

Global Tobacco Epidemic and Public Health Response



Joanna Cohen, PhD

Director, Institute for Global Tobacco Control

Bloomberg Professor of Disease Prevention

Johns Hopkins Bloomberg School of Public Health



Outline

- Profile of global tobacco use**
- Current and projected tobacco-related mortality and economic burden**
- Role of the tobacco industry**
- Public health tools to combat tobacco use**

Tobacco and Smokeless Tobacco Come in Many Forms



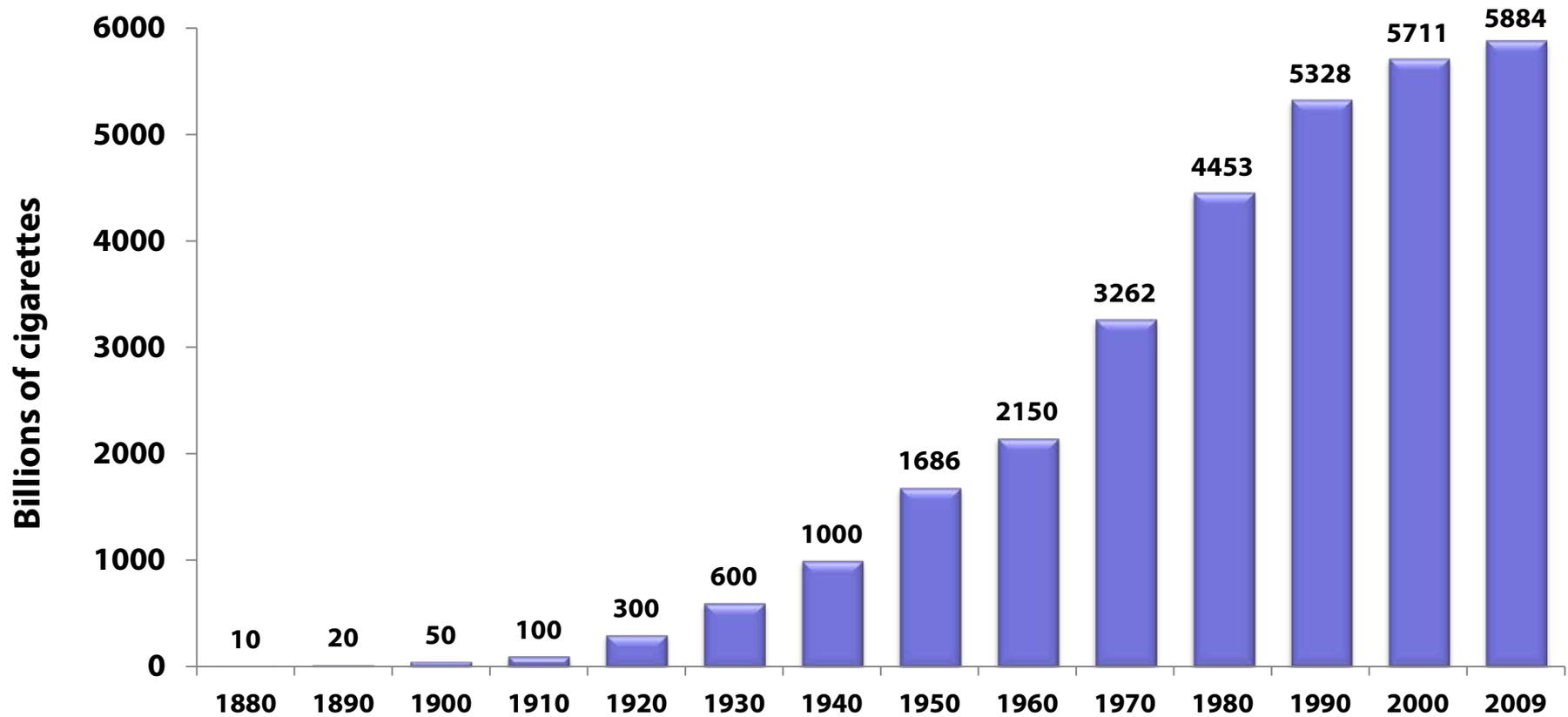


SINCE THE 1ST PUBLICATION
OF *THE TOBACCO ATLAS* A DECADE AGO,

MORE THAN
43 Trillion
CIGARETTES HAVE BEEN SMOKED.

1 BUTT = 10 BILLION CIGARETTES

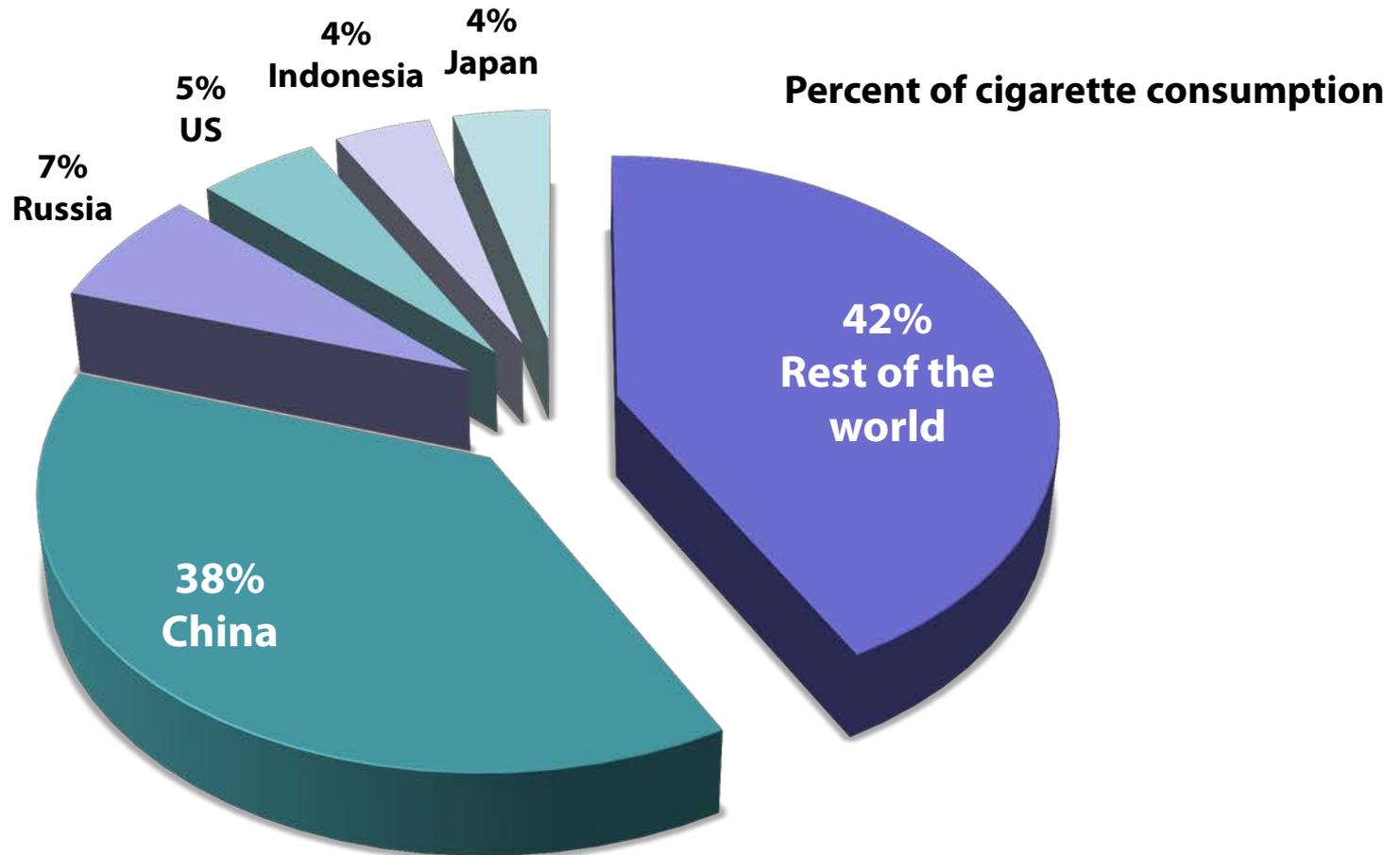
Global Cigarette Consumption in One Century Increased over 100 Times



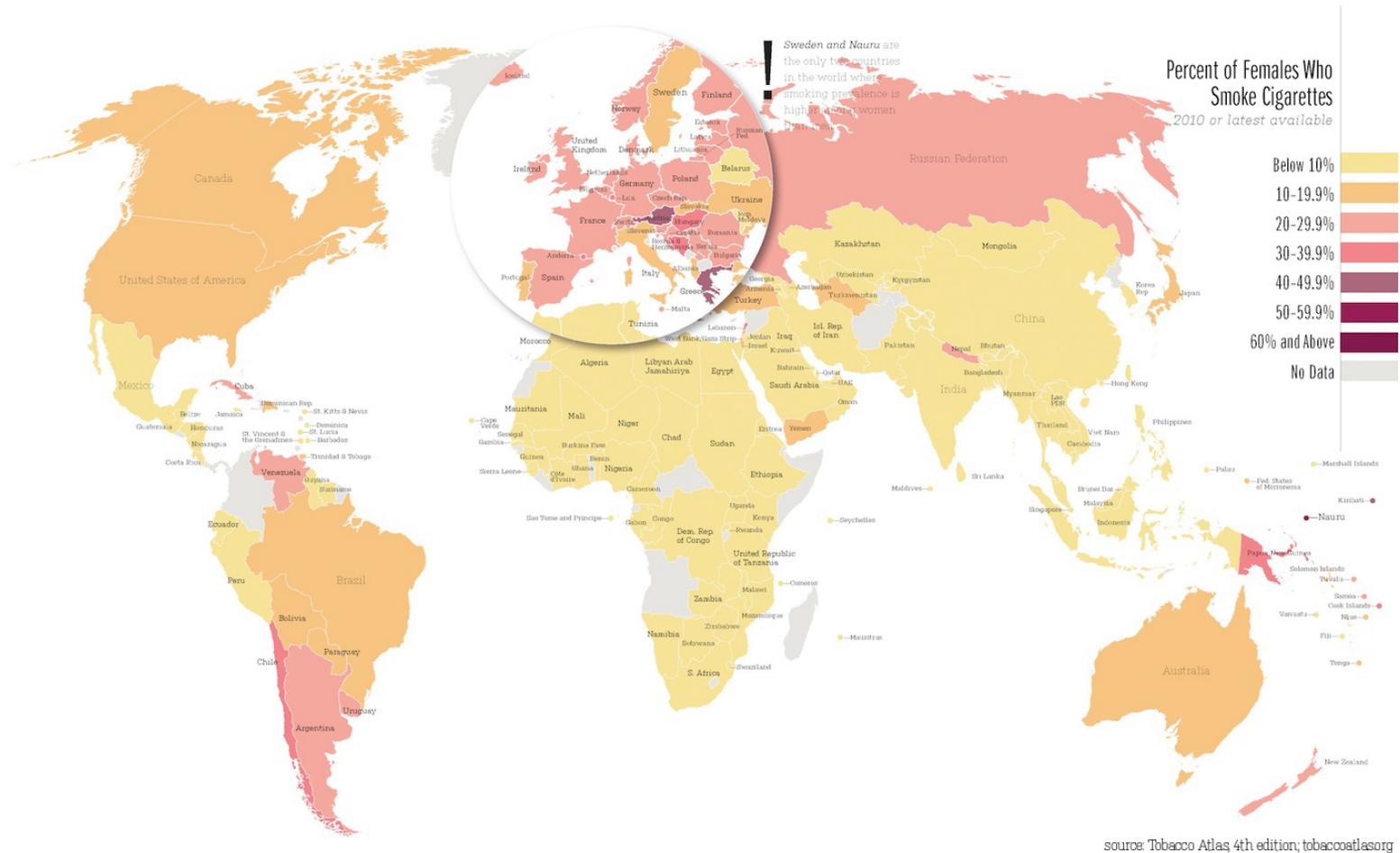
Tobacco Atlas, 2012, www.tobaccoatlas.org

Nearly 2/3 of the World's Smokers Live in Just 10 Countries

Live in Just 10 Countries



Female Smoking Prevalence (2010 or latest available)



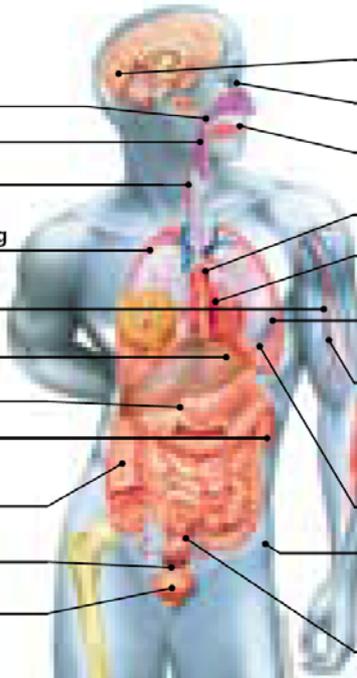
Smoking and Secondhand Smoke Damage Every Part of the Body

CANCERS

Larynx
 Oropharynx
 Oesophagus
 Trachea, bronchus or lung
 Acute myeloid leukemia
 Stomach
 Pancreas
 Kidney and Ureter
 Colon
 Cervix
 Bladder

CHRONIC DISEASES

Stroke
 Blindness, Cataracts
 Periodontitis
 Aortic aneurysm
 Coronary heart disease
 Pneumonia
 Atherosclerotic peripheral vascular disease
 Chronic obstructive pulmonary disease (COPD), asthma, and other respiratory effects
 Hip fractures
 Reproductive effects in women (including reduced fertility)



Smoking

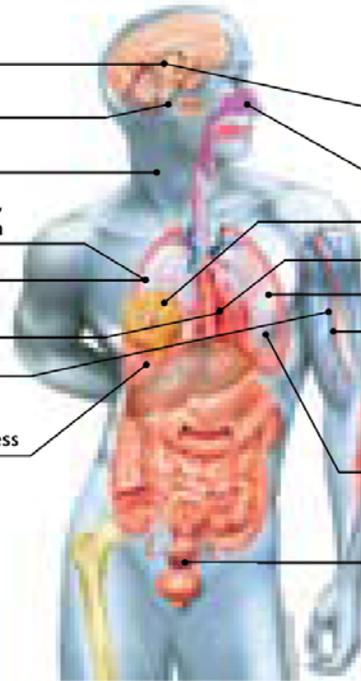
Secondhand Smoke

CHILDREN

Brain tumours*
 Middle ear disease
 Lymphoma*
 Respiratory symptoms, Impaired lung function
 Asthma*
 Sudden Infant Death Syndrome (SIDS)
 Leukemia*
 Lower respiratory illness

ADULTS

Stroke*
 Nasal irritation, Nasal sinus cancer*
 Breast cancer*
 Coronary heart disease
 Lung cancer
 Atherosclerosis*
 Chronic obstructive pulmonary disease (COPD)*, Chronic respiratory symptoms*, Asthma*, Impaired lung function*
 Reproductive effects in women: Low birth weight; Pre-term delivery*



* Evidence of causation: suggestive
 Evidence of causation: sufficient

Tobacco: The Only Risk Factor Shared by Four Major Non-communicable Diseases

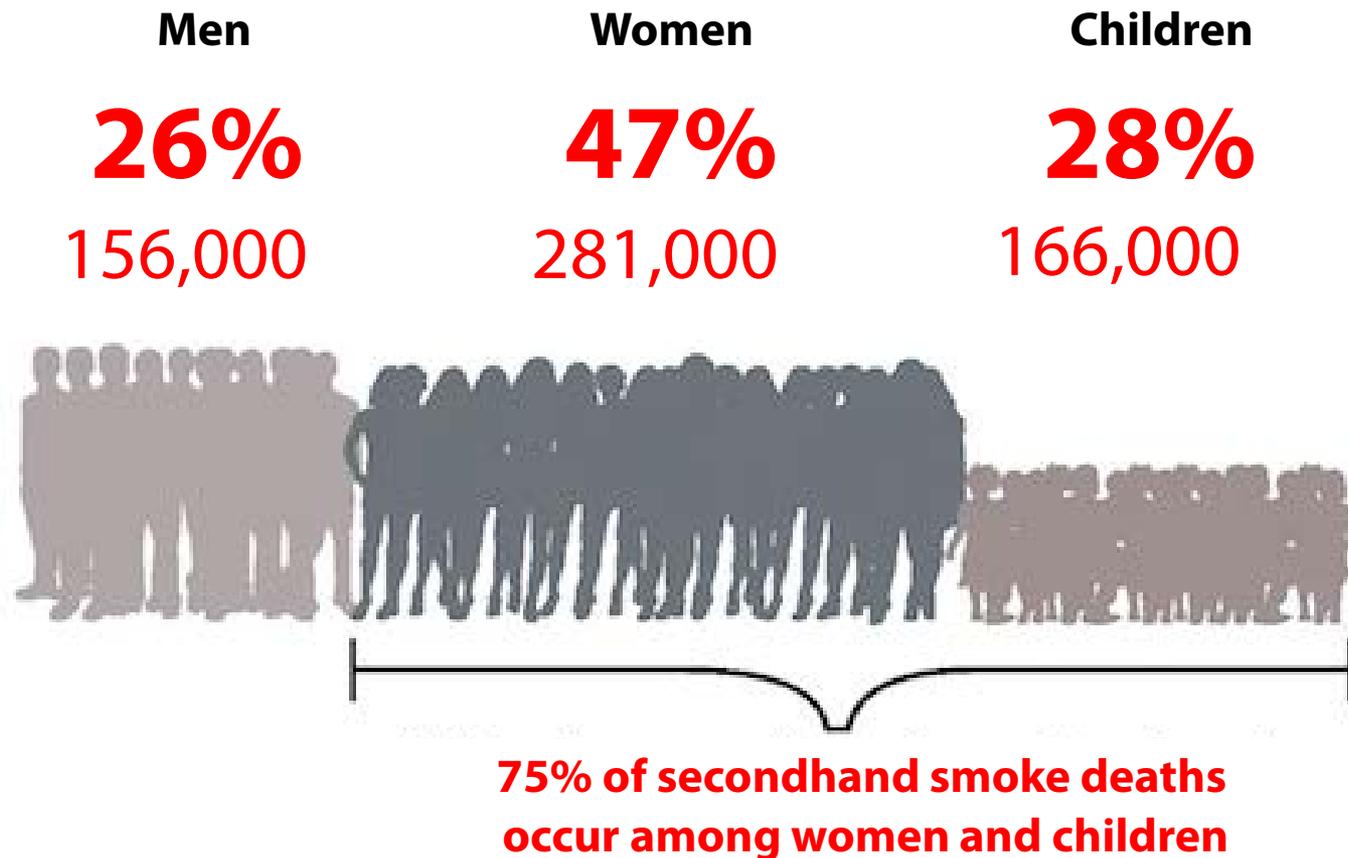
	Tobacco use	Unhealthy diets	Lack of physical activity	Use of alcohol
Cardiovascular	★	★	★	★
Diabetes	★	★	★	★
Cancer	★	★	★	★
Chronic Respiratory	★			



Global Burden of Tobacco Past and Present

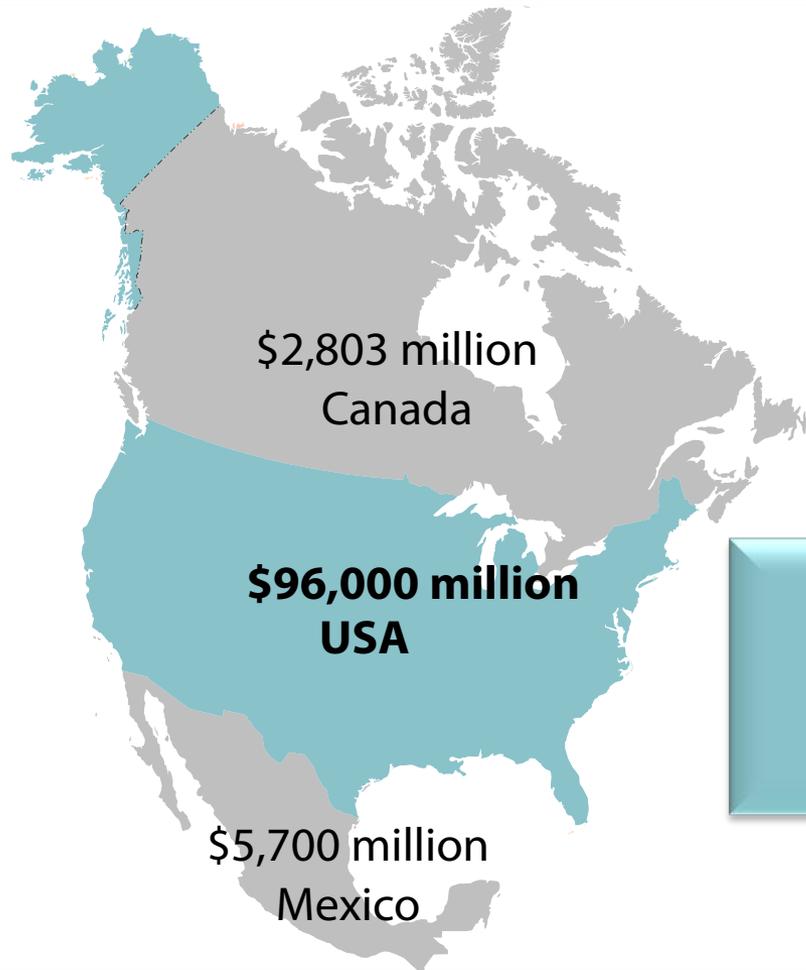
- ❑ **Tobacco killed 100 million people in the 20th century**
- ❑ **Tobacco use is now the world's single leading preventable cause of death**
 - Kills more people than HIV/AIDS, TB, and malaria combined
 - Responsible for >15% of deaths among men and 7% among women
- ❑ **Almost 6 million tobacco-caused deaths in 2011**
- ❑ **Tobacco kills up to half of lifetime smokers**
- ❑ **Smokers die an average of 14 years earlier than non-smokers**

More Than 600,000 Deaths Caused by Secondhand Smoking, 2004



Economic Burden of Tobacco-related Diseases

Direct Cost of Smoking



**Nearly 5% of
U.S. healthcare dollars
is spent on treatment of
tobacco-related diseases**

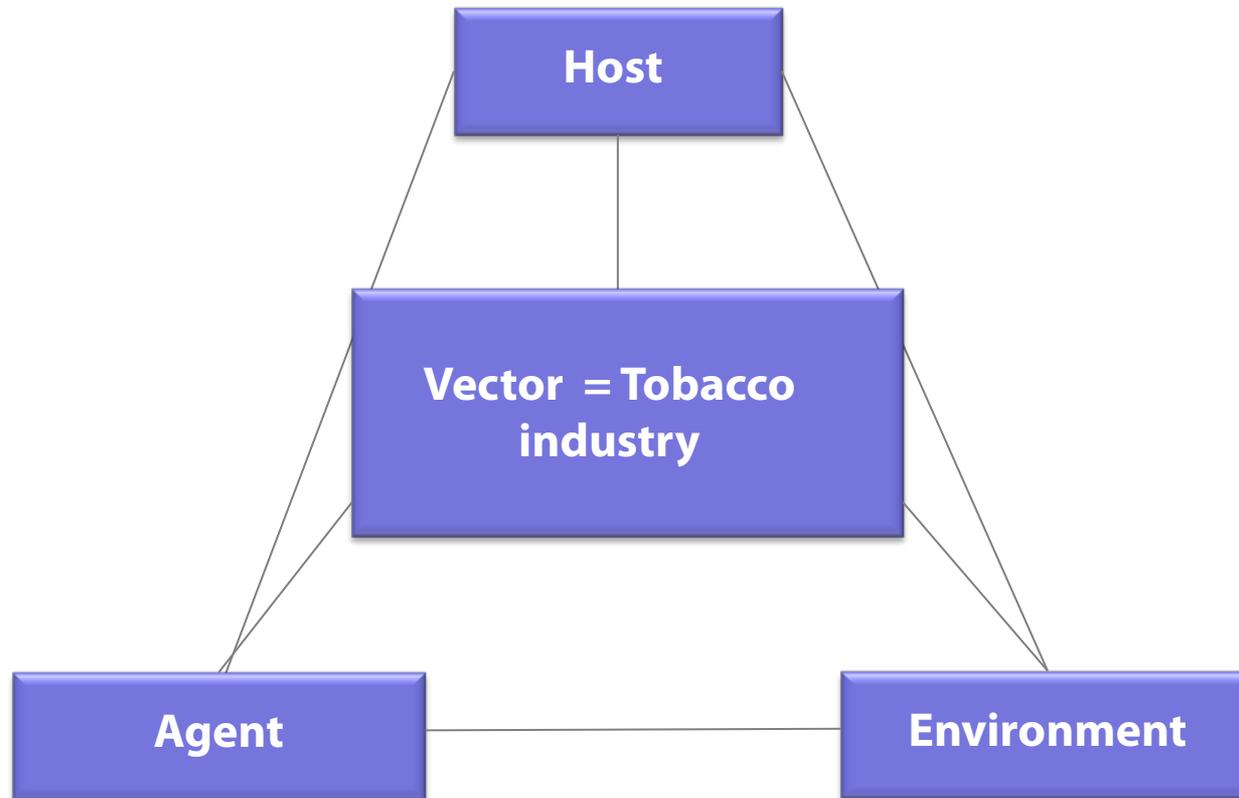
Future Global Burden of Tobacco

□ Without urgent action, 1 billion people will die from tobacco in the 21st century

- 500 million deaths among persons alive today
- Unchecked, worldwide deaths from tobacco products will exceed 8 million a year by 2030

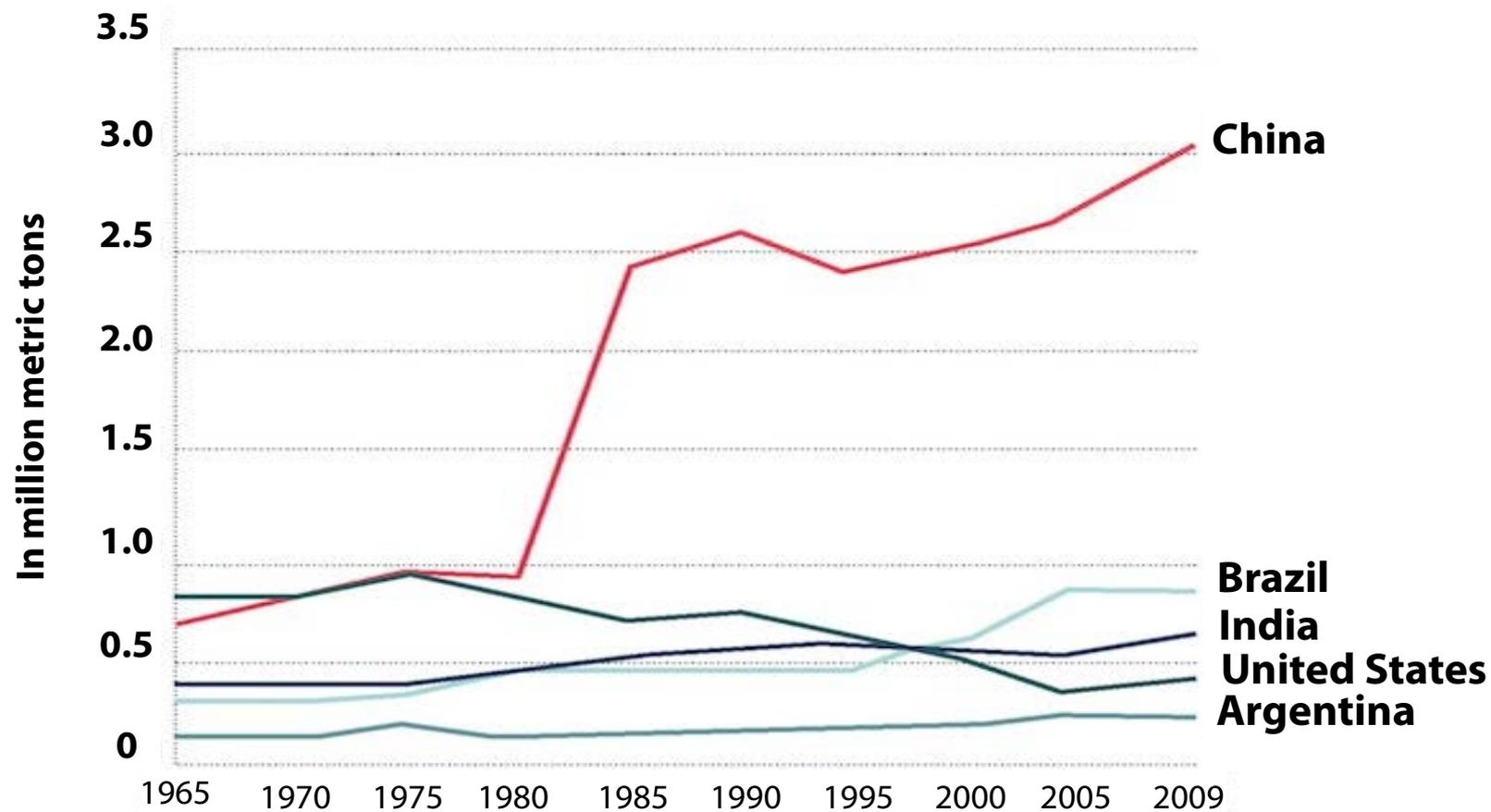
**Every death from tobacco products
is preventable!**

Vector of Disease



Trend in Tobacco Production

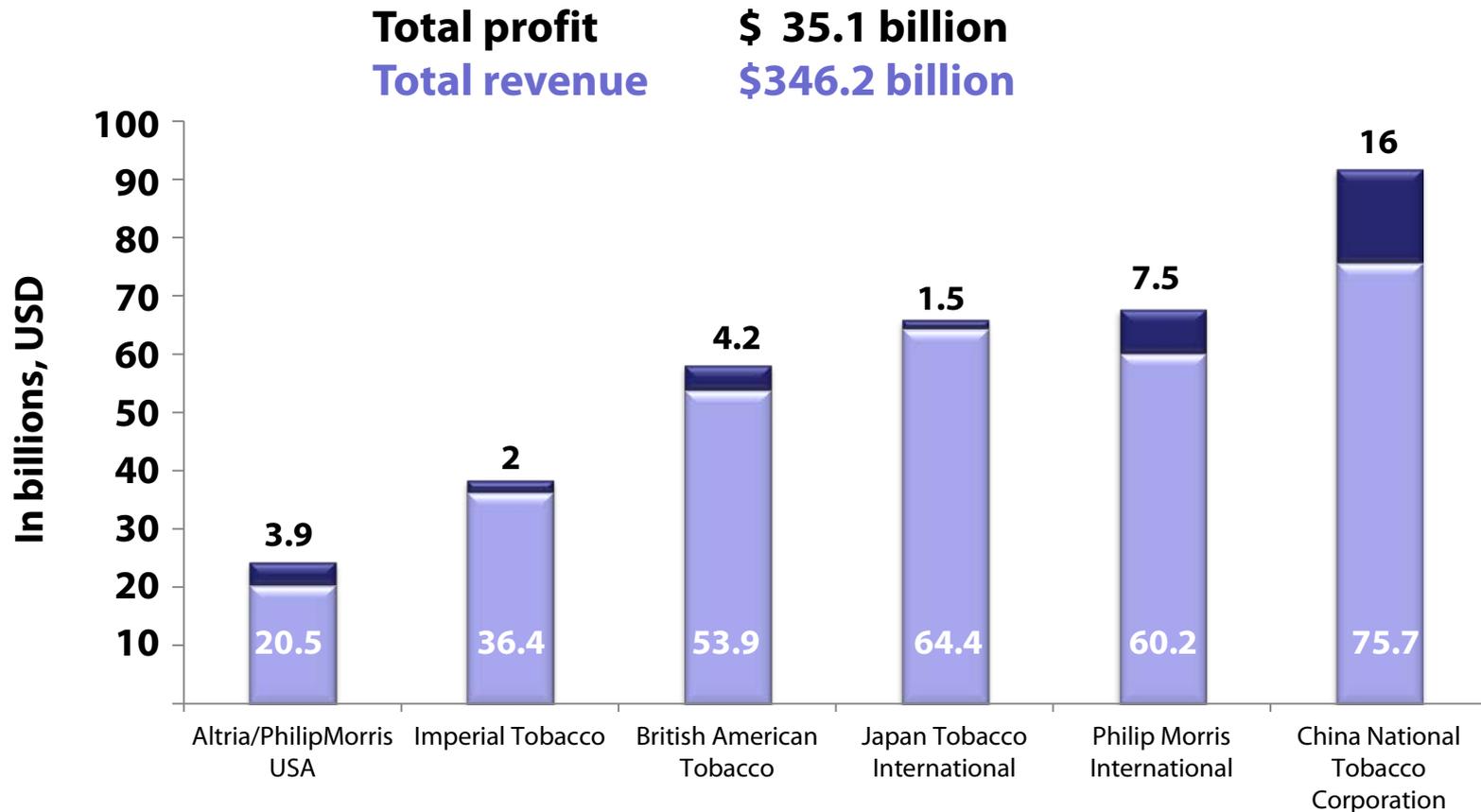
Production Quantity in Million Metric Tons, 1965–2009



Global Cigarette Market Share, 2008

Company	Cigarettes (billions)	Share of global market
China National Tobacco Company	2,143	38.3%
Philip Morris International	869	15.5%
British American Tobacco	830	14.8%
Japan Tobacco	612	10.9%
Imperial (UK)	329	5.9%
Altria/Philip Morris USA	169	3.0%
Korea Tobacco & Ginseng (S. Korea)	102	1.8%
RJ Reynolds	90	1.6%

Tobacco Company Revenue and Profits Top 6 Companies, 2010





Marketing in the United States

Cigarette Marketing Expenditures, 2008

- ❑ **\$9.9 billion was spent on cigarette advertising and promotion**
 - **>\$34 for every man, woman, and child**
- ❑ **83% of the tobacco companies' marketing budgets are spent on price discounts, coupons, and retail value-added promotions**
- ❑ **In general, in the United States, tobacco companies spent almost twice as much on marketing as junk food, soda, and alcohol companies combined**

Undue Influence



“Genius comes from hard work.
Tobacco helps you to be successful.”

The logo for 'mpower' features a stylized lowercase 'm' inside a sphere, followed by the word 'power' in a bold, lowercase, sans-serif font. The background of the slide is a light blue world map.

mpower

Monitor tobacco use
and prevention policies

Protect people from
tobacco smoke

Offer help to quit
tobacco use

Warn about the dangers
of tobacco

Enforce bans on tobacco
advertising, promotion and sponsorship

Raise taxes on tobacco

Conclusions

❑ **The tobacco epidemic will cause the most harm to low- and moderate-income countries with high population**

- Tobacco use is growing fastest in these countries, fueled by steady population growth
- The tobacco industry is expanding its advertising, marketing, and promotion to the developing world
- Many of these countries have fewer resources to respond to the health, social, and economic problems caused by tobacco use, which will exacerbate the tobacco epidemic's impacts
- This will create a 'perfect storm' of future tobacco-caused disease and death, unless there is a strong response from the public health community

Global Tobacco Surveillance System: From Data to Action



Samira Asma, DDS, MPH

Chief, Global Tobacco Control Branch

Office on Smoking and Health

Centers for Disease Control and Prevention



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

GTSS: Global Tobacco Surveillance System

- ❑ **A set of globally standardized surveys**
- ❑ **Monitoring not only the problem of tobacco use, but also tobacco control solutions**
- ❑ **Enhance capacity to design, implement, monitor and evaluate tobacco control policies**



WHO FCTC Monitoring Protocol 20.2



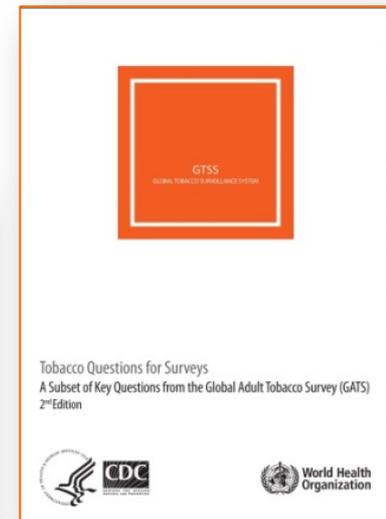
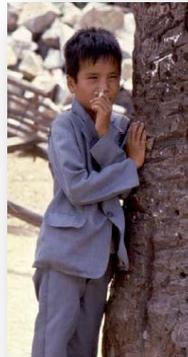
“...integrate tobacco surveillance programs into national, regional, and global health surveillance programs so that data are comparable and can be analyzed at the regional and international levels, as appropriate.”

GTSS: Global Tobacco Surveillance System

GYTS | GLOBAL YOUTH TOBACCO SURVEY

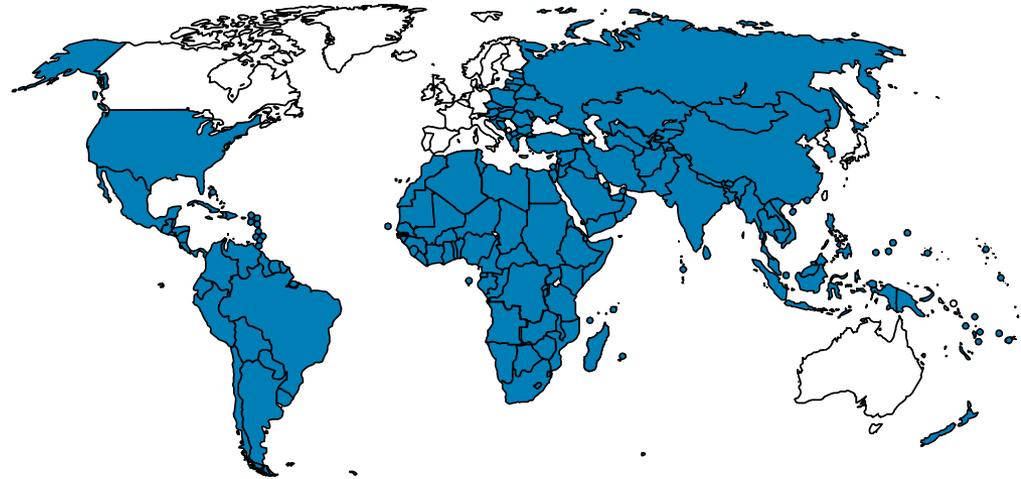
GATS | GLOBAL ADULT TOBACCO SURVEY

TQS | TOBACCO QUESTIONS FOR SURVEYS



GYTS: Global Youth Tobacco Survey 1999–2012

- ❑ **Largest public health surveillance system**
- ❑ **School-based surveys of students 13–15 years**
- ❑ **Self-administered using global standard protocol**
- ❑ **National, state or provincial**
- ❑ **180 countries/sites completed**



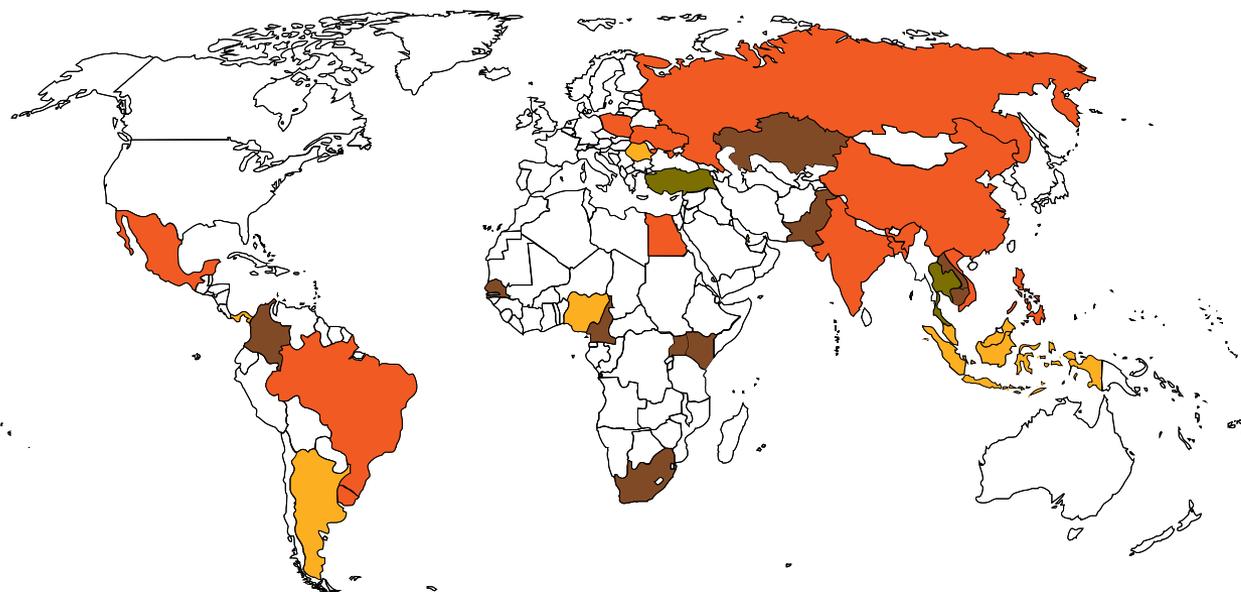
GYTS: Global Youth Tobacco Survey

Key Findings



- 1 in 10 students currently smoke cigarettes**
- 1 in 10 students currently use other tobacco products**
- 1 in 4 smokers first tried by age 10**
- 2 in 3 smokers want to quit**
- 4 in 10 students exposed to secondhand smoke in homes and over half in public places**

GATS: Global Adult Tobacco Survey 2008–2012



Phase 1

Bangladesh, Brazil, China, Egypt, India, Mexico, Philippines, Poland, Russian Federation, Thailand, Turkey, Ukraine, Uruguay, Viet Nam

Phase 2

Argentina, Indonesia, Malaysia, Nigeria, Panama, Qatar, Romania

Phase 3

Cambodia, Cameroon, Colombia, Kazakhstan, Kenya, Laos, Pakistan, Senegal, South Africa, Uganda

Repeats

Thailand, Turkey

- ☐ **Nationally representative household surveys**
- ☐ **Active in 31 countries**

- ☐ **Covers 66% of world's population**
- ☐ **Covers 68% of world's smokers**

Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>

GATS: Global Adult Tobacco Survey

□ GATS in numbers

- 1 million household level data
- 350,000 household interviews
- 50 languages and dialects
- 3,600 fieldworkers trained
- 3,000 handhelds
- 1,500 fieldwork days

**65 million data points collected
representing 3.6 billion people!**



GATS: Global Adult Tobacco Survey Standard Protocol

- ❑ **Core questionnaire and optional questions**
- ❑ **Sampling design**
- ❑ **Series of manuals and guidelines**
- ❑ **Expert review committees**
 - Questionnaire review
 - Sample design and weighting
- ❑ **Electronic data collection**



GATS: Global Adult Tobacco Survey

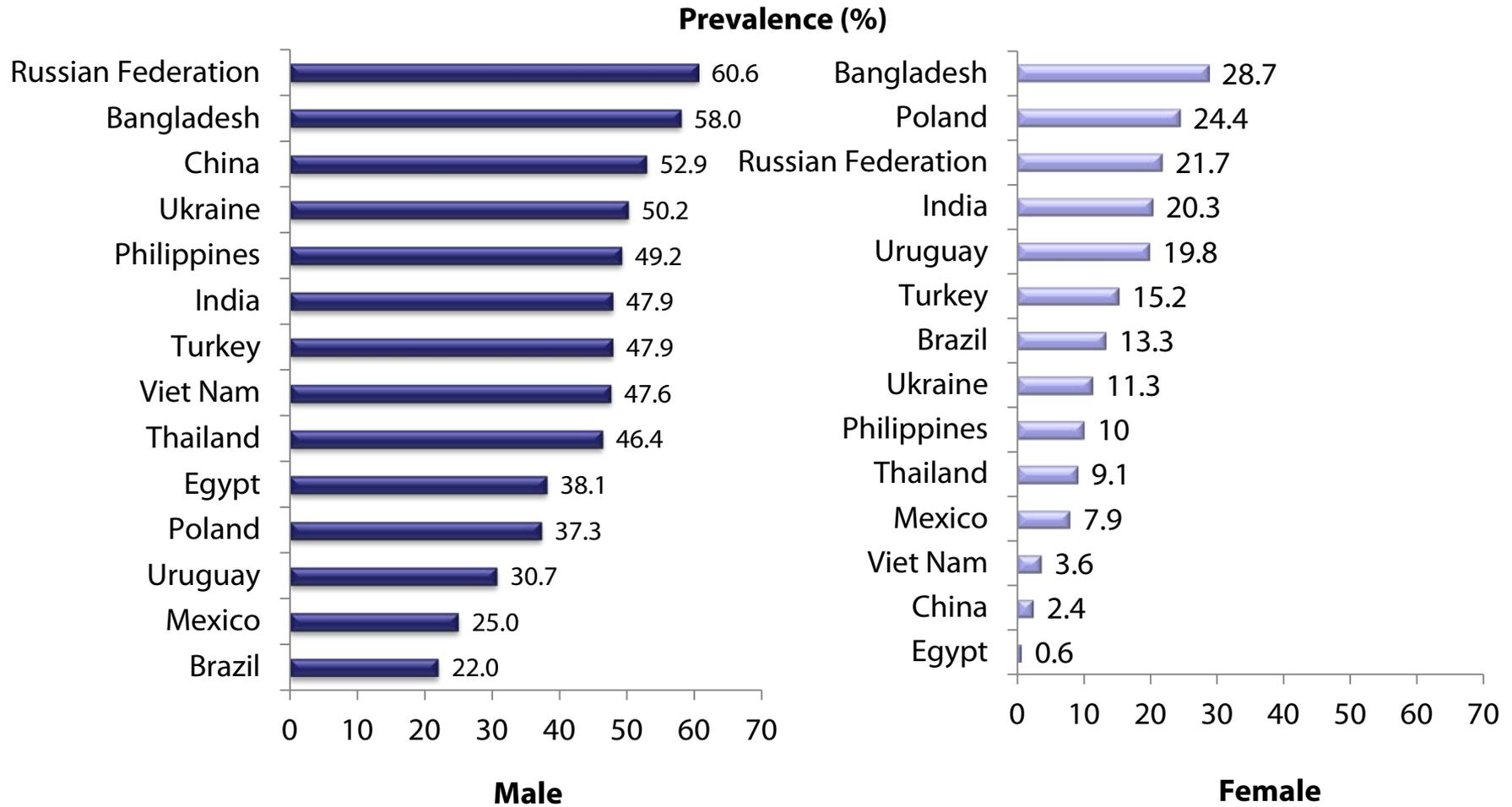
Key Findings

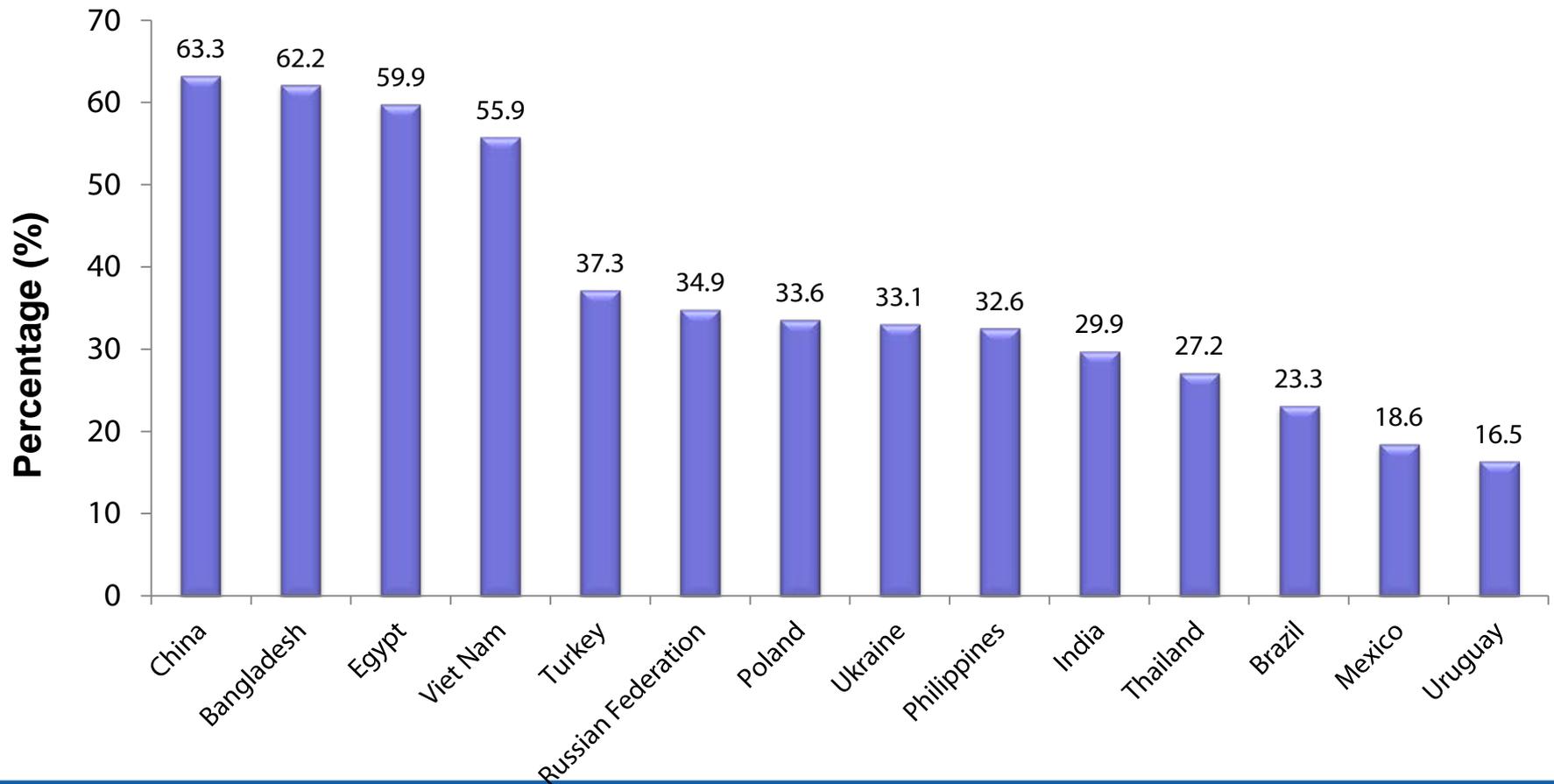
- ❑ **794 million adults currently use tobacco**
- ❑ **350 million exposed to secondhand smoke at work**
- ❑ **5 in 10 current smokers plan to quit or thinking about quitting**
- ❑ **2 in 10 noticed cigarette marketing in stores where cigarettes are sold**



Monitor

Tobacco Use by Gender

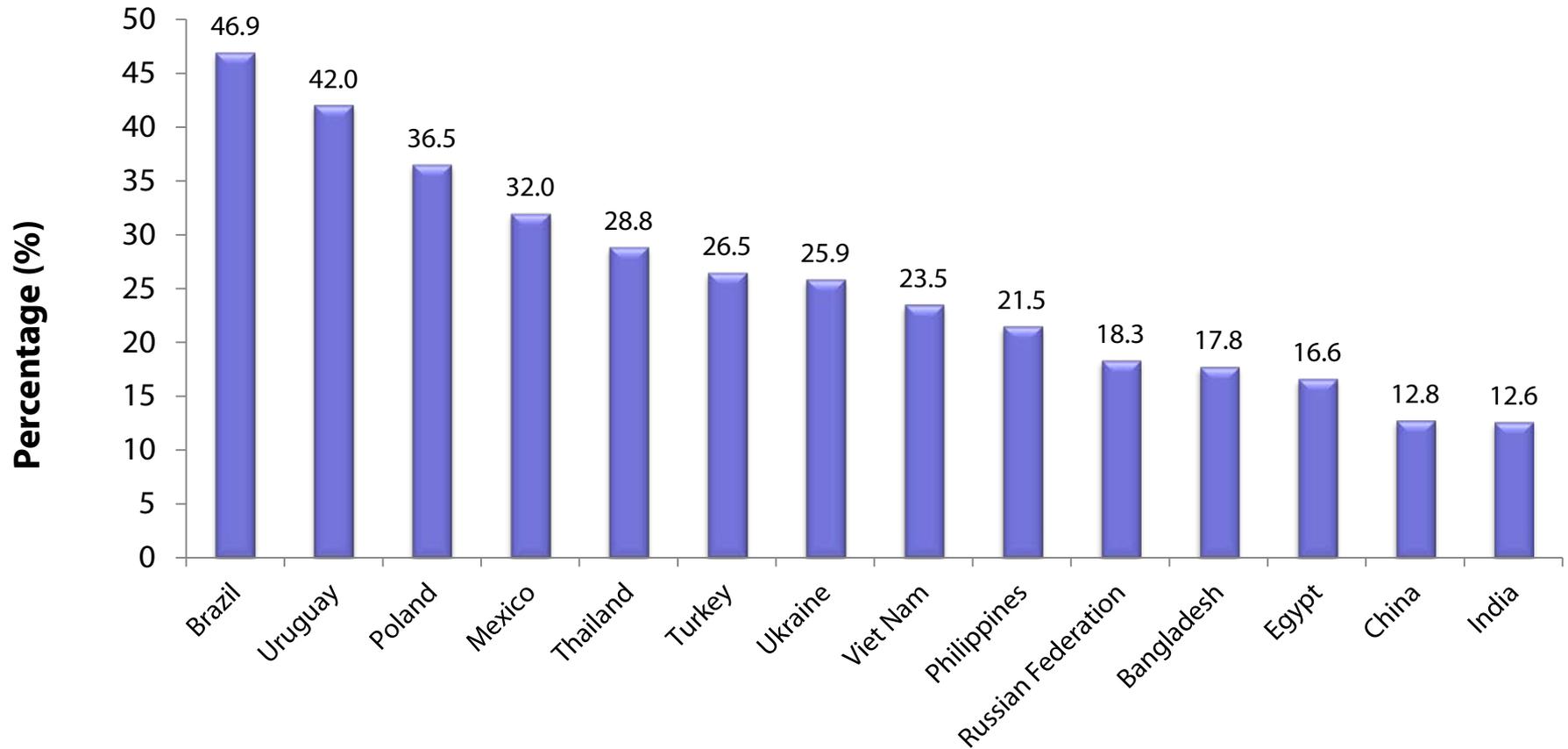




Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>
 In the past 30 days preceding the survey

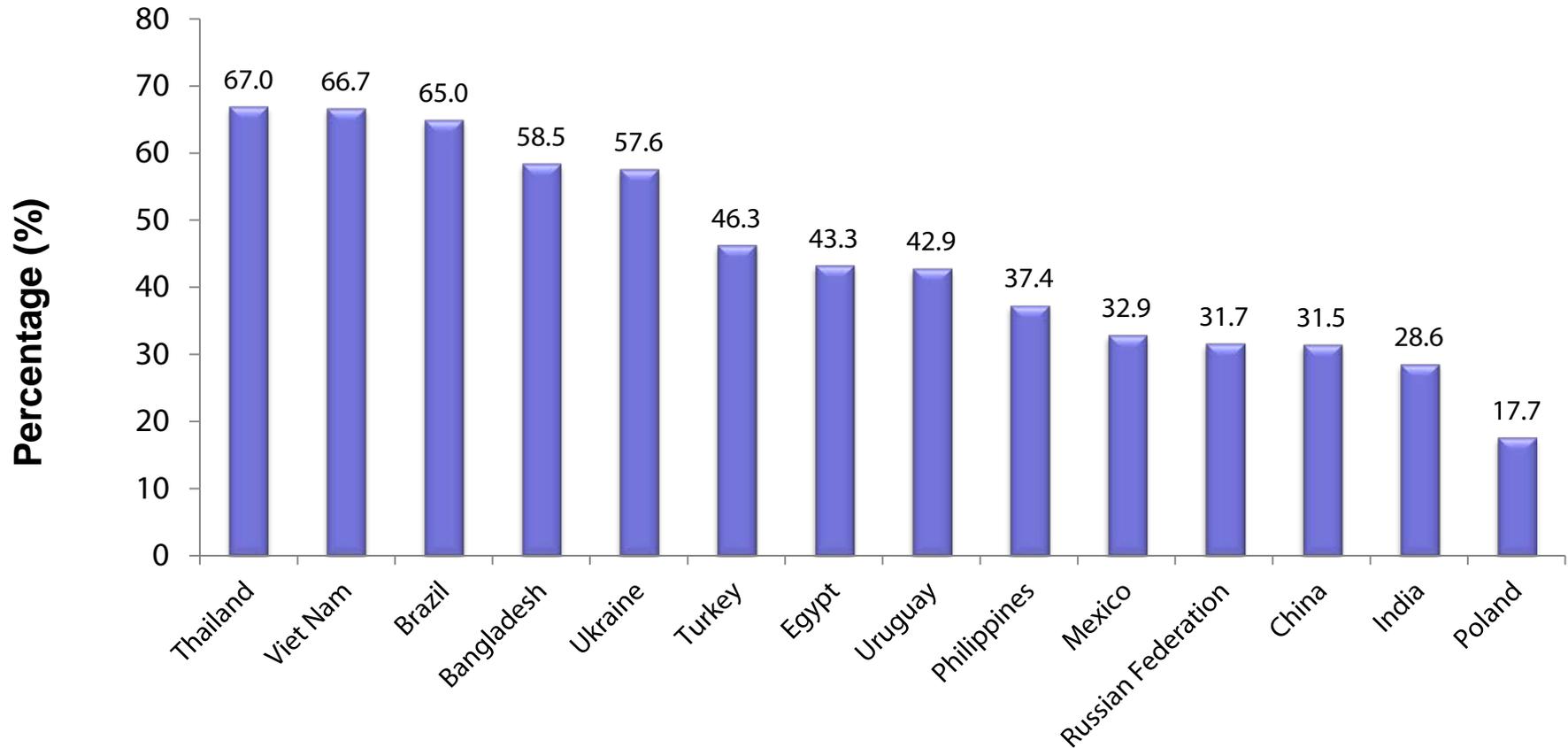
Offer Help

Former Smokers Who Quit

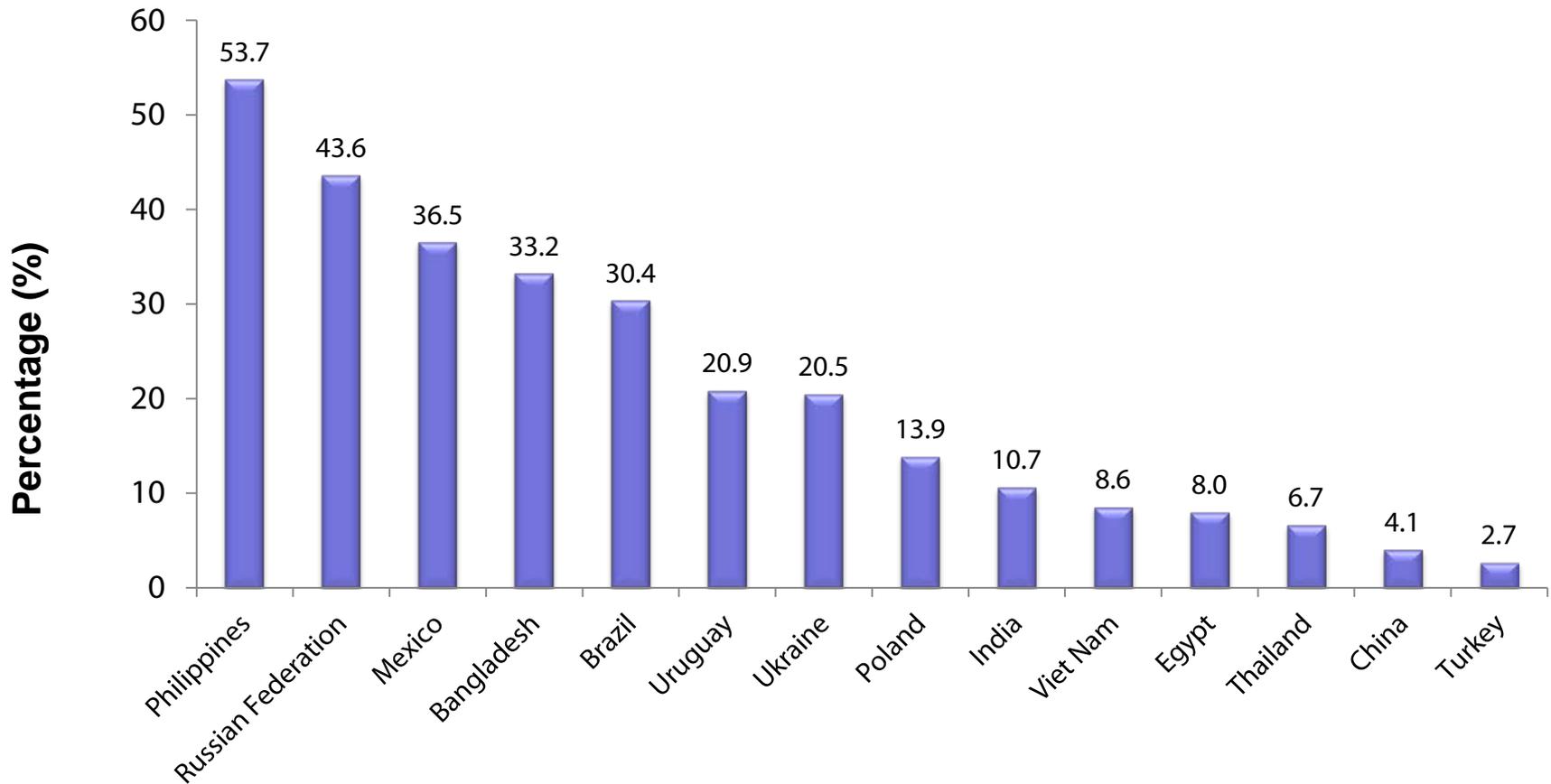


Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>
 Current smokers who made a quit in the past 12 months

Thought about Quitting Smoking Because of Warning Labels on Cigarette Packages

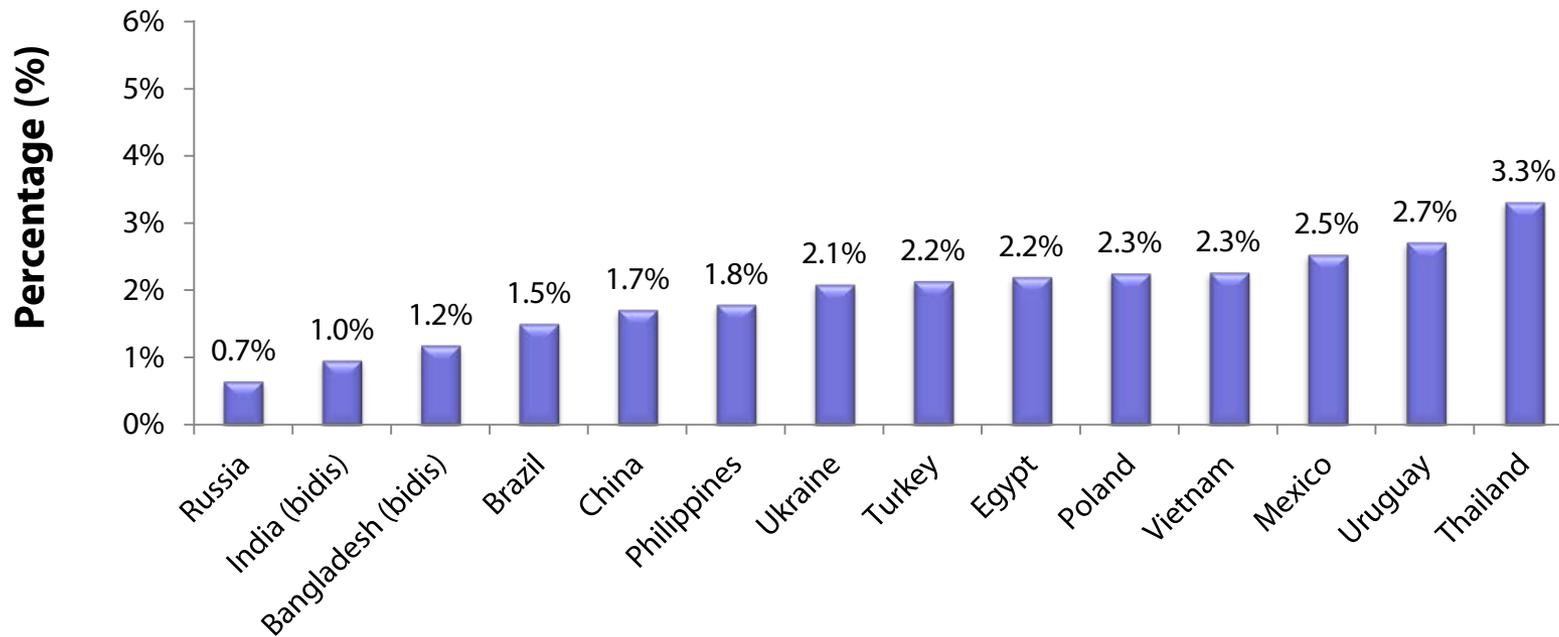


Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>
 Among those who noticed health warning on cigarette packages in the past 30 days preceding the survey



Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>
 In the past 30 days preceding the survey

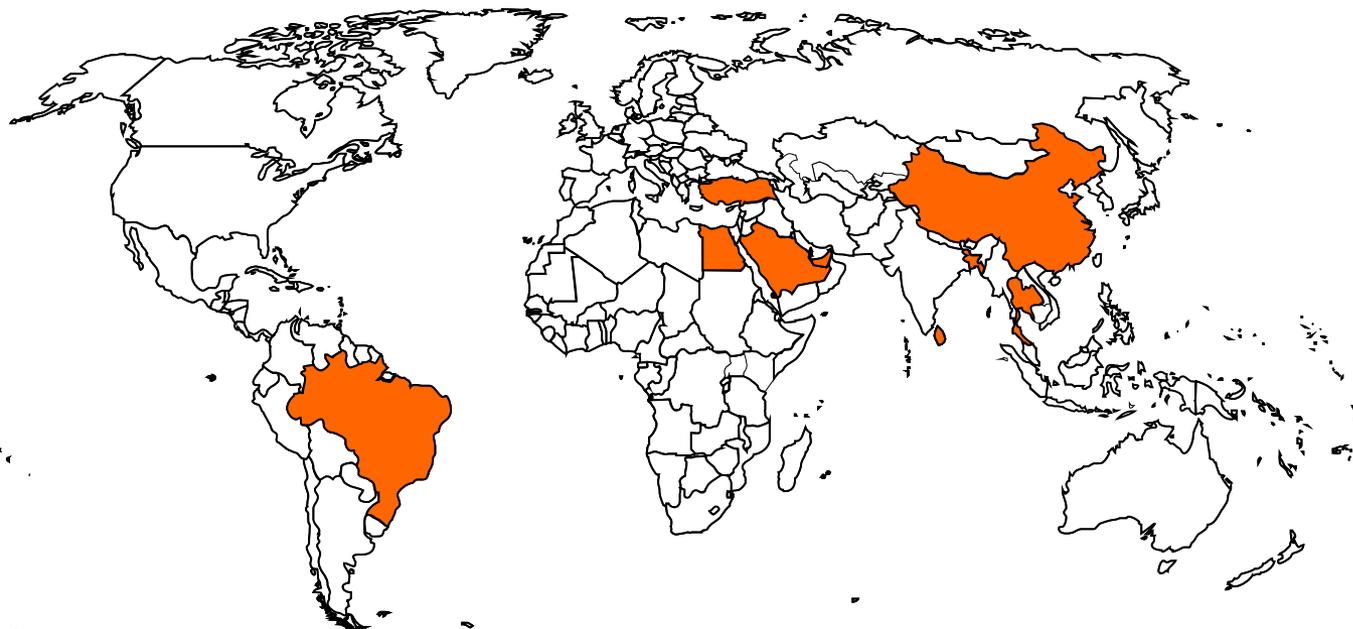
Raise Affordability



Global Adult Tobacco Survey, 2008-2010, <http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>
 Affordability as the relative income price - Median price paid per 2000 sticks as % of per capita GDP

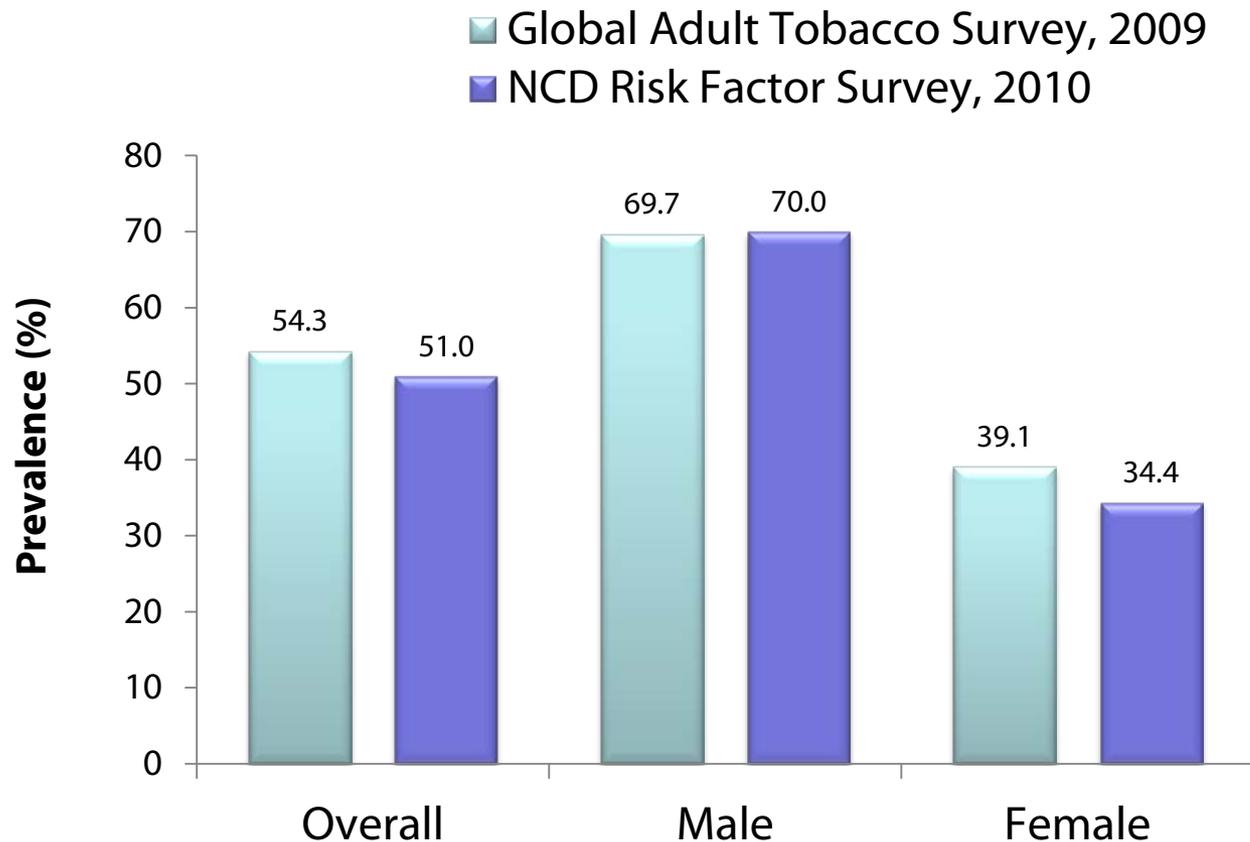
TQS: Tobacco Questions for Survey 2010–2012

- ❑ 3 to 22 questions
- ❑ MPOWER focus
- ❑ Integration, standardization, and comparability



■ Bangladesh, Brazil, China,
Egypt, Korea, Lesotho,
Saudia Arabia, Sri Lanka,
Republic of Georgia, Thailand

Current Tobacco Users Aged ≥ 25 Years, Bangladesh



Data Dissemination

The image shows a stack of three browser windows from the CDC's Global Tuberculosis Surveillance (GTSS) Data application. The top window displays a map of India with a red dot indicating a specific location. A popup window is overlaid on the map, titled "India National". The popup contains the following text and buttons:

India National

View data for survey:

- Adult (GATS)
- School Personnel (GSPS)
- Youth (GYTS)
- Health Profession Students (GHPSS)

Fact Sheets, Datasets & Country Reports

The popup also features a close button (X) in the top right corner and a small icon of survey materials in the bottom left corner. The background map shows India in orange and yellow, with a "flashmaps" logo in the bottom right corner.

<http://apps.nccd.cdc.gov/GTSSData/default/default.aspx>

“What Gets Measured, Gets Done”

- ❑ **Globally standardized survey data on tobacco control is available for 180 countries**
 - Unprecedented cross-country comparisons
 - Tracking not only the problem, but also the solutions



International Advances in Tobacco Control



Michael Eriksen, ScD

Dean, Institute of Public Health

Georgia State University

There ARE Effective and Proven Strategies

**100 million global deaths can be prevented
by the end of the century
through a group of policy and regulatory interventions**

**This number of lives saved is possible
through a modest prevalence decline
(from 25% to 20%),
using the assumption that 1/3 of users
will die from smoking related diseases**

There ARE Evidence-Based Interventions

- ❑ Sustained funding of comprehensive programs
- ❑ Excise tax increases
- ❑ 100% smoke-free policies
- ❑ Comprehensive ad restrictions
- ❑ Aggressive media campaigns
- ❑ Cessation access



The logo for 'mpower' is displayed in a bold, yellow, sans-serif font. The letter 'm' is stylized with a 3D effect, appearing as a sphere with a shadow. The background of the slide features a faint, light blue world map.

mpower

Monitor tobacco use
and prevention policies

Protect people from
tobacco smoke

Offer help to quit
tobacco use

Warn about the dangers
of tobacco

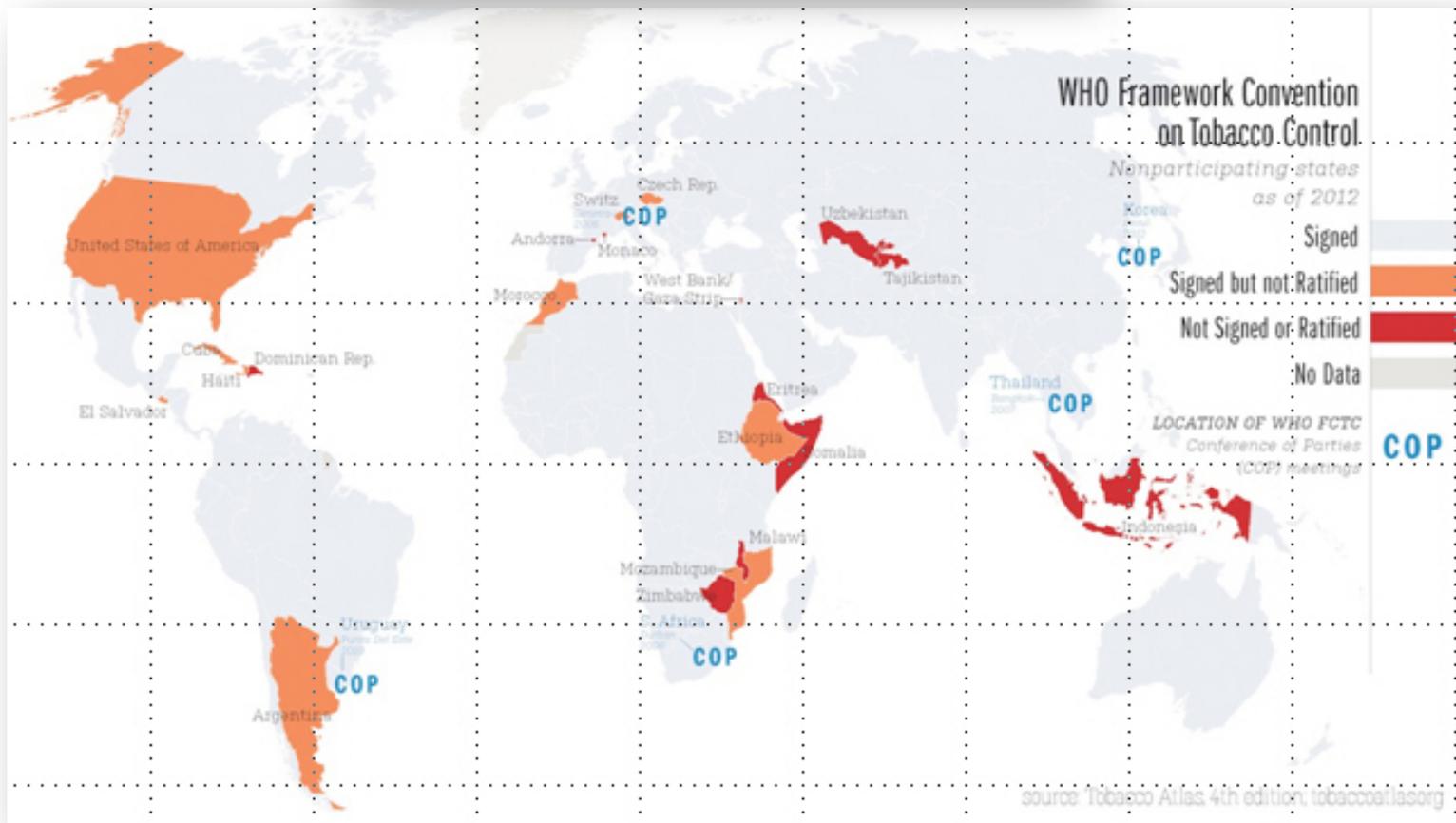
Enforce bans on tobacco
advertising, promotion and sponsorship

Raise taxes on tobacco



FCTC

WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL

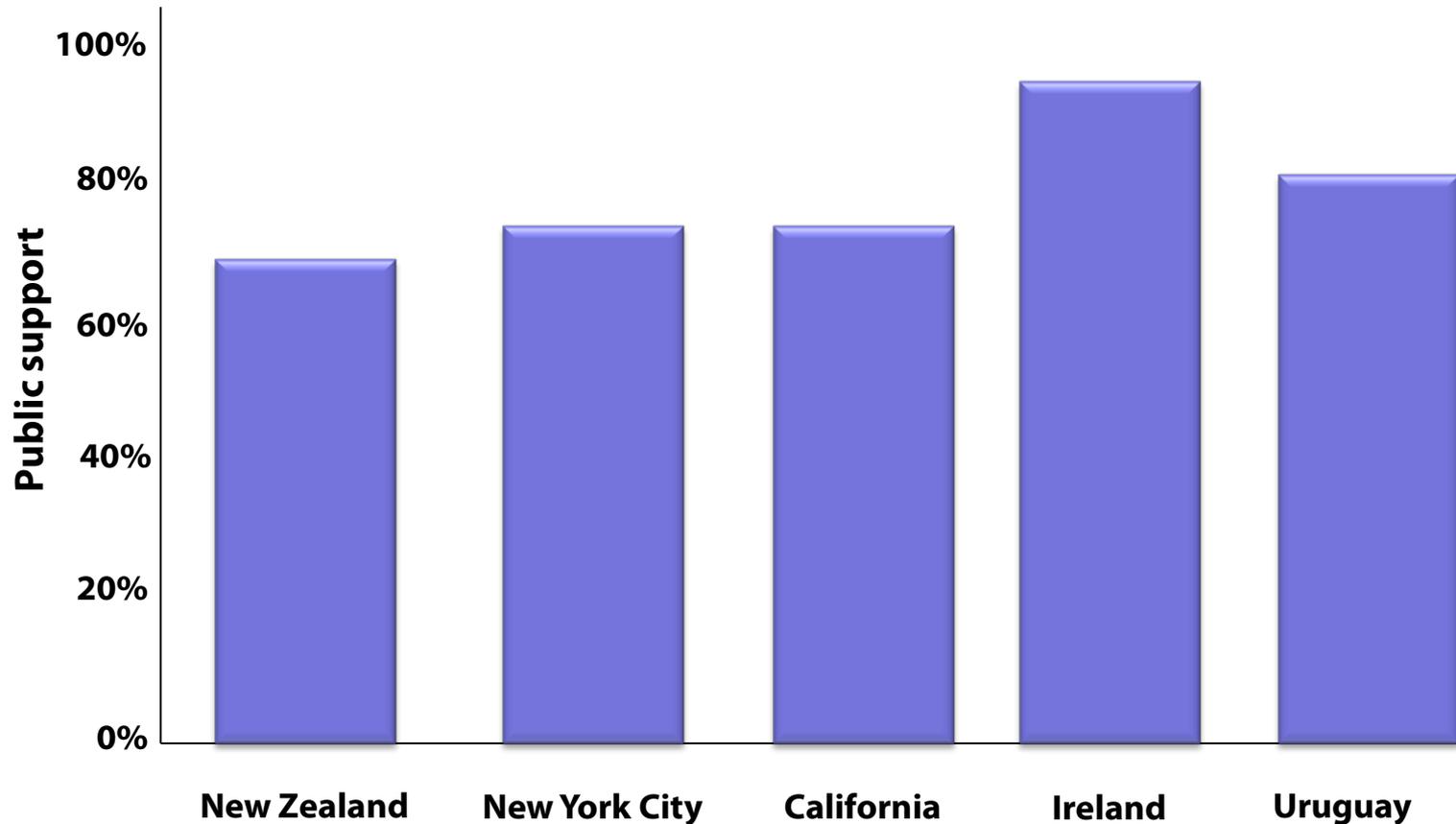


Smoke-Free Areas Doubled from 2008 to 2010



Tobacco Atlas, 2012, www.tobaccoatlas.org

Public Support for Comprehensive Smoking Bans in Bars and Restaurants after Implementation

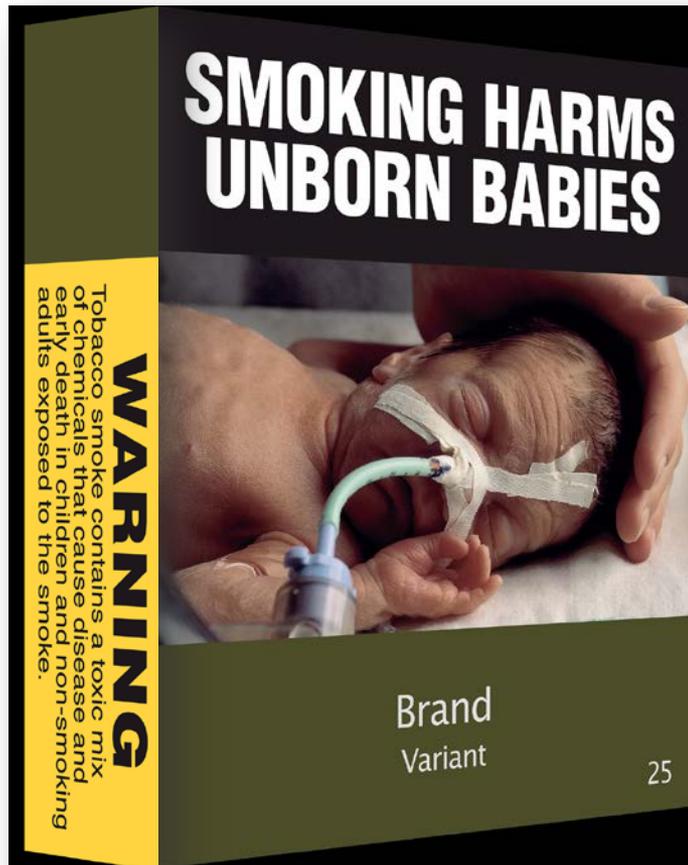


WHO MPOWER Report 2008, <http://www.who.int/tobacco/mpower/2008/en/index.html>

Impact of Pictorial Warnings on Brazilian Smokers

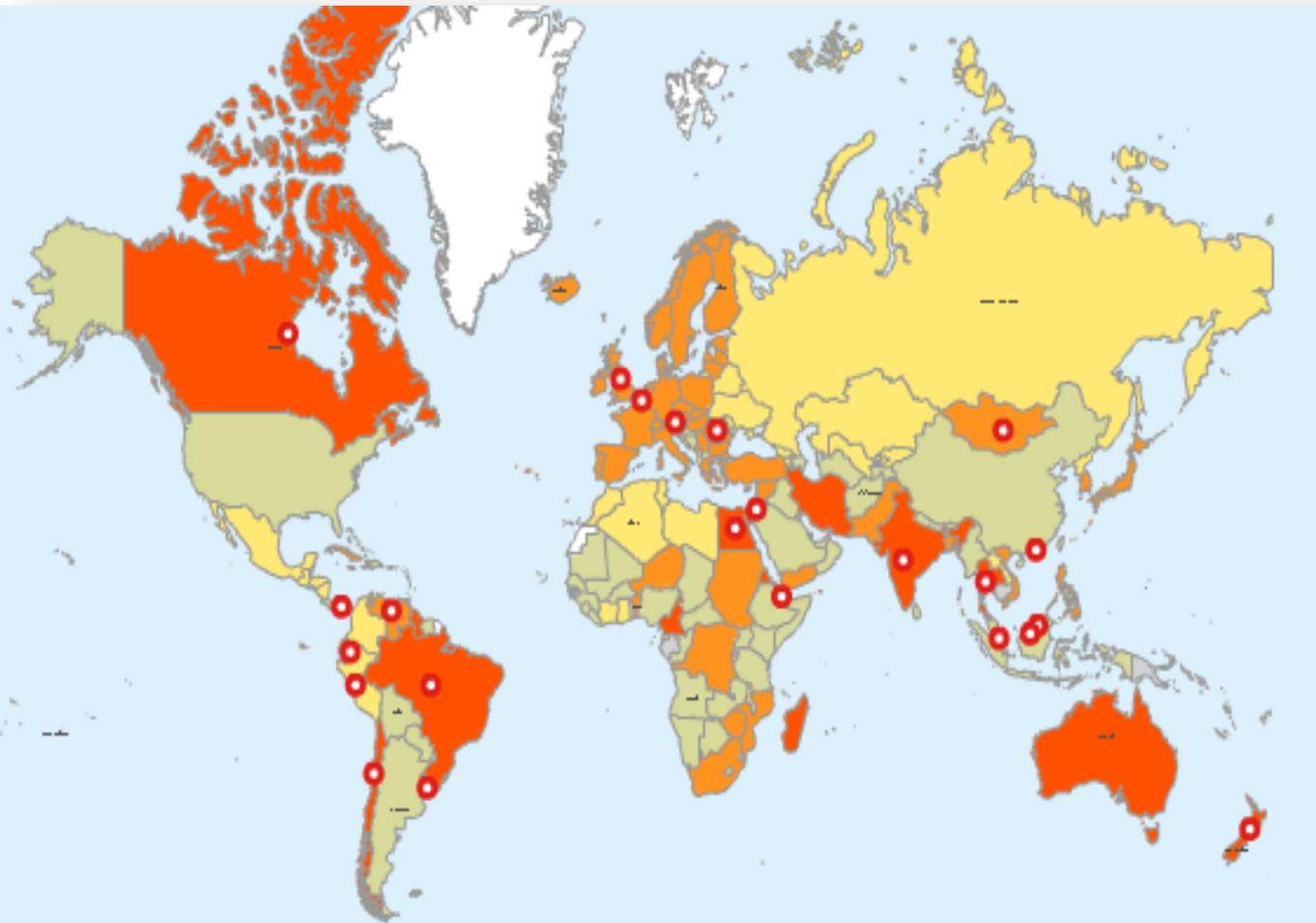


Plain Packaging in Australia



Plain packaging to be implemented by December 1, 2012, pending ongoing litigation

Health Warning Labels

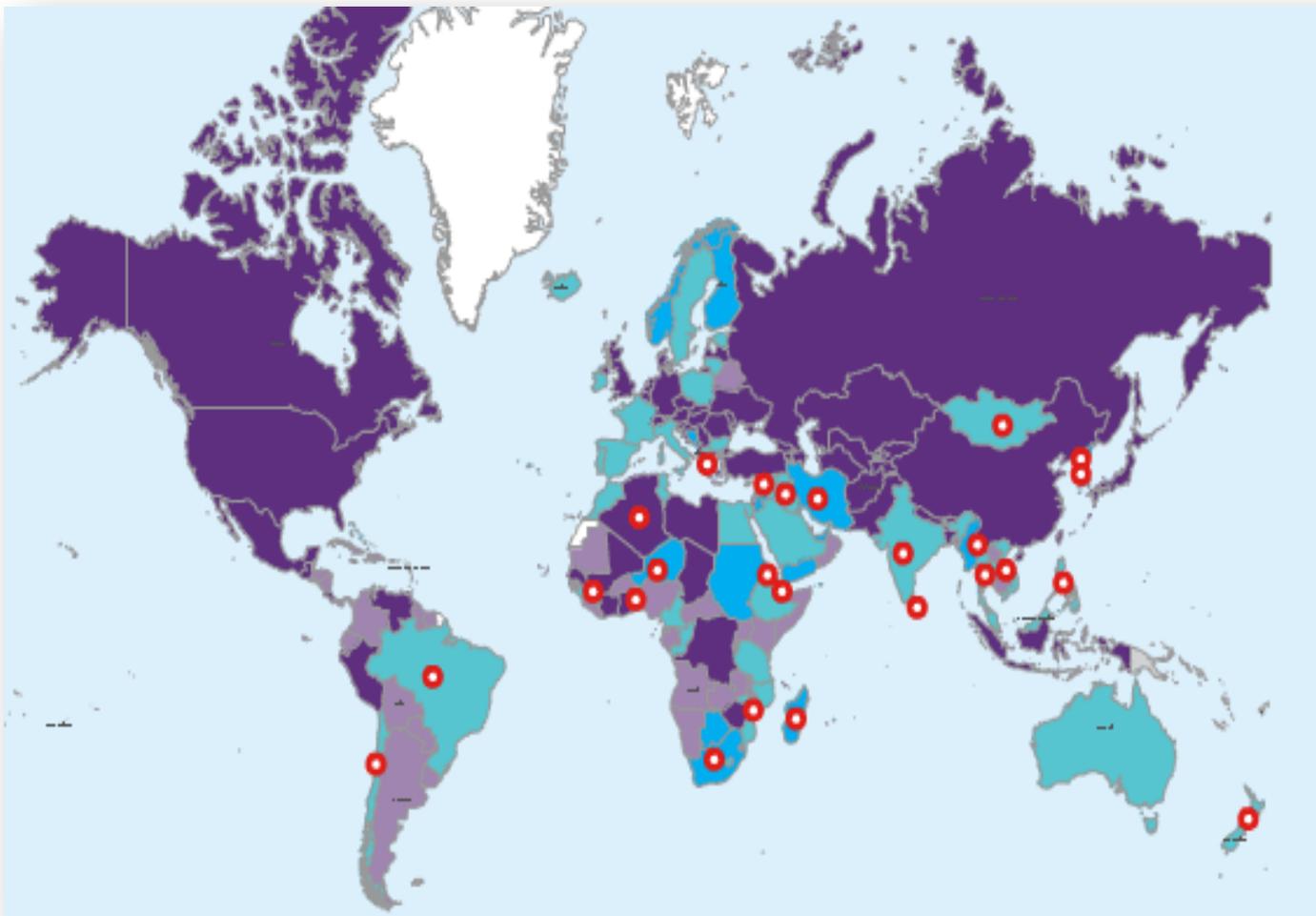


Size of Health Warnings on Cigarettes* 2008

- X  50% and above
- X  30 - 49%
- X  Less than 30%
- X  No requirement
- X  No Data
- X  Countries requiring pictorial health warnings

*Percent of principal display area of cigarette package legally mandated to be covered by health warning
The Tobacco Atlas, 3rd Edition, 2008, www.tobaccoatlas.org

Marketing Bans



Marketing Bans* 2007

- Complete bans
- 4, 5, or 6 bans**
- 1, 2, or 3 bans***
- No bans
- No data
- Countries with ban on Internet tobacco advertising, 2007

* Direct and indirect advertising bans, 2007

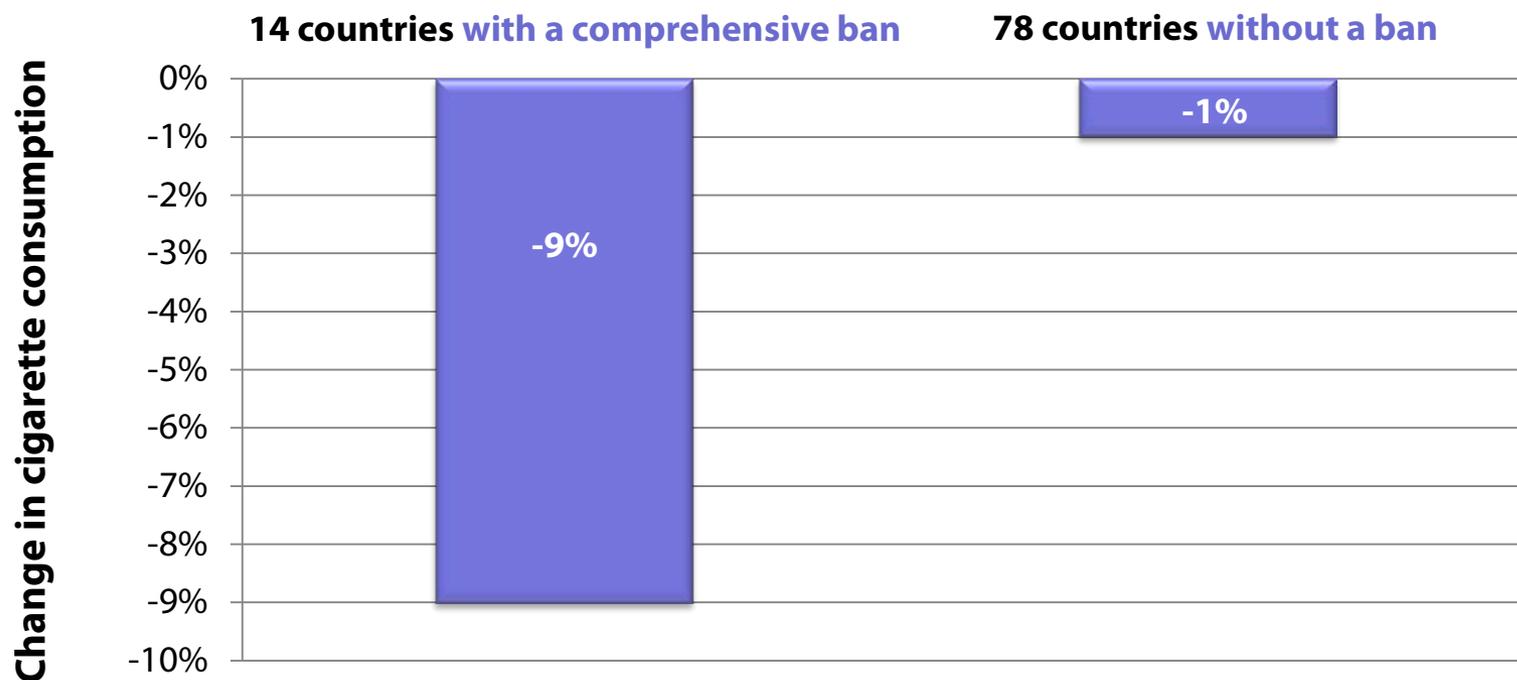
** Four, five or six direct bans and at least one indirect ban

***One, two or three direct bans or at least one indirect ban

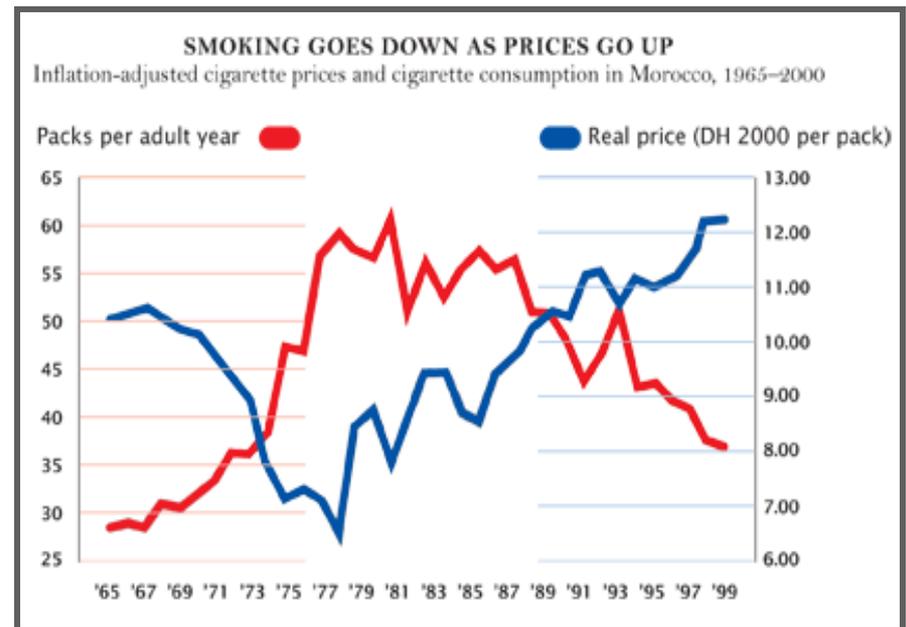
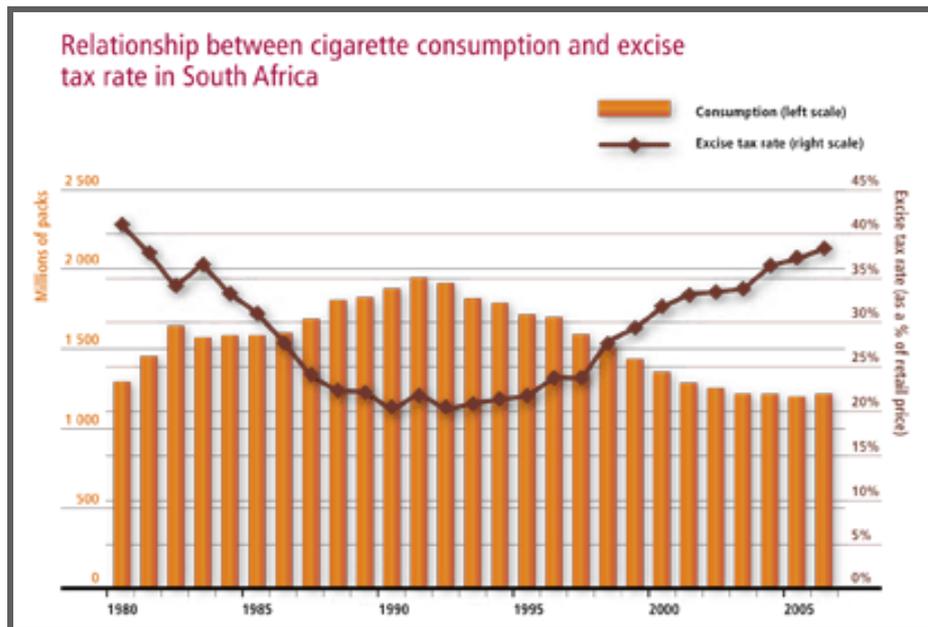
The Tobacco Atlas, 3rd Edition, 2008

Comprehensive Advertising Bans Amplify Other Interventions

Average change in cigarette consumption 10 years after introduction of advertising bans in 2 groups of countries

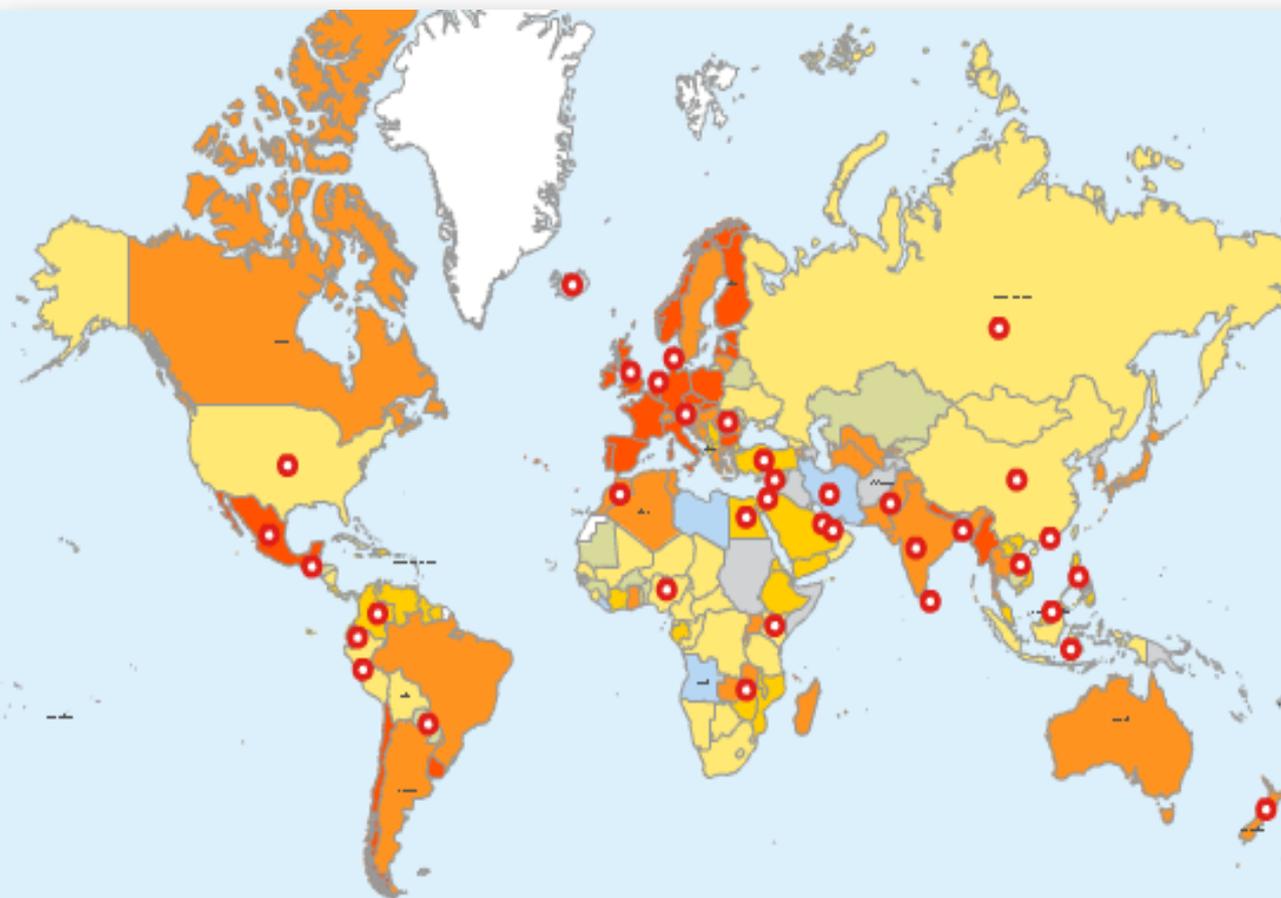


Tobacco Prices and Consumption South Africa and Morocco



Walbeek C. 2003. Tobacco excise taxation in South Africa (left graph), http://ped.sagepub.com/content/12/4_suppl/25.long Aloui O. 2003. Analysis of the economics of tobacco in Morocco (right graph) http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/Aloui-Analysis_of-whole.pdf

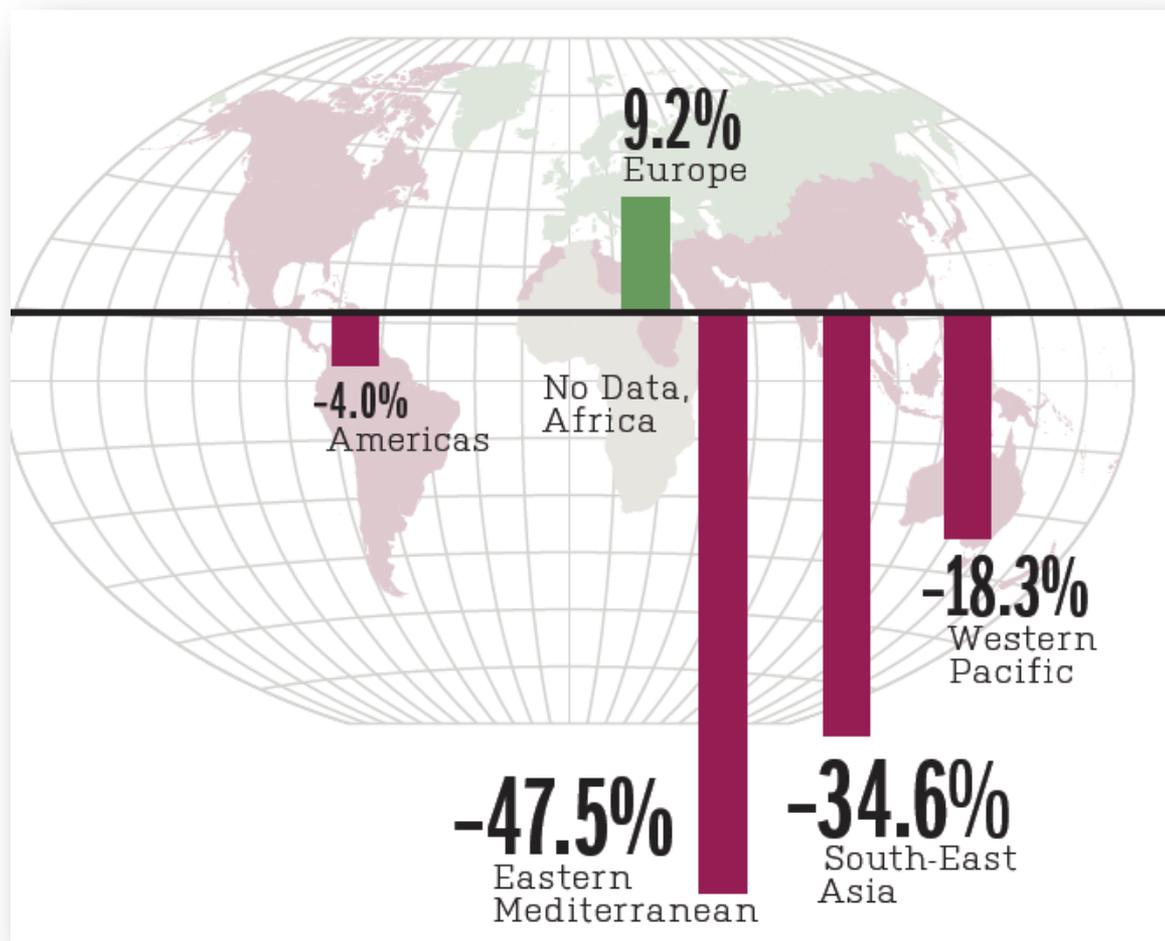
Tobacco Prices and Taxes



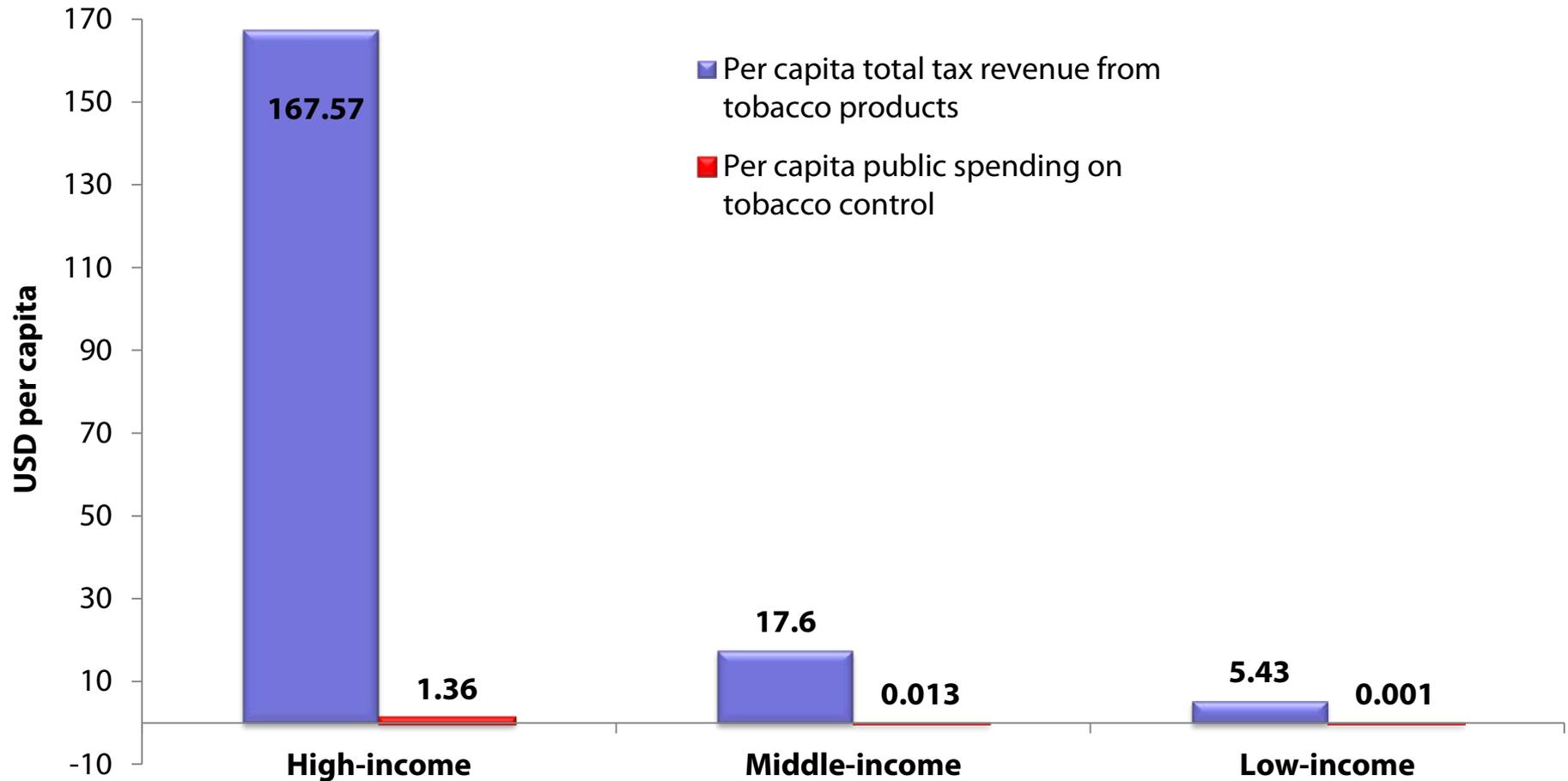
Total Tax as a proportion of Cigarette Price, 2007

- 75% and above
- 60%–74.9%
- 45%–59.9%
- 30%–44.9%
- 15%–29.9%
- Less than 15%
- No Data
- Countries where the real price of local brand cigarettes decreased between 2002 and 2007

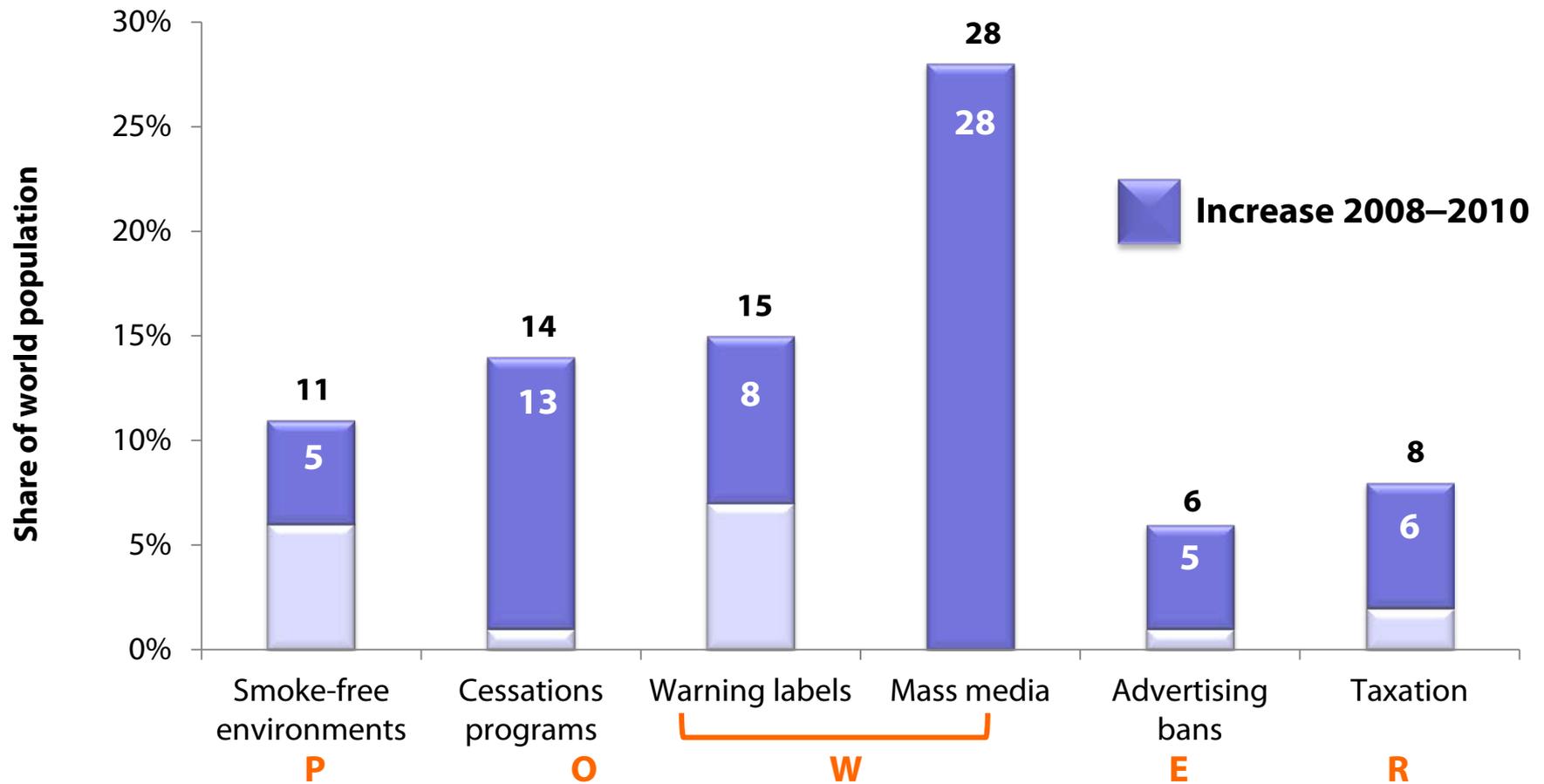
Change in Affordability of Tobacco Products by WHO Region, 2000–2010

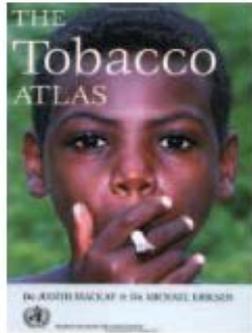


Tobacco Control is Underfunded

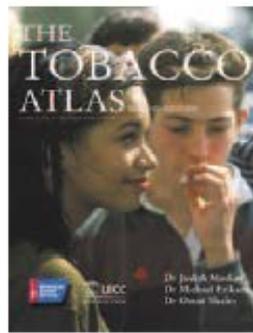


Most of the World's People Are Not Yet Fully Protected Against Tobacco Harms

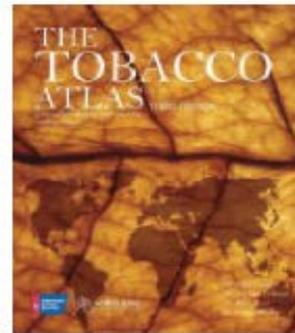




2002
First Edition
WHO FCTC: 0



2006
Second Edition
WHO FCTC: 109



2009
Third Edition
WHO FCTC: 162



2012
Fourth Edition
WHO FCTC: 174

- ❑ **Interactive maps, downloadable data, Power points, country fact sheets**
- ❑ **Upcoming editions: Arabic, French, Spanish, Chinese**
- ❑ **Sign up @TobaccoAtlas.org for alerts of upcoming editions, new features**



Conclusions

- ❑ **Internationally, tobacco control policy initiatives have been broadly accepted**
- ❑ **Evidence-based prevention best practices-the MPOWER package- have been codified**
- ❑ **Challenges to implementation include**
 - Global underfunding of tobacco control
 - Regional, country-to-country, and within country variability in policies and enforcement
 - Ongoing industry marketing and influence

<http://www.cdc.gov/about/grand-rounds>

