

# Economic Impact of Non-communicable Disease in the Caribbean

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# Outline of Presentation

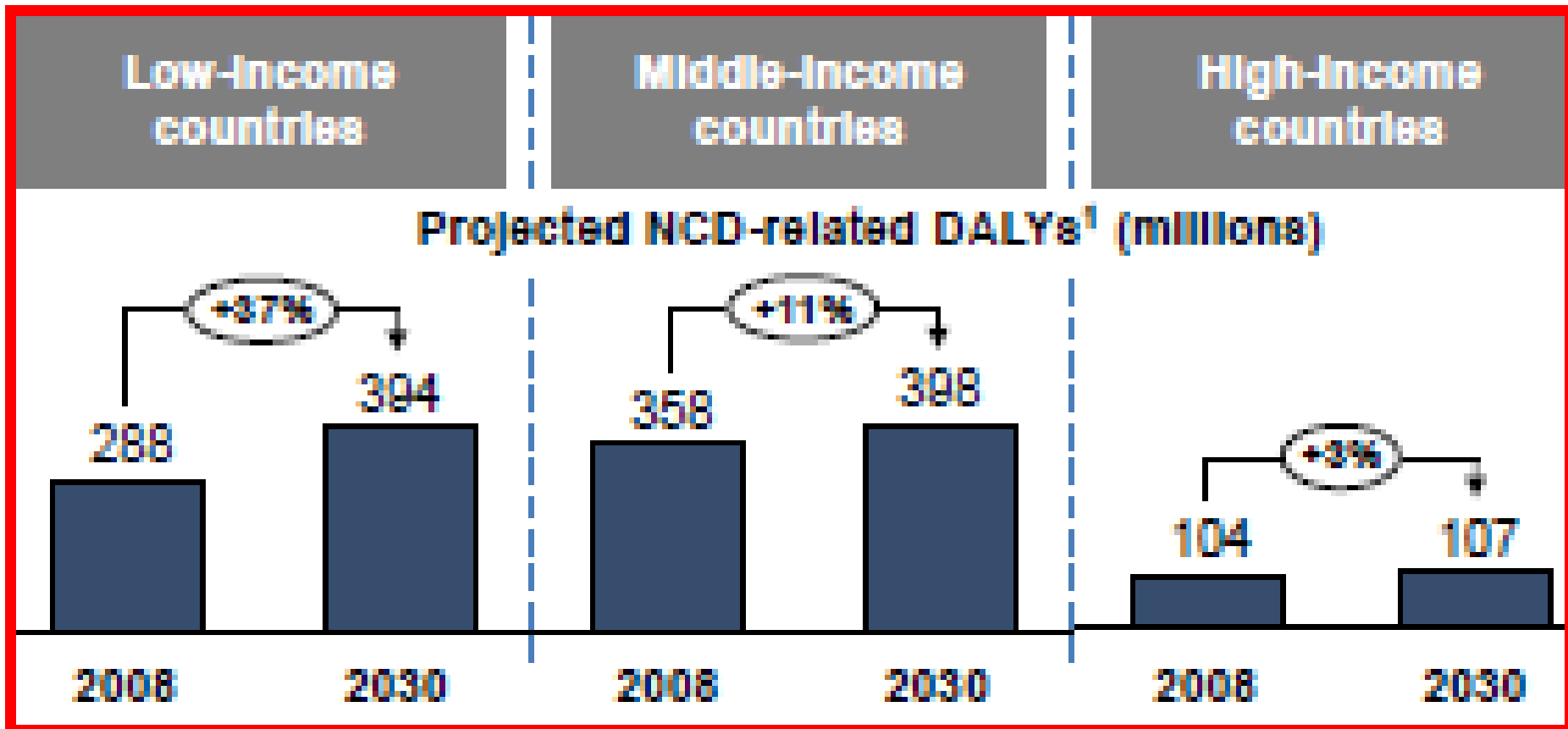
- 1. Why focus on Non-communicable Diseases (NCDs)**
- 2. Economic Implications of NCDs**
- 3. Financing Strategies to address NCDs**



# •Why NCDs Matter

- **NCDs are becoming chronic emergency in middle-income and low-income countries**
- **NCDs present a particularly daunting challenge for middle- and low-income countries because of the scale of the burden relative to their level of economic development.**

# Increase Burden of Diseases due to NCDs in Disability-adjusted life years (DALYs)



# Burden of NCDs in the Caribbean

- **NCD deaths are 5 times of deaths from other diseases**
- **NCD deaths are 10 times of deaths from HIV/AIDS**
- **NCDs account for 65% burden of diseases**



# NCDs #1 KILLER IN AMERICAS REGION

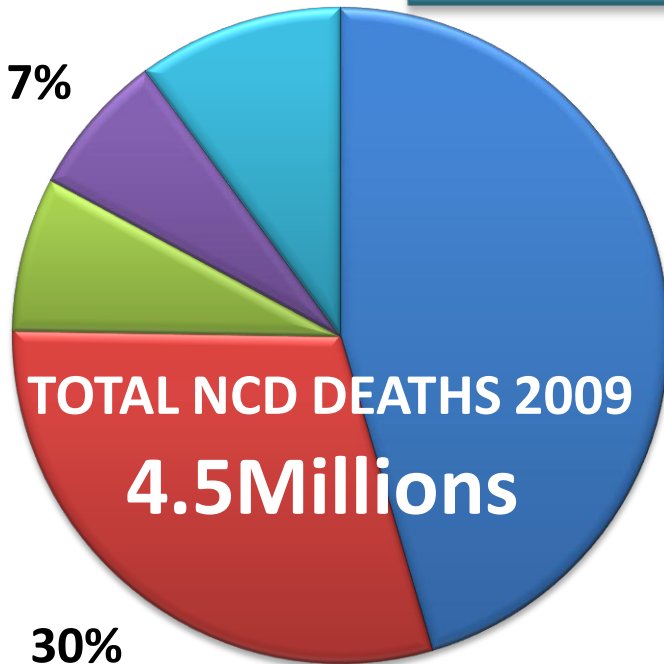
Chronic respiratory disease

10%

Other NCDs 7%

Diabetes 8%

30%  
Cancer



45%

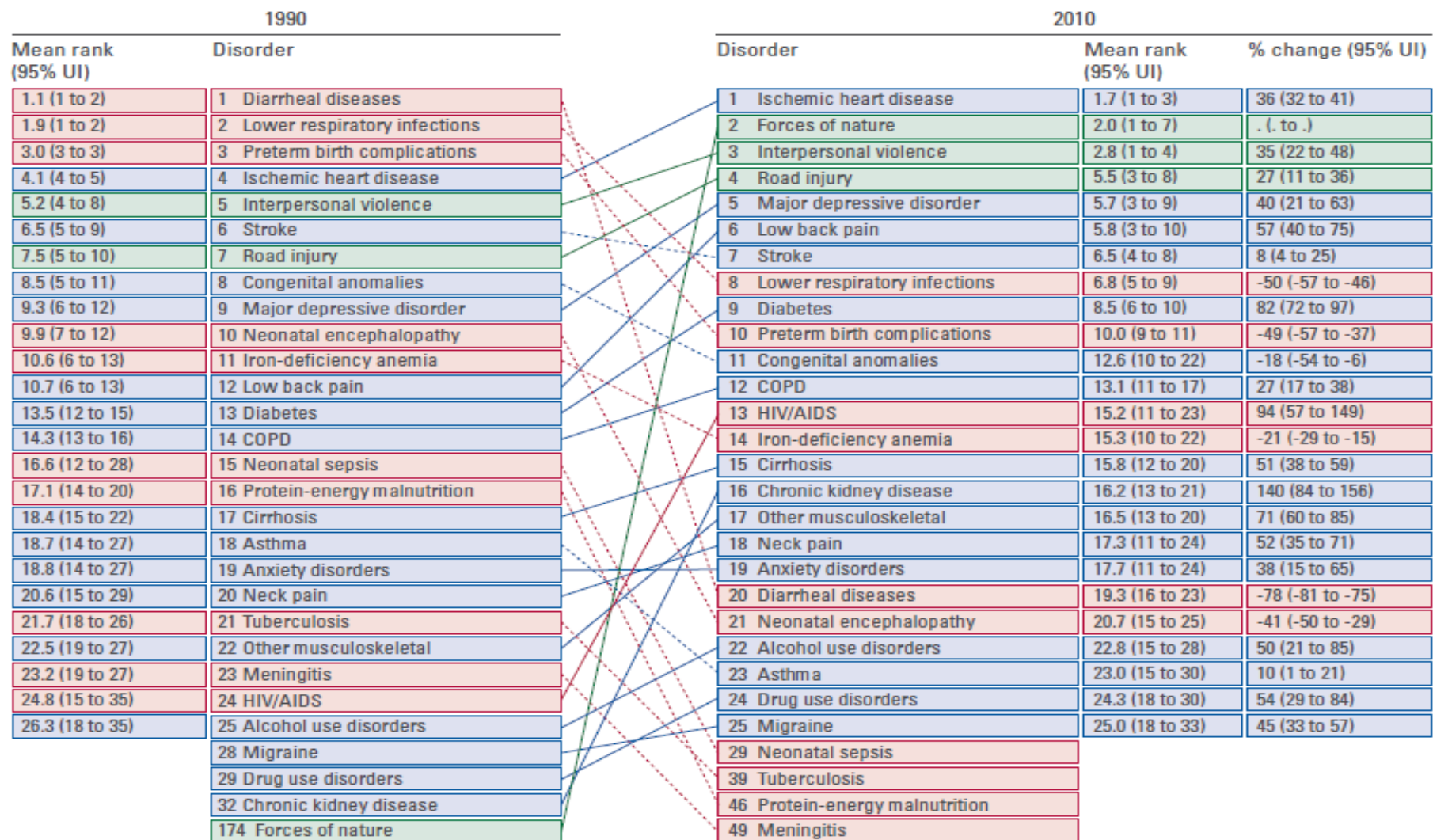
Cardiovascular  
diseases

**37% deaths are  
below age 70 years**

149 million smokers  
30-40% of 25-64 hypertensive  
25% persons >15 years old obese

Approx 250,000,000 people live with an NCD in the Americas region

**Figure 2: Disability-adjusted life year ranks, top 25 causes, and percentage change in Latin America and Caribbean, 1990-2010**



■ Communicable, newborn, nutritional, and maternal  
■ Non-communicable  
■ Injuries

— Ascending order in rank  
- - - Descending order in rank

# Changing of Burden of Diseases

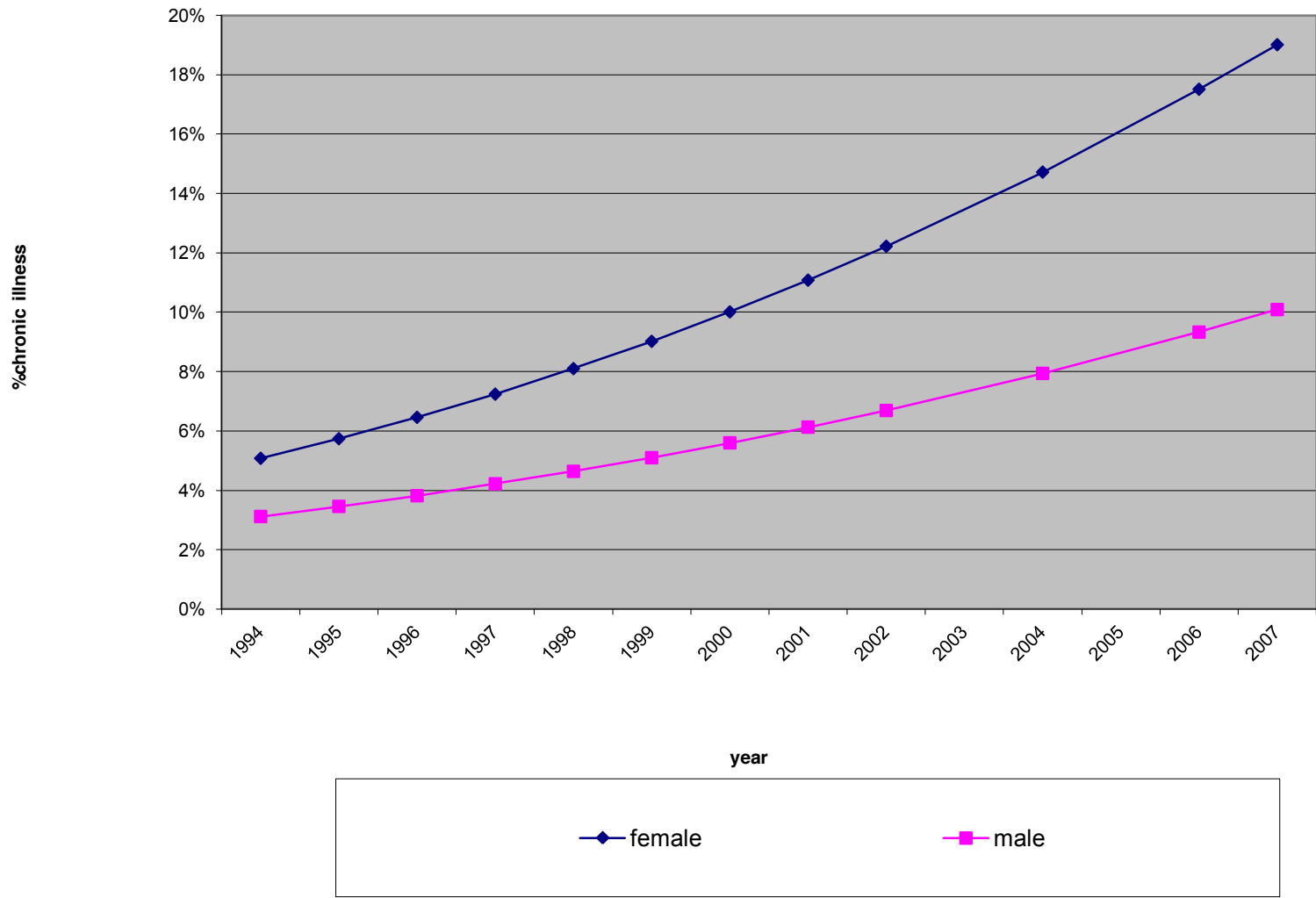
1. In 1990 Diarrheal Diseases ranked **No. 1** and in 2010, it ranks **No. 20**.
2. In 1990 Forces of nature ranked **No. 174** and in 2010, it ranks **No. 2**

## Top 5 burden of diseases In 2010

1. Heat diseases
2. Forces of Nature
3. Violence
4. Road injury
5. Major depressive disorder



# Jamaica: Trend of NCDs

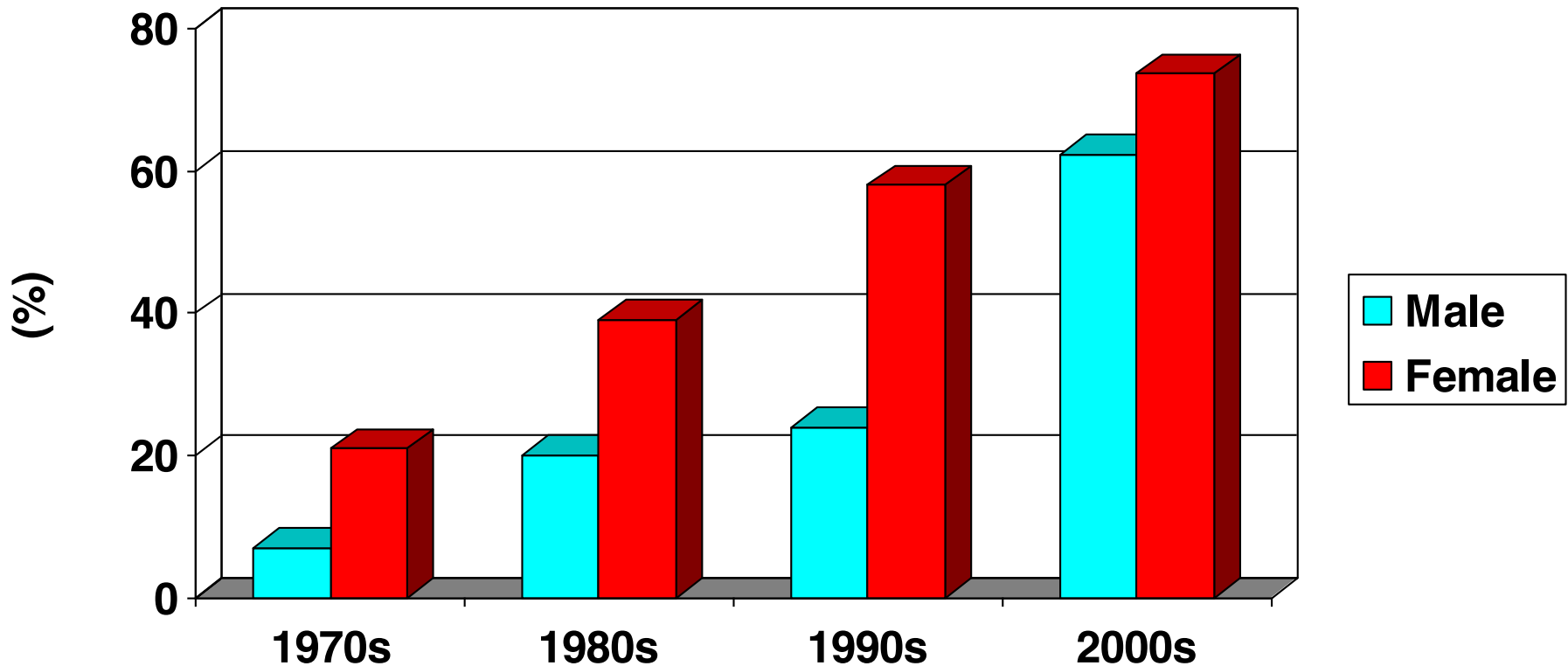


# HIGHEST FEMALE (15YR+) OVERWT/OBESITY IN THE WORLD (WHO 2011)

Rank	Country	%
<b>1</b>	<b>Nauru</b>	<b>82</b>
<b>2</b>	<b>Tonga</b>	<b>81</b>
<b>3</b>	<b>Micronesia</b>	<b>79</b>
<b>4</b>	<b>Cook Is.</b>	<b>73</b>
<b>5</b>	<b>Samoa</b>	<b>72</b>
<b>6</b>	<b>Niue</b>	<b>70</b>
<b>7</b>	<b>Kuwait</b>	<b>67</b>

Rank	Country	%
<b>8</b>	<b>Barbados</b>	<b>63</b>
<b>9</b>	<b>Palau</b>	<b>62</b>
<b>10</b>	<b>Trinidad</b>	<b>61</b>
<b>11</b>	<b>Dominica</b>	<b>60</b>
<b>12</b>	<b>Egypt</b>	<b>59</b>
<b>13</b>	<b>USA</b>	<b>55</b>
<b>14</b>	<b>Jamaica</b>	<b>53</b>

# ADULT OVERWEIGHT/OBESITY TRENDS IN THE CARIBBEAN



# Economic Implications of NCDs



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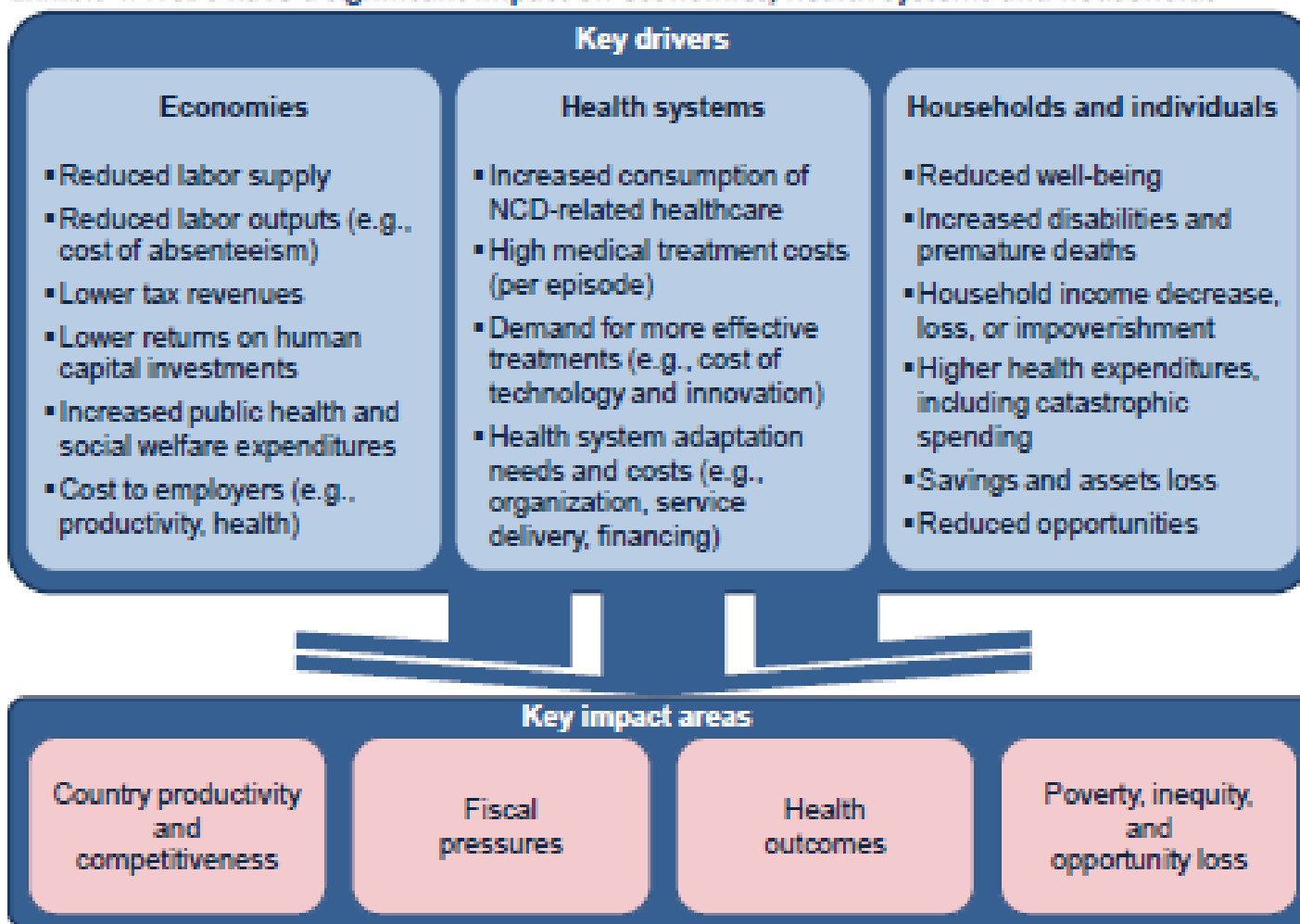


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# Socioeconomic Impact of NCDs

Exhibit 4. NCDs have a significant impact on economies, health systems and households



Source: World Bank analysis by the authors.

# Fiscal Pressure of NCDs

- **Lose tax revenue;**
- **Increase health and social protection expenditures;**
- **Reduce fiscal space;**
- **Limit governments' ability to invest in economic development and general social welfare.**

# NCD Situation not Sustainable



- **\$47trillion output lost globally in 20 years (75% of global GDP in 2010)**
- **\$500billion annually in LMICs = 4% GDP**

World Economic Forum and the Harvard School of Public Health, 2011



# Methodology to estimate NCD cost

**Three distinct approaches are used to compute the economic burden:**

- (1) the standard cost of illness method;**
- (2) macroeconomic simulation and**
- (3) the value of a statistical life.**

World Economic Forum and the Harvard School of Public Health, 2011



# Examples of economic impact

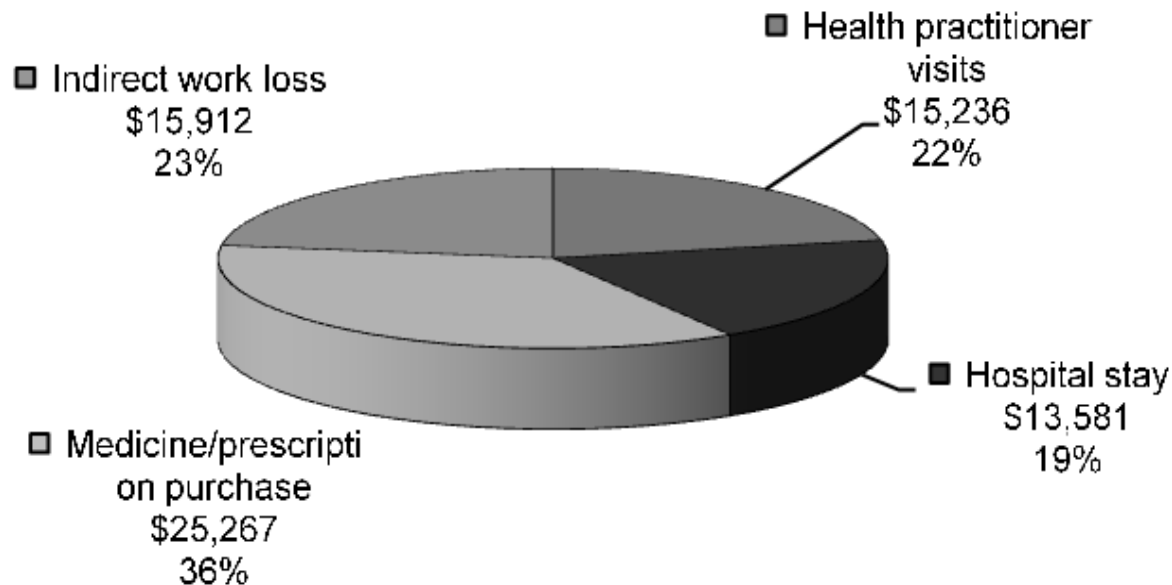
- **China: reducing cardiovascular mortality by 1% per year between 2010 and 2040 could generate an economic value equivalent to 68% of China's real GDP in 2010 or over PPP US\$10.7 trillion**
- **Egypt: NCDs could be leading to an overall production loss of 12% of Egypt's GDP**
- **Brazil: costs of NCDs between 2005 and 2009 could equal 10% of Brazil's 2003 GDP**
- **India: eliminating NCDs could have, in theory, increased India's 2004 GDP by 4%-10%** from world bank publications

# Estimating Economic Burden of NCDs

- **Economic Burden to individuals have two components:**
  - **Direct economic burden:** at individual level is the sum of
    - (a) out-patients visits; (b) hospital stays, and (c) medication.
  - **Indirect economic burden** of NCDs is from reduction of productivity due to illness.



# Estimated Average Economic Burden Per Person with NCD in Jamaica 2008 is about J\$70,000

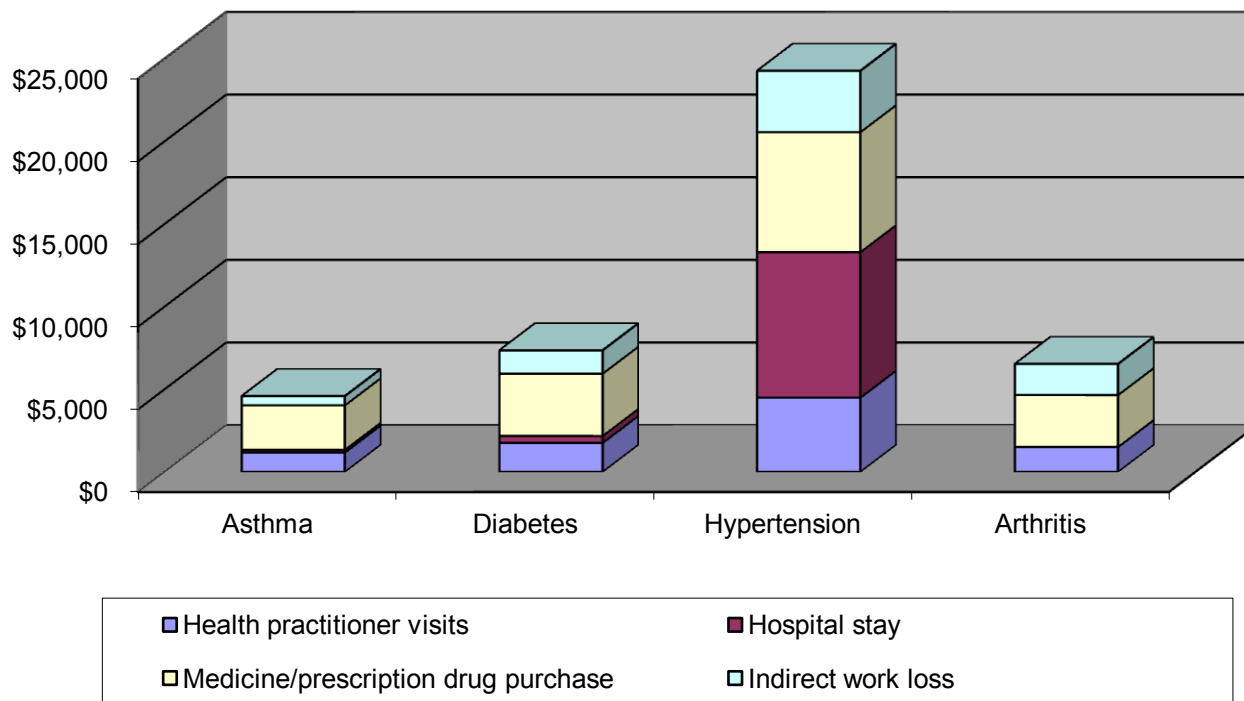


Source: World Bank in 2008  
Jamaica dollar



# National Aggregate Economic Burden

National aggregate economic burdens by conditions, in J\$M



Source: JSLC author calculation.  
2008 Jamaica million Dollar

# Economic Implication of NCDs

- Based on household survey data, NCDs economic burden accounted for **3% of Jamaica GDP** in 2008. This does not include government expenditure or insurance expenditure.
- Health expenditure on a diabetic patient ranges from **US\$322 to US\$769 per year** which is more than annual per capita spending for health in the six OECS countries.
- Data for Saint Lucia show that NCD patients **spend 36 percent of their annual household expenditures** on out-of-pocket healthcare costs for NCD care.

# Direct Cost of Diabetes & Hypertension

Caribbean Countries	Total Cost (US\$ M)	As % of Public Health Exp
Guyana	74.5	<b>211.3</b>
Jamaica	289.0	<b>175.3</b>
Suriname	42.3	<b>122.2</b>
St Vincent & Grenadines	12.2	83.0
Dominica	8.0	69.3
St Lucia	17.0	66.1
St Kitts & Nevis	4.9	47.9
Belize	19.6	47.8
Trinidad & Tobago	131.6	41.0
Barbados	38.1	31.6
Anguilla	1.6	30.5
Montserrat	1.1	27.2
Antigua/Barbuda	7.7	25.7
Grenada	6.0	25.5
BVI	2.6	18.4
Bahamas	34.8	17.6

# Strategies to address NCDs



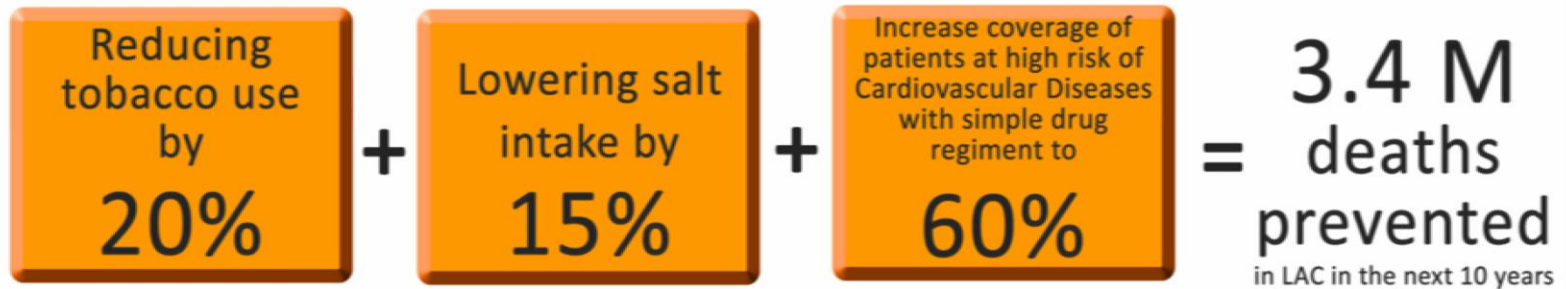
# Challenges for Low and Middle Income countries

- **Most countries lack the means to “treat their way out” of the NCD challenge.**
- **Rising trends in NCD prevalence and treatment costs will force countries to make deliberate, and often very difficult choices in creating strategies to address NCDs in a sustainable way.**
- **The strategy should strongly emphasize prevention, alongside efforts to provide effective treatment.**



# We can avoid 3 million deaths in 10 years in LAC

## NCDs ARE HIGHLY PREVENTABLE



\*Gaziano T, et al. Scaling-up interventions for chronic disease prevention: the evidence. Lancet, 2007,370: 1939-46; extrapolated to countries of Latin America and Caribbean countries.

The tobacco and salt intake interventions would be cost than US \$ 0.40 per person/year in low and middle income countries, and US\$ 0.50-1.00 in upper middle-income countries

Plus Education & Communication

# WHO NCD 'Best Buys': \$9/Bn/yr investment for developing world

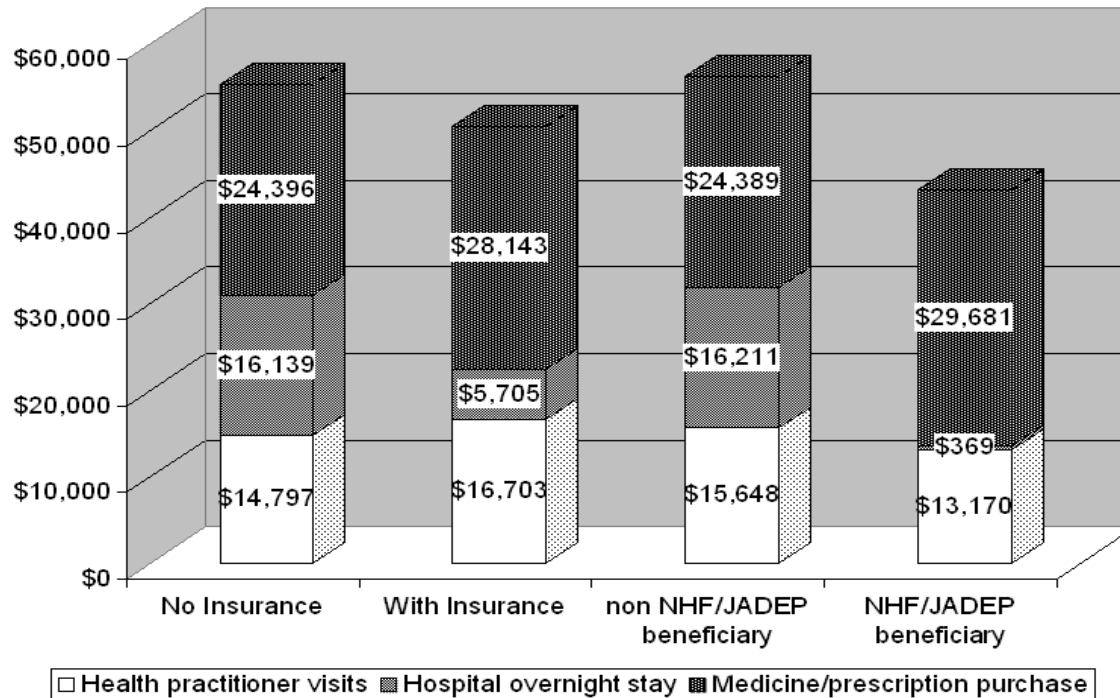
Condition	Interventions
<b>Tobacco use</b>	Tax increases; smoke-free indoor workplaces & public places; health information / warnings; advertising/promotion bans
<b>Alcohol use</b>	Tax increases; restrict retail access; advertising bans
<b>Unhealthy diet &amp; physical inactivity</b>	Reduced salt intake; replacement of trans fat; public awareness about diet & physical activity
<b>CVD &amp; diabetes</b>	Counseling & multi-drug therapy (including glycaemic control for diabetes) for people with >30% CVD risk (including those with CVD); treatment of heart attacks with aspirin
<b>Cancer</b>	Hepatitis B immunization to prevent liver cancer; screening & treatment of pre-cancerous lesions to prevent cervical cancer

# Jamaica's Response to NCDs

- **National Health Fund (NHF) created in 2003 using Taxation from tobacco.**
  - Individual Benefits:
    - NHF Card: Subsidizes drugs for all Jamaican residents with eligible NCDs
    - JADEP Card: The Jamaica Drug for the Elderly Program (JADEP) that provides drugs free of charge to residents age 60 and over who suffer from eligible diseases
  - Institutional Benefits:
    - Health Promotion Fund: finances public and private sector health promotion and disease prevention programs and spends at least 10 percent of the NHF revenues
    - Health Support Fund: assists the public agencies by financing the infrastructure development activities such as purchasing equipment and renovating, refurbishing and constructing health



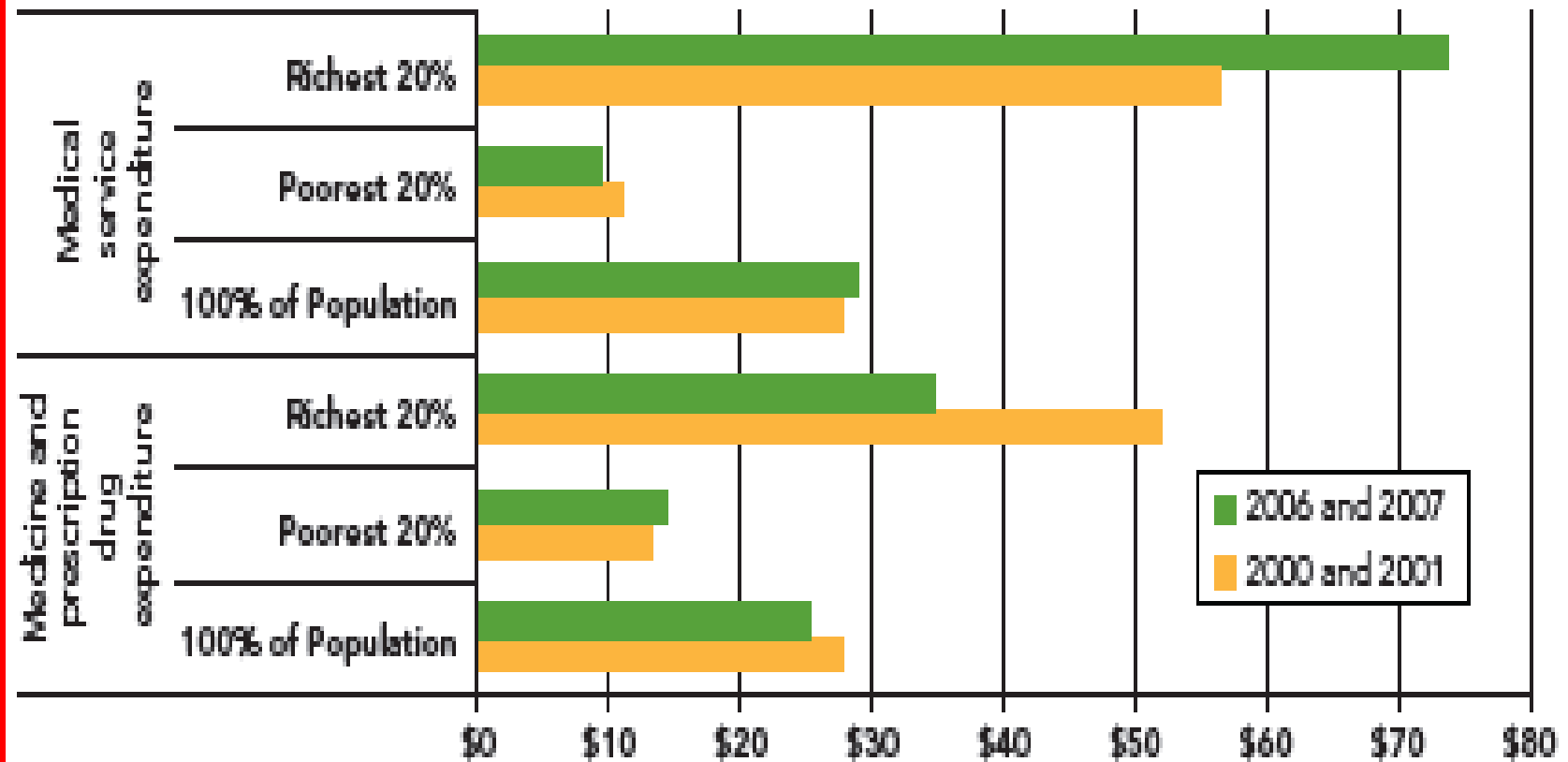
# Direct Healthcare Cost By Insurance



Source: JSLC author calculation. 2008  
Jamaica dollar

# Impact of NHF

Figure 1. Individual annual medical expenditures before and after NHF Program among NCD population (in 1000 2008 constant JMD)



# The Way Forward



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# Mitigate the impact of NCDs

- **On productivity and labor supply**
  - Targeted educational and worker training programs
  - Access to cost-effective NCD treatments
  - Develop employer-led disease management programs that help those with NCDs to continue working.
- **On competitiveness:**
  - high-level fiscal planning to avoid undue debt burdens, tax increases, and reductions to productive public investments.
- **On cost control:**
  - improving prevention efforts
  - leveraging existing communicable diseases management channels and community health worker schemes
  - Strengthening primary health care
  - Sharing resources – e-medicine

# How to make UHC a Reality

- **Universal Health Coverage**
  - What services to be covered
  - How to finance them
- **Financing Strategy**
  - Caribbean Regional financing strategy?
  - Regional health fund or Regional health insurance?
  - Where are the funds from at the country level
    - Financing through sin taxation
    - Pay-roll taxation
    - General taxation
  - Private Sector (insurance vs. fee for services)



[www.worldbank.org/lachealth](http://www.worldbank.org/lachealth)



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