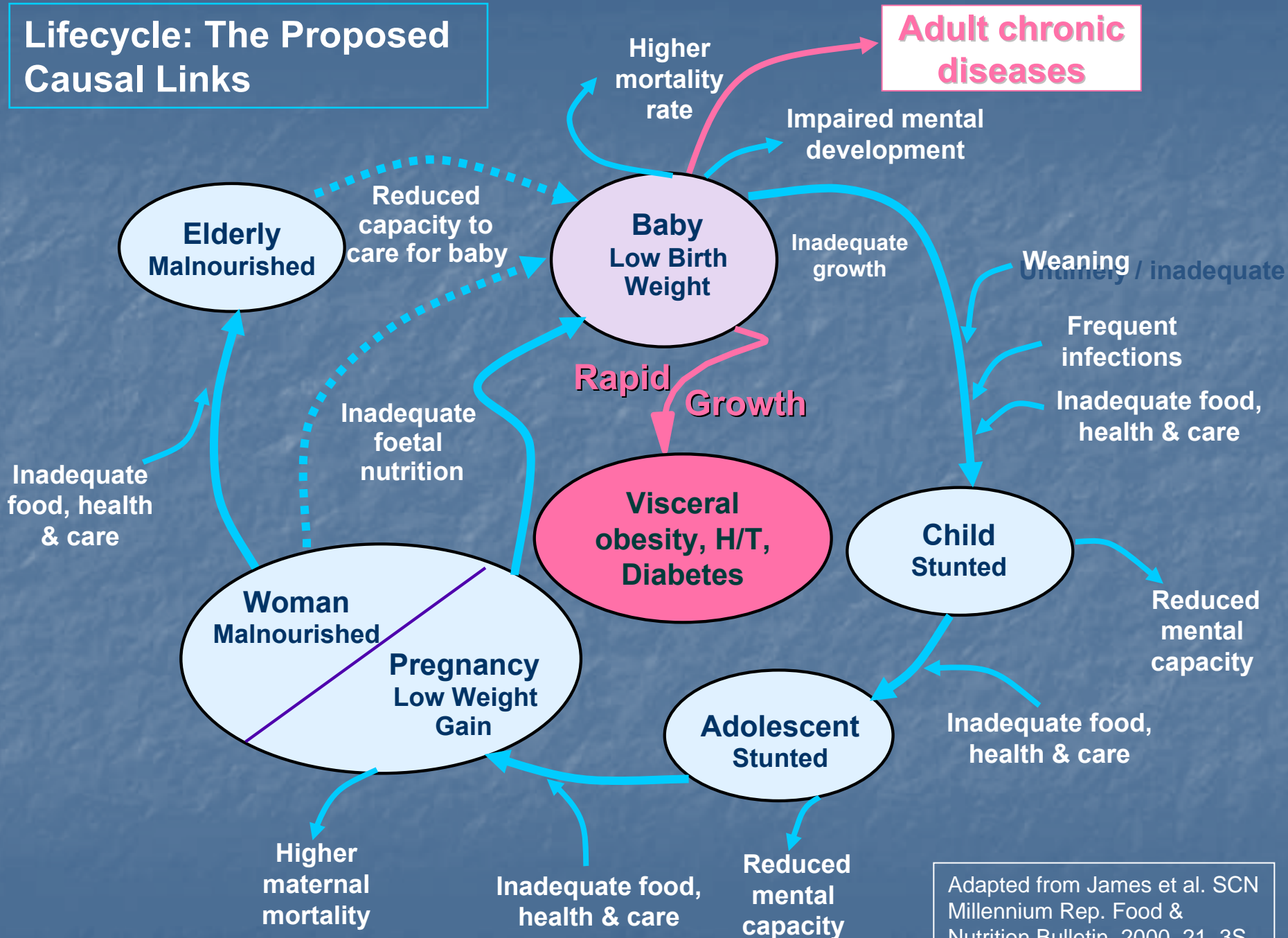
**2015**  
Obese: 704 million  
O/wt  $\geq 25$ : 2.3 billion



# Trends in Adult Overweight/Obesity in the Caribbean

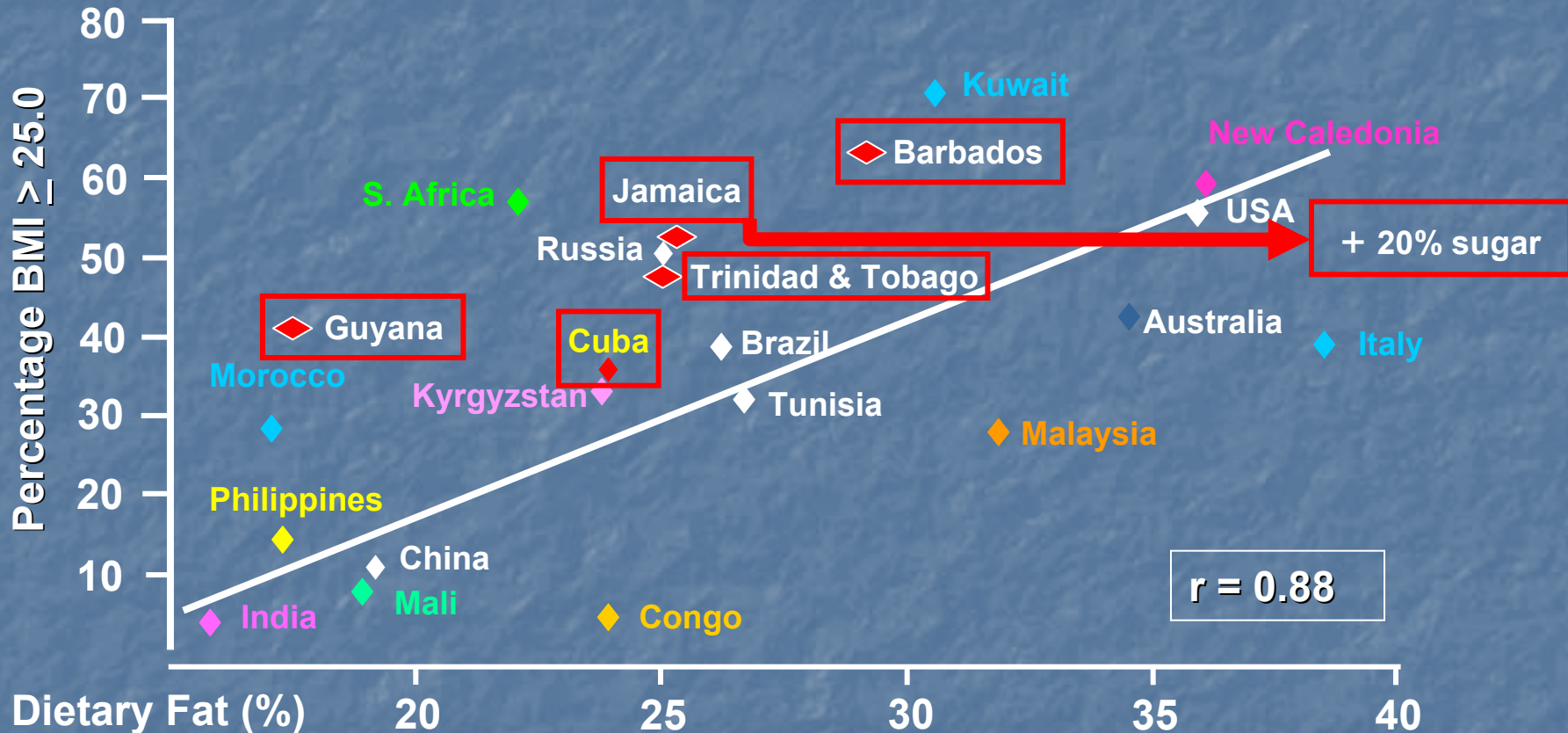


# Lifecycle: The Proposed Causal Links



Adapted from James et al. SCN Millennium Rep. Food & Nutrition Bulletin, 2000, 21, 3S.

# Dietary Fat and Overweight : Caribbean Comparisons + Sugar Effect



Adapted from Bray & Popkin, Am. J. Clin. Nutr., 1998; 68: 1157-73 and data from FAO 2005, CFNI and national surveys

**The epidemic is inevitable unless policies to substantially reduce fat and sugar intakes and increase activity are introduced now**

Preventing  
**CHRONIC DISEASES**  
a vital investment

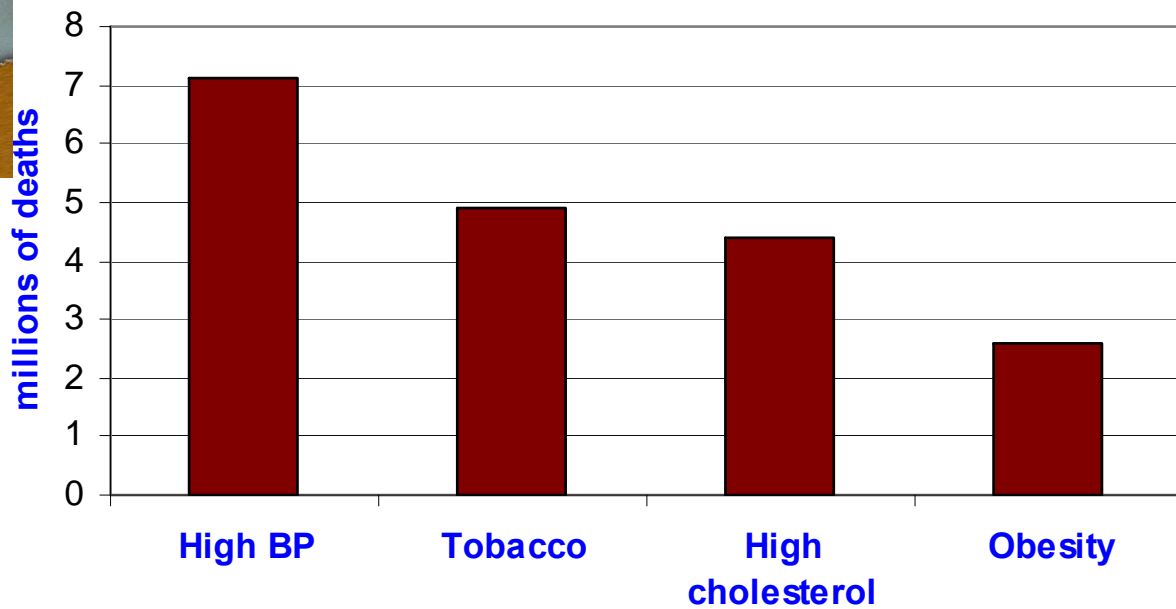


World Health  
Organization



PUBLIC HEALTH AGENCY OF CANADA  
AGENCE DE SANTÉ PUBLIQUE DU CANADA

### Annual Deaths in Millions Attributable to Selected Risk Factors



# Most smokers live in developing countries (current smokers age 15+ in 2000)

<u>Region</u>	<u>% M / F</u>	<u>No (millions)</u>
<i>Low/middle income</i>	49 / 8	920
- LAC	40 / 24	~100
- <b>CARICOM *</b>	<b>30 / 10</b>	<b>~1</b>
<i>High income</i>	37 / 21	200

Few smokers quit in low income countries

◆ 5-10% in LAC vs 30-40% in UK

\* Excludes Haiti

Source: Jha et al, 2006 and 2002, WHO, 2004

# Smoking Deaths in CARCIOM

(in thousands, indirect estimates)

Causes	Men		Women	
	Total	Due to Smoking	Total	Due to Smoking
Cancers	3.0	1.5	2.9	0.6
Vascular/diabetes	6.7	1.7	6.4	1.0
Respiratory	1.3	0.5	1.1	0.2
Other NCD	2.7	0.5	2.3	0.2
Tuberculosis	0.4	0.1	0.2	0.1
<b>TOTAL</b>	<b>14.1</b>	<b>4.4</b>	<b>13.0</b>	<b>2.1</b>

**30%** of male deaths due to smoking?  
and **15%** of females?

# Global Situation 4

- The Global Response is

**INADEQUATE**

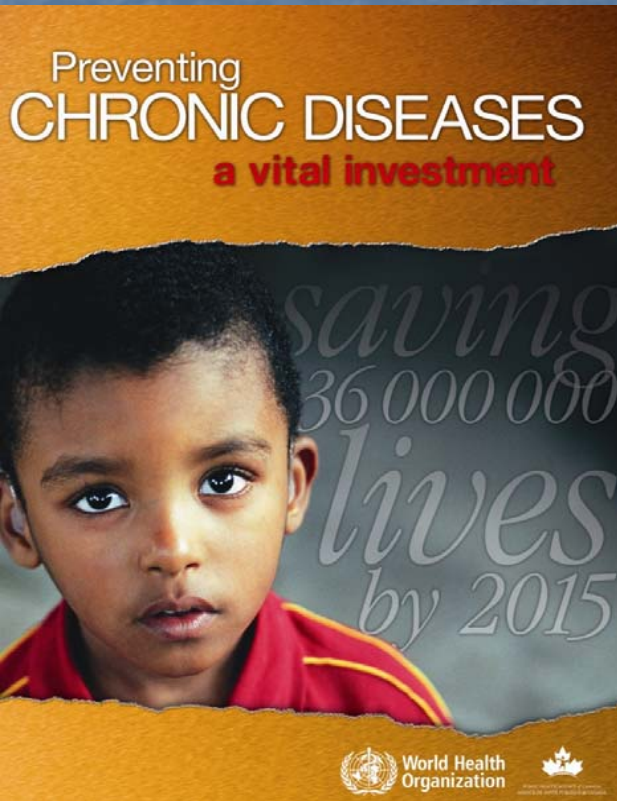
# Caribbean Responses Summarized

	A N G	A N T	B A H	B A R	G U Y	H A I	J A M	S U R	T R T
National focal point, Department or Unit			✓			✓	✓	✓	✓
National law, legislation, decree			✓					✓	
National Objectives									✓
Implementation of FCTC	✓		✓				✓		
Implementation of DPAS			✓	✓			✓		✓
National system of Health reports, survey and surveillance			✓	✓			✓	✓	
Demonstrative community-based programs			✓						
National standards and protocols for treatment			✓						
Quality assurance of care						✓			
Financial resources			✓		✓		✓	✓	

Source: PAHO Survey of NCD National Response Capacity, 2005



# Global Situation



- The major causes of chronic diseases are known
- At least 80% of heart disease, stroke and type 2 diabetes, and 40% of cancer can be prevented
- A full range of cost effective interventions exist for all regions of the world. Many are inexpensive.
- We must strike **A NEW BALANCE OF PREVENTION AND CONTROL**

# What works?

- A small shift in average population levels of several risk factors can lead to a large reduction in chronic diseases
- Population-wide approaches form the central strategy for preventing and controlling chronic disease epidemics, but should be combined with interventions for individuals
- Many interventions are not only effective, but suitable for resource constrained settings

# Review of Effective Interventions

- **Laws and regulations**
- **Tax and price interventions**
- **Improving the built environment for physical activity**
- **Advocacy, communication and information**
- **Community-based interventions**
- **School based interventions**
- **Workplace interventions**
- **Screening: CVD, diabetes, HBP, some cancers**
- **Clinical prevention: focus on overall risk**
- **Disease Management**
- **Rehabilitation**
- **Palliative care**

# Health Promotion Strategies

- Healthy public policy
- Re-orienting health services
- Creating supportive environments
- Strengthening community action
- Developing personal skills
- Building Partnerships and Alliances

# Role of the Health Sector

- Education & information at all times, by all health staff
- Leads in Disease Prevention (Primary, Secondary and Tertiary)
- Collaborates with partners in Health Promotion
- Catalyst for human security and development, working with “all of society”



# Regional Strategy and Plan of Action for an Integrated Approach to Prevention and Control of Chronic Diseases

# Public Policy



To ensure and promote the development and implementation of effective, integrated, sustainable, and evidence-based public policies on chronic disease, their risk factors, and determinants.

*Strengthen NCD  
public policy development*

# *Development & Strengthening of Chronic Disease and Risk Factor Surveillance Systems*

## Surveillance



To encourage and support the development and strengthening of countries' capacity for better surveillance of chronic diseases, their consequences, their risk factors, and the impact of public health interventions.



# Health Promotion & Prevention

To foster, support, and promote social and economic conditions that address the determinants of chronic diseases and empower people to increase control over their health and to adopt healthy behaviors.



*Tobacco, Alcohol, Diet & Physical Activity*

*Home, School, Community, Workplace*

*Provide technical assistance to countries in the development, strengthening, implementation, and evaluation of their chronic disease programs*

## **Integrated Management of NCDs**



**To facilitate and support the strengthening of the capacity and competencies of the health system for the integrated management of chronic diseases and their risk factors.**

# Caribbean History of Cooperation in Health

- Since the 1960s, history of collective action in health, formalized in 1986 as the Caribbean Cooperation in Health (CCH) initiative.
- Countries, CAREC, CFNI and CHRC, CARICOM Secretariat, PAHO/WHO and partners have had successes e.g., malnutrition and gastroenteritis, vaccine preventable diseases, HIV/AIDS (p (PANCAP).
- CCH now entering 3<sup>rd</sup> phase: major thesis that Caribbean health can be improved through actions taken universally and collectively.
- Current priorities for action under CCH include chronic diseases where the cited goals are to **reduce deaths by 2% per year and to reduce serious, costly complications such as amputations or renal failure.**

# Policy Dialogs

- **Caribbean Summit of Heads of State**  
Port-of-Spain, Trinidad & Tobago,  
15 September 2007

**DECLARATION OF PORT-OF-SPAIN**

# Addressing the Risk Factors

## *Tobacco and Alcohol*

- Increase taxes with proceeds to prevention and treatment
- Ban smoking in public places
- Ban smoking in all schools
- Ban cigarette and tobacco advertising near to schools
- Curtail promotion of alcohol products targeted to women and children
- Establish target dates for passage of the legal provisions in the FCTC already ratified.

# Addressing the Risk Factors

## *Physical Activity*

- Have physical education compulsory in schools and provide the facilities
- Provide healthy, secure exercise spaces
- Provide wellness centers
- Give tax relief for worksite exercise facilities

# Addressing the Risk Factors

## *Improve Dietary Practices*

- Promote a standard of meals in public eating places, e.g. eliminating trans fats
- Provide healthy school meals
- Establish community based networks for training in preparation of health foods
- Mandate RNM to investigate the trade issues which impact negatively on healthy food imports
- Promote elimination of trans fats from Caribbean diets

# Secondary Prevention

- Screening programs for NCDs
- Provide health services with resources to apply the established cost-effective interventions
- Establish mechanisms to ensure availability of the medications necessary for the long term treatment of NCDs when they occur



# Other Critical Recommendations

- Establish national-level commissions on NCDs
- Establish a system of behavior and risk factor surveillance with support of CAREC and UWI
- Insist on the updating of the Caribbean Regional Plan of Action for NCDs
- The Community should name a “CARICOM WELLNESS DAY”

## *Involve Partners*

- PAHO/WHO
- Financial institutions
- Caribbean social partners: private sector and civil society

## *Monitoring and Evaluation*

- Designate CARICOM/PAHO as the joint Secretariat with responsibility for monitoring and reporting progress in the control of the NCDs.

# Implementation

- International Mandates
  - FCTC
  - DPAS
  - Regional Strategy & Plan of Action
- Effective Interventions
- Existing Regional and Subregional Initiatives and Tools

# Information on NCDS and RF

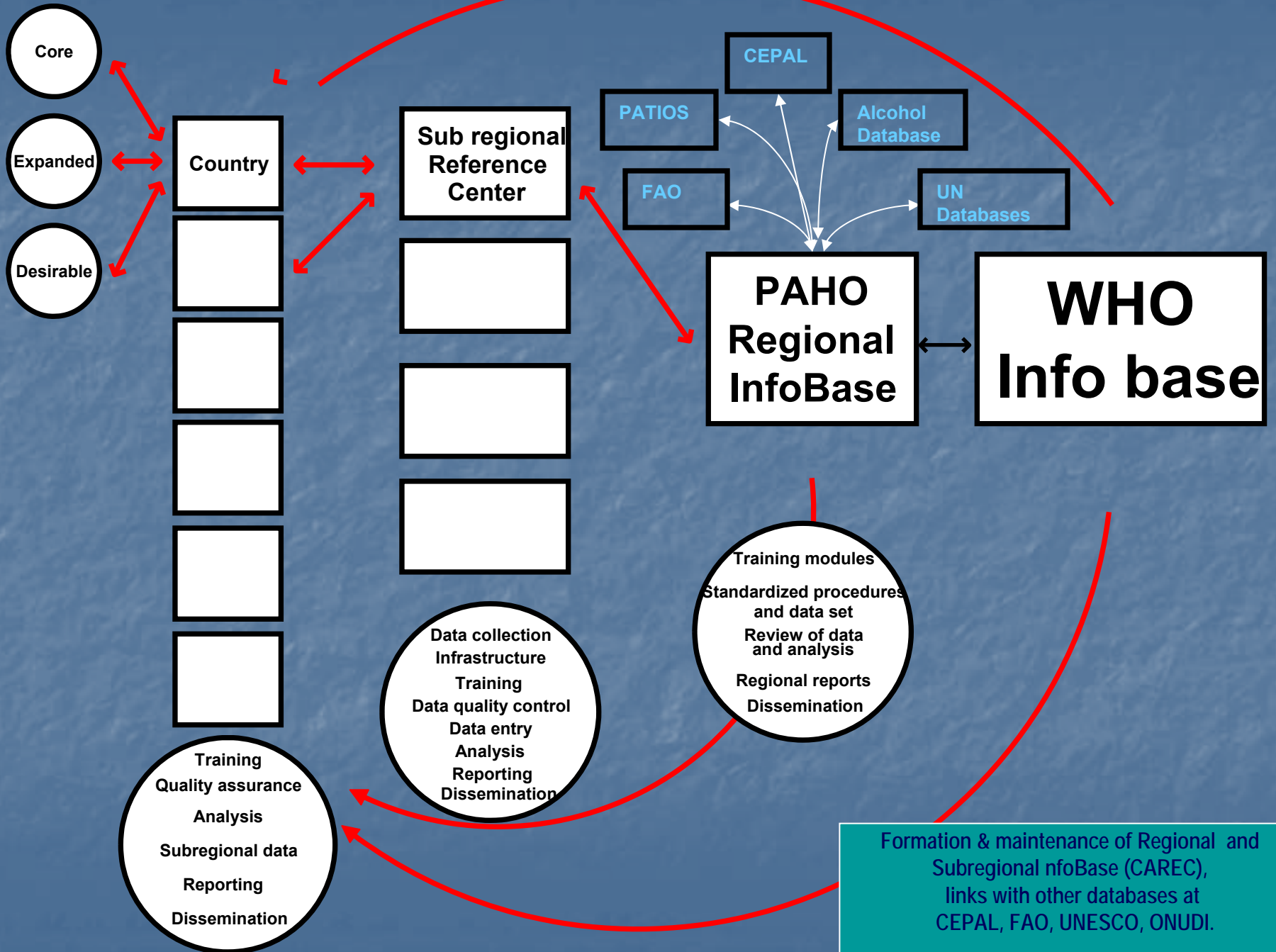
- **Minimum Dataset** proposal for a set of basic indicators, optimal and (based on the proposal of the Caribbean, PAHO Basic data initiative and proposal for indicators from Canada, CDC, Brazil and Mexico) and manual
- **Pan Am STEPS Methodology for RF Surveillance**  
*(Caribbean: Bahamas, Aruba, Barbados, Trinidad & Tobago, St. Kitts & Nevis, St. Vincent & the Grenadines, Turks & Caicos, Dominica, Grenada)*

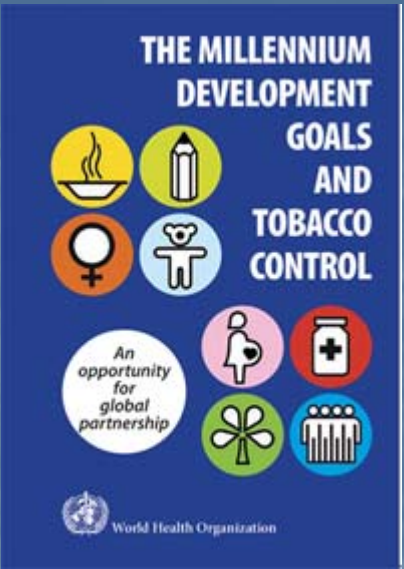
# InfoBase

- Constructed on existing PAHO database
- Use of same instruments:  
online data tabulator, atlas
- Publication annually

## Link with other information bases on CNCDs

- InfoBase-WHO (8 FR)
- PATIOS –PAHO (tobacco)
- Alcohol global InfoBase
- ECLAC, FAO, UN (protective factors)





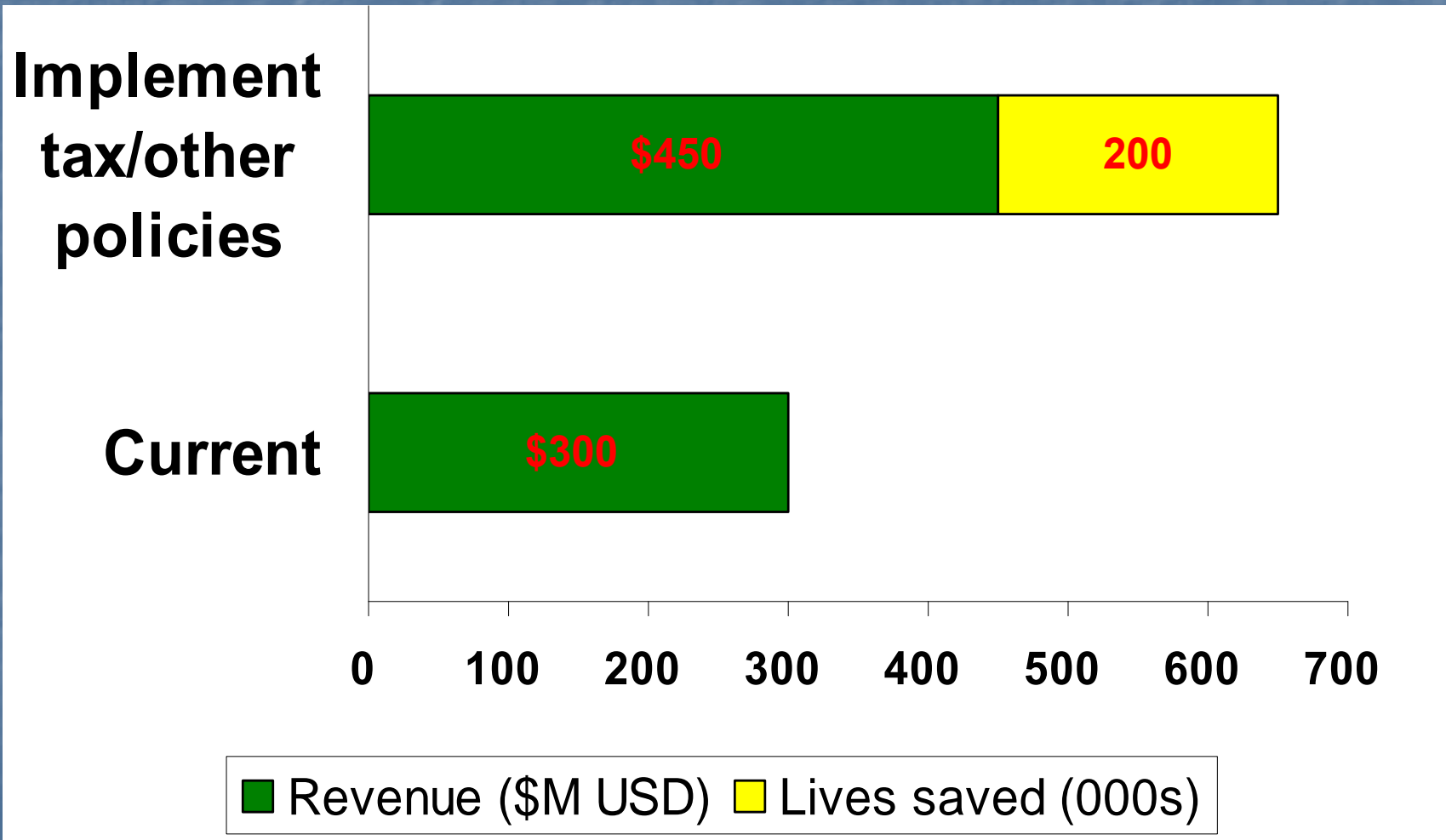
# Four Main Messages

4 actions to save 0.15-0.25 million lives in CARICOM:

- Take tobacco seriously: *big* cause of death and *big* cause of poverty
- Focus on adults *stopping* as well as kids
- *Triple excise tax* on cigarettes would double the retail price, drop consumption by at least 30%, and raise ~ USD \$150 million more in tax revenue
- Other interventions: *big, local packet warnings* labels with tax stamp (to counter smuggling), *absolute* ad ban, *complete* ban on public smoking, smoking question on *death certificates*

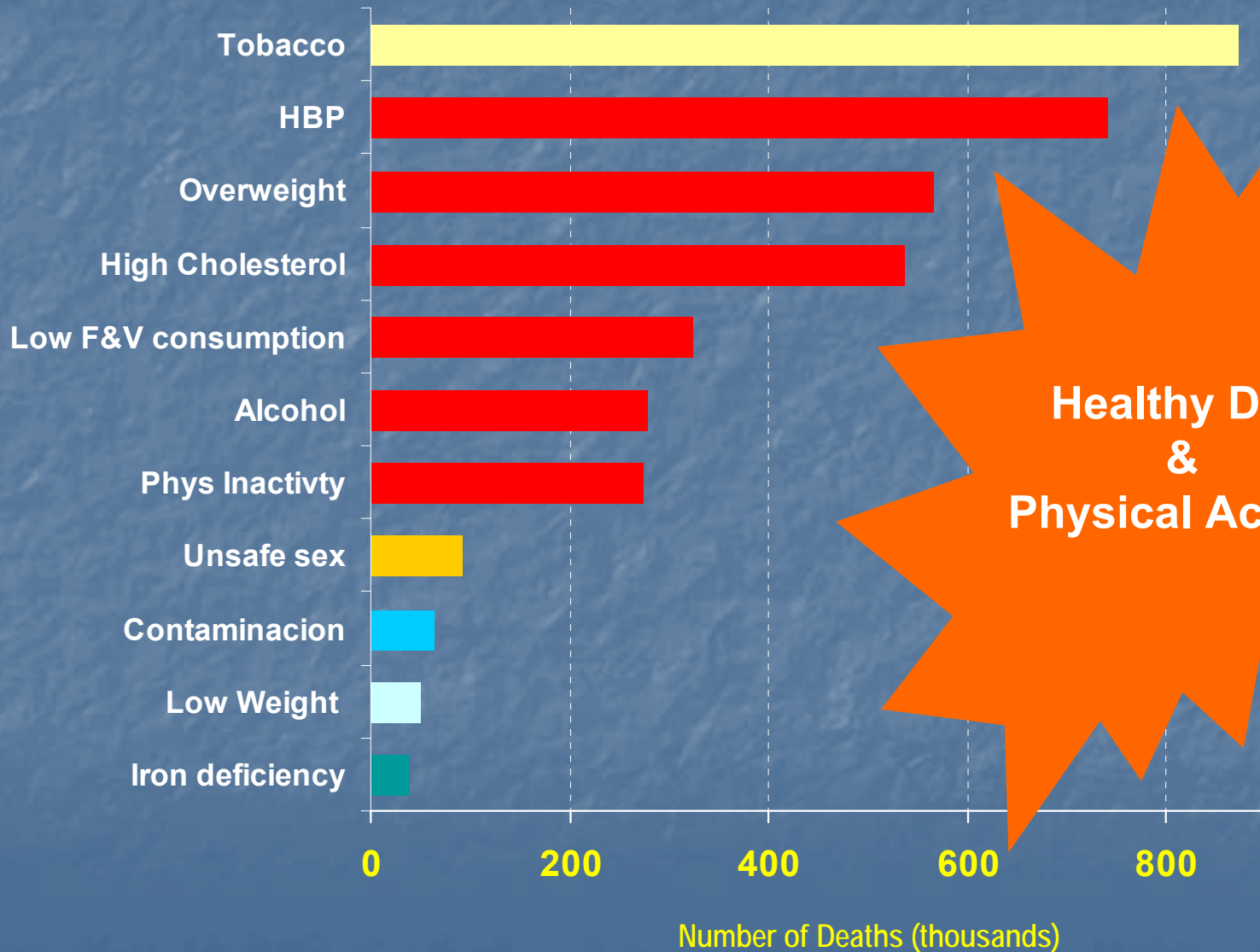


# Tobacco control could save lives and raise revenue in CARICOM





# Health Risk Factors in the Americas, 2000



Healthy Diet  
&  
Physical Activity



**We are exposed to  
500–800  
food additives a day**

**Fat?  
Saturated Fat?  
Calories?  
Trans fat?  
Additives?  
Fiber?  
Salt?  
Carbohydrates?  
HFCS?.....**



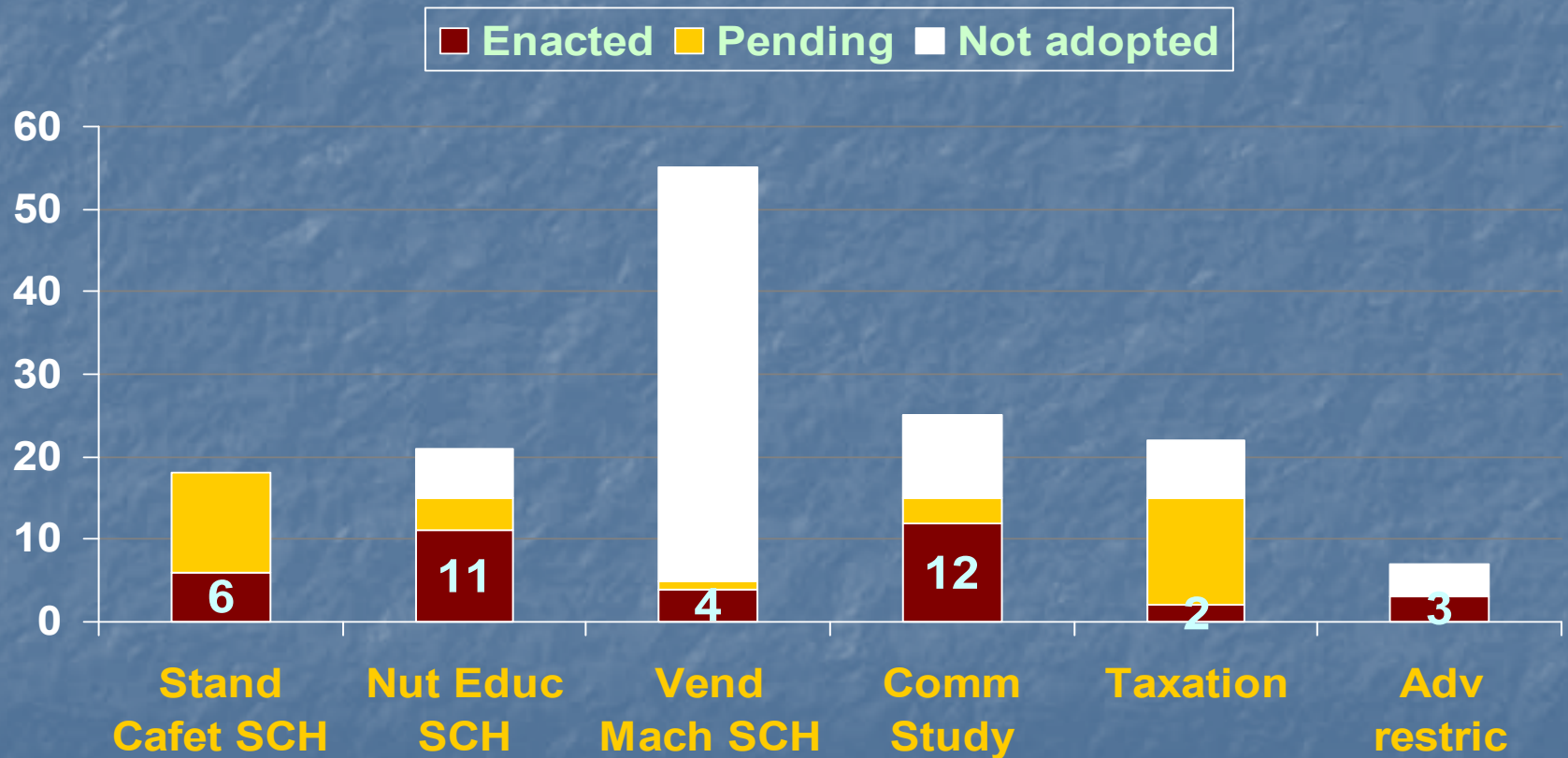
**Accessibility and affordability of fresh produce, fat-free milk and unrefined grains**

**School & work place changes**

**Food advertising aimed at children <12**

**Reduce salt, sugar and fat (TF) in processed foods**

# State Legislative Preventive Nutrition Initiatives, US 2006

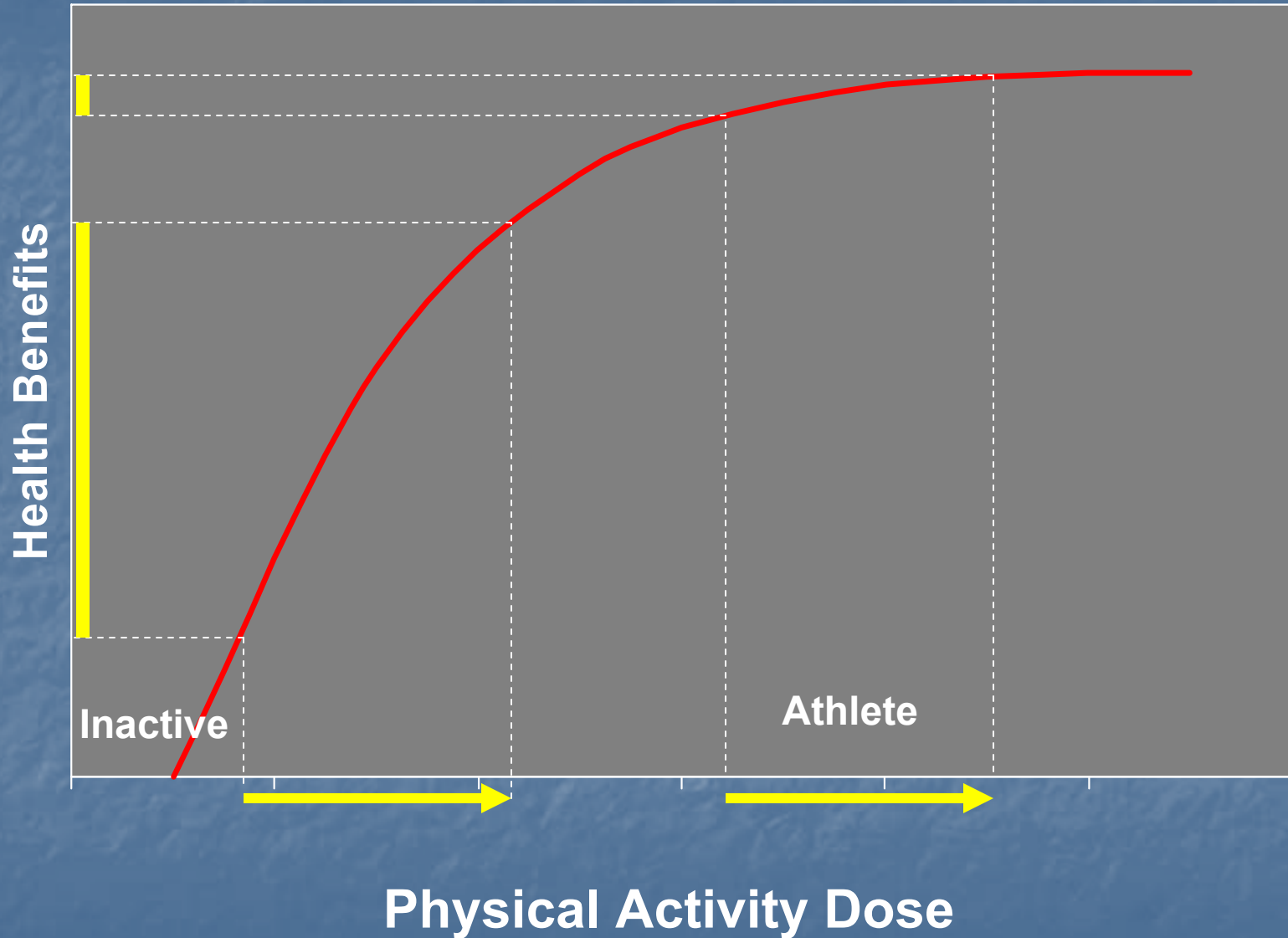


Melo M. et.al N Eng J Med 354;24, June 15, 2006. Data: National Conference of State Legislatures

# Trans Fat Free Americas

- Working group
- Meeting with food industry
- Meeting with oil producers

# Exercise Dose-Response Curve







More and better public spaces for recreation

Access to rapid mass transportation

Transit-oriented development

Safety on the streets and roads



YEREVAN	7,013 MI.
DHAKA	8,668 MI.
BALIKPAPAN	10,047 MI.
KUTA MAYA	1,180 MI.
SWAKOPMUND	0,148 MI.
GATE AL-MUSHATTA	7,187 MI.
OUAGADOUGOU	6,161 MI.
MBE	7,743 MI.
BAANAO	3,338 MI.
DJIBOUTI	8,352 MI.
MALL	2 MI.

Whichever way you go, you'll require a sturdy mode of transport...prefers something with a fresher sport. We recommend a new car. One capable of carrying all the treasures you may acquire. For some, a camel will do. But the well-reasoned traveler...



RANGE ROVER



A photograph of a busy city street, likely in an urban area, with a blue semi-transparent overlay. The street is filled with pedestrians, cars, and buildings. A bus is visible in the distance. The overlay contains three lines of text: 'Walking: 9.3%', 'Public Transportation: 17.8%', and 'Obesity: - 2.3 %'.

**Walking: 9.3%**

**Public Transportation: 17.8%**

**Obesity: - 2.3 %**

*Thank you*