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

JOHNS HOPKINS BLOOMBERG SCHOOL of PUBLIC HEALTH

CDC

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

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

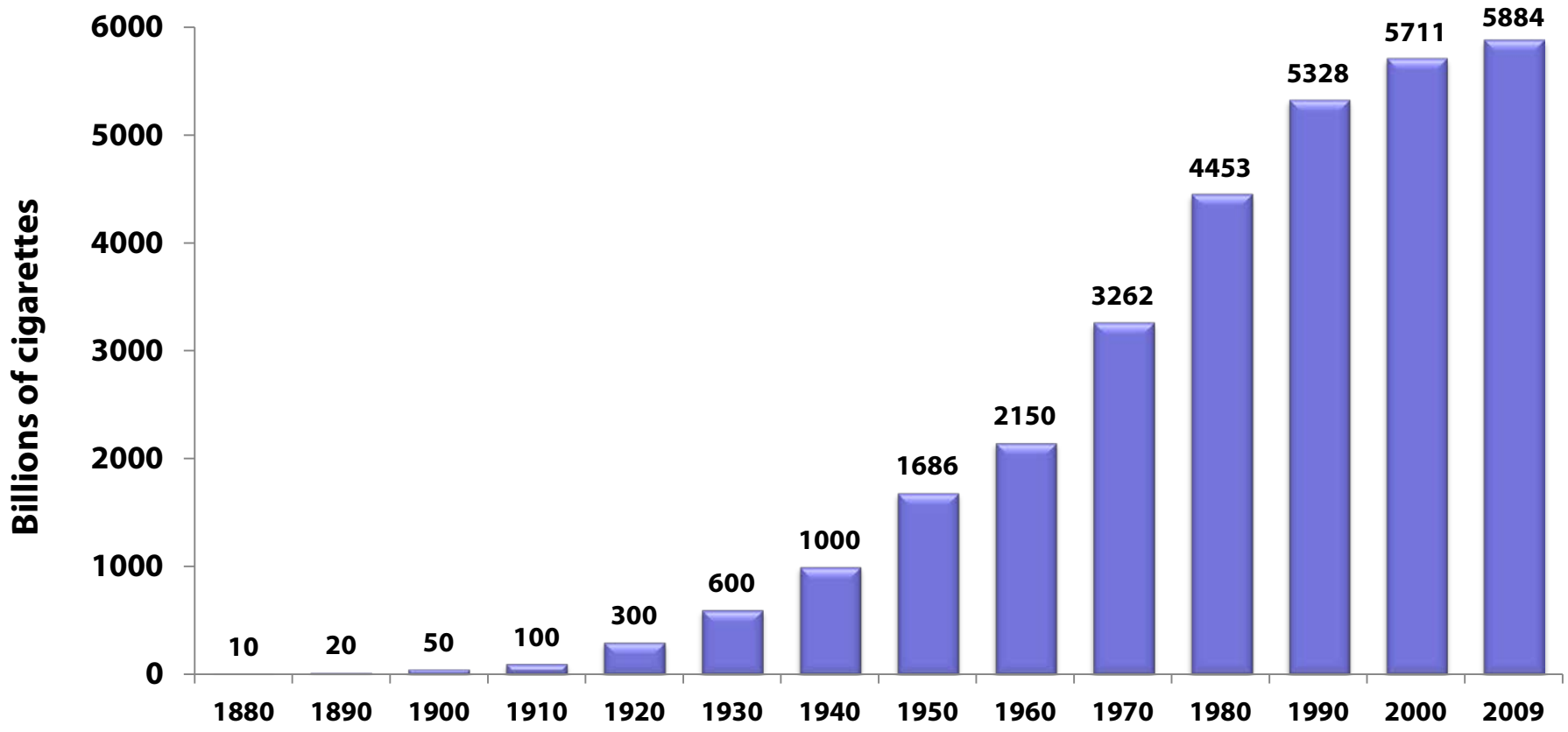
SINCE THE 1ST PUBLICATION
OF *THE TOBACCO ATLAS* A DECADE AGO,

MORE THAN 43 Trillion CIGARETTES HAVE BEEN SMOKED.

1 BUTT = 10 BILLION CIGARETTES

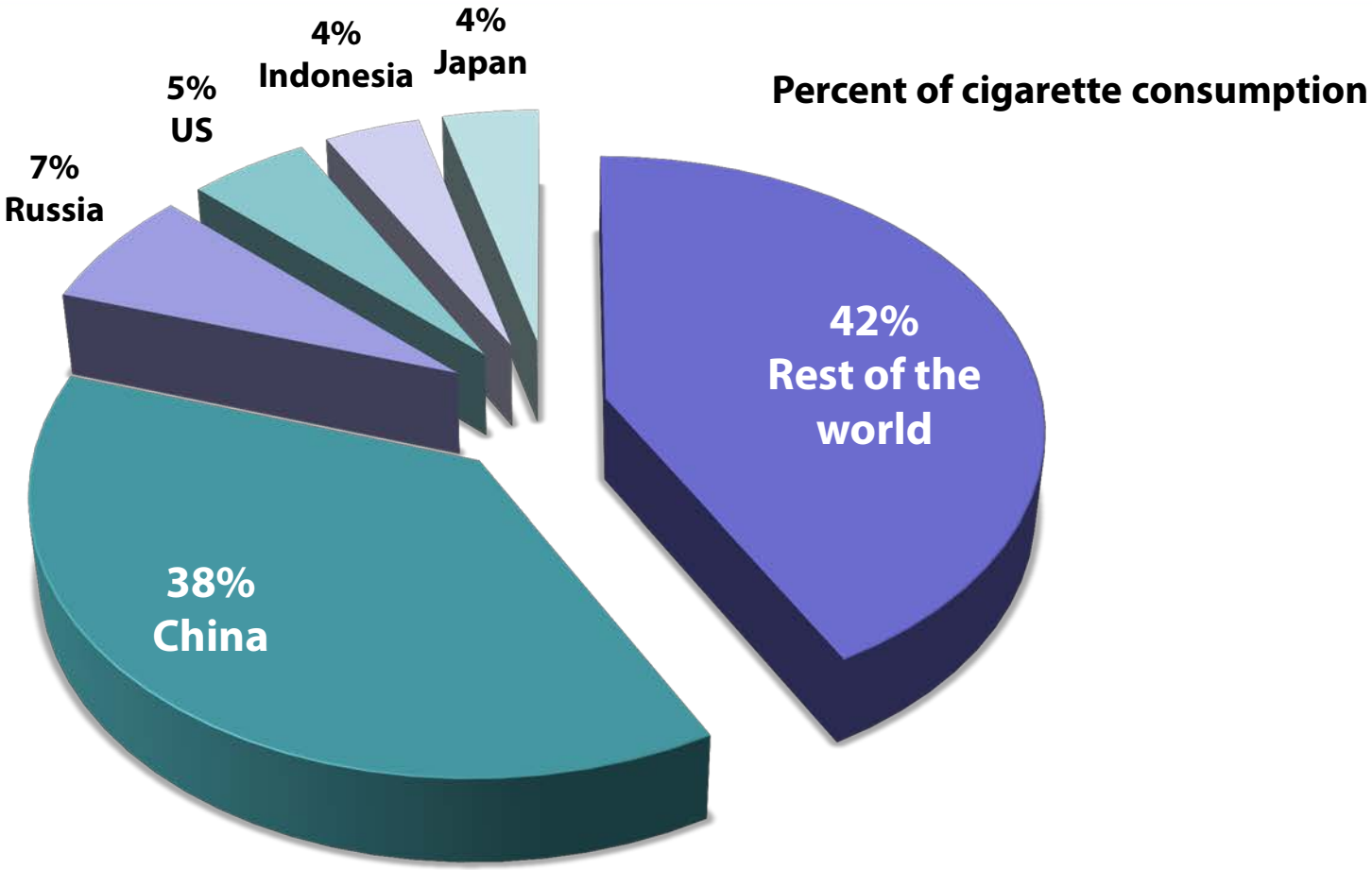
www.tobaccoatlas.org

Global Cigarette Consumption in One Century Increased over 100 Times



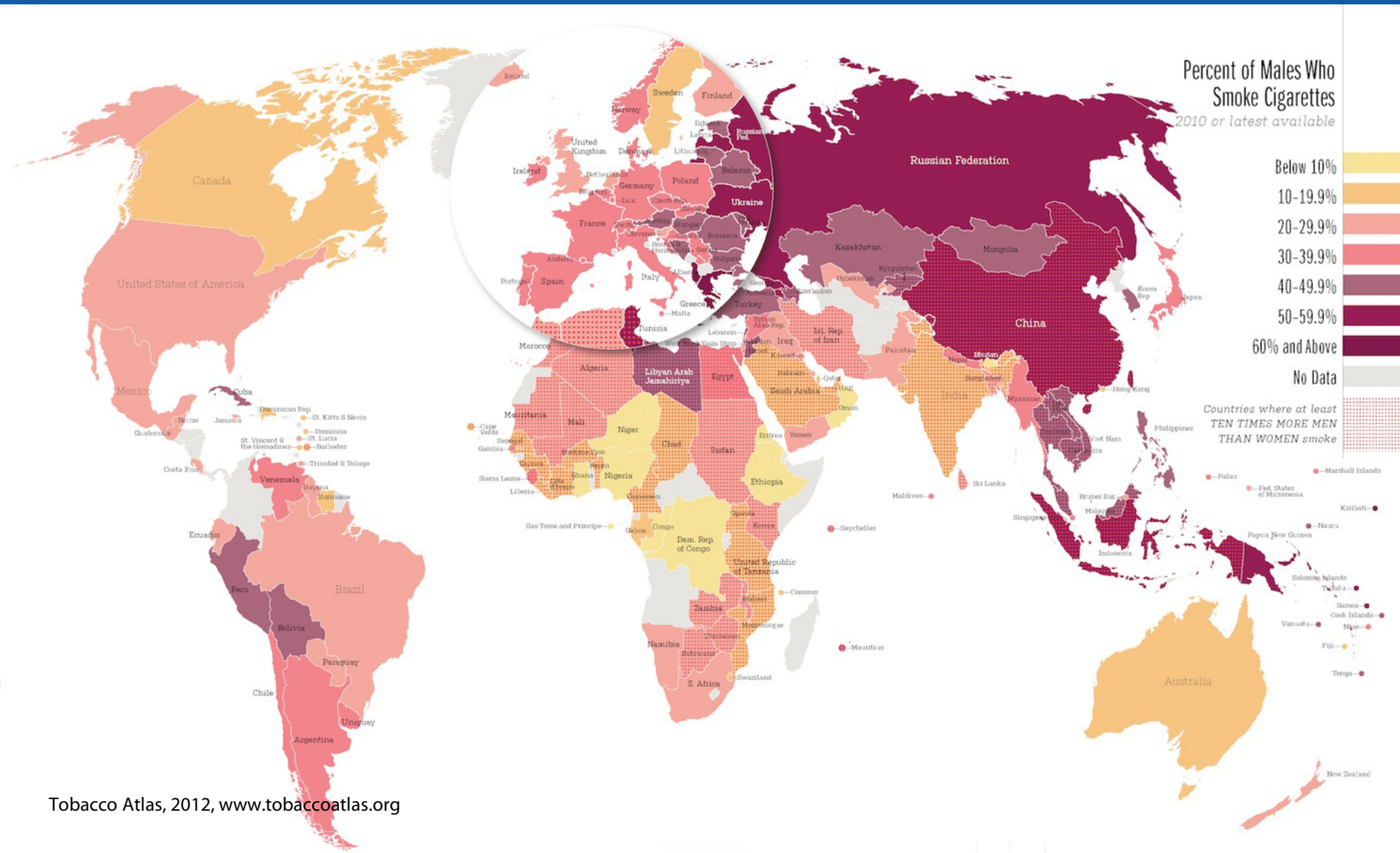
Tobacco Atlas, 2012, www.tobaccoatlas.org

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



Tobacco Atlas, 2012, www.tobaccoatlas.org

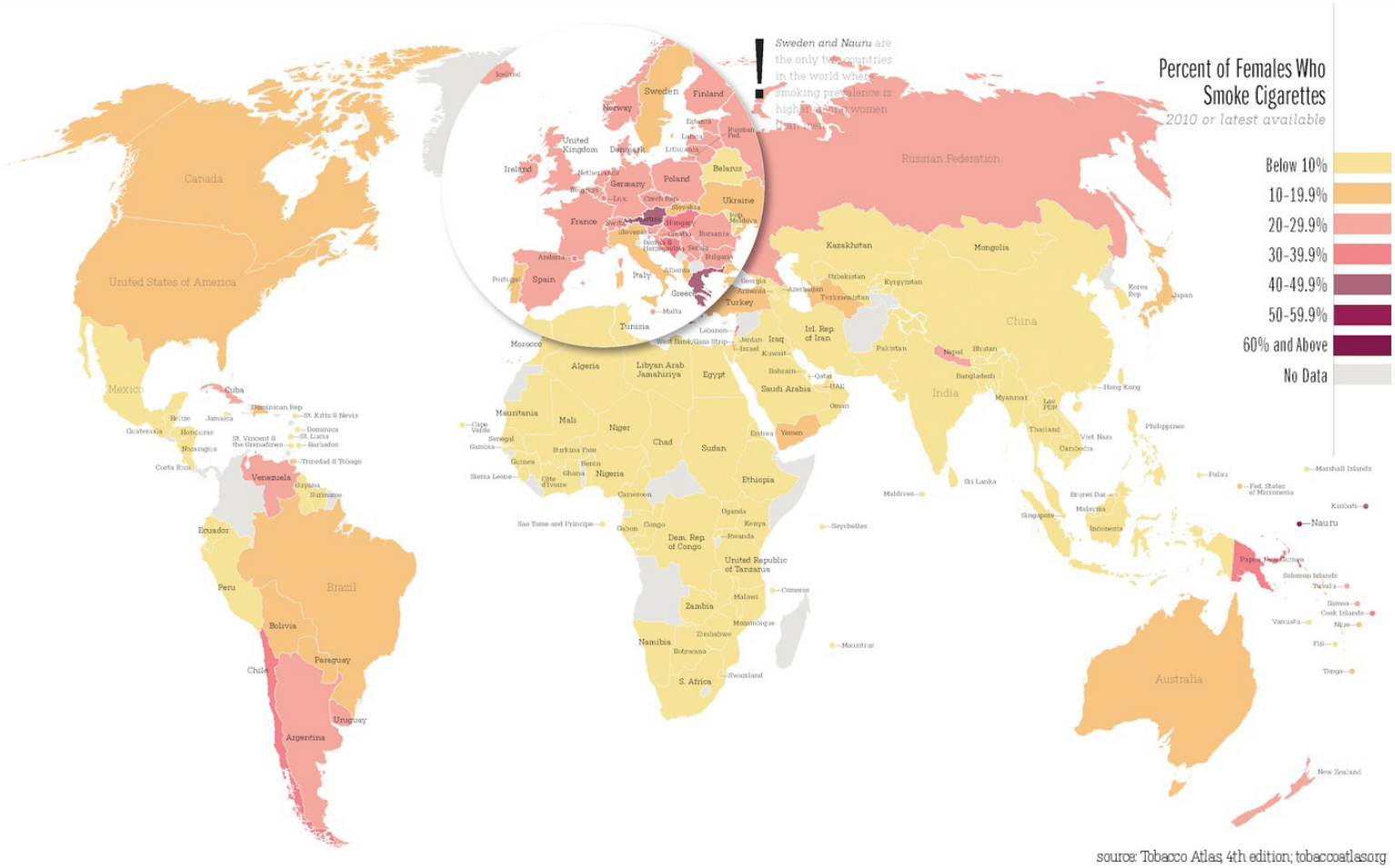
Male Smoking Prevalence (2010 or latest available)



Tobacco Atlas, 2012, www.tobaccoatlas.org

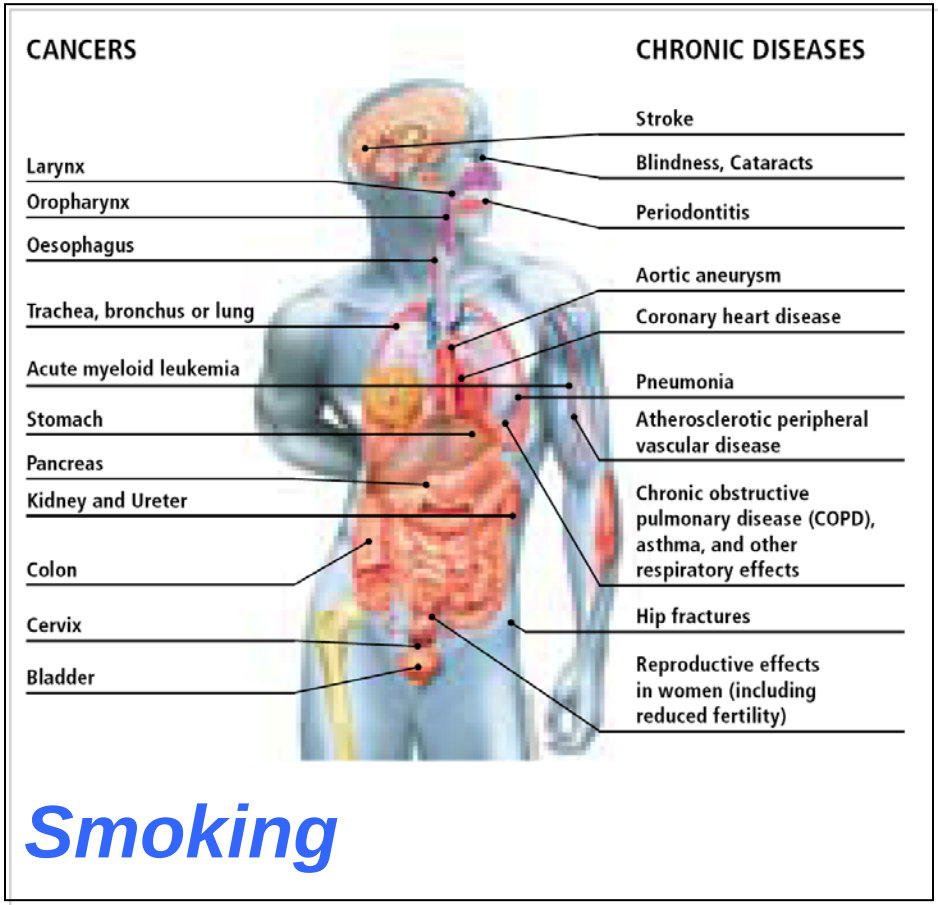
source: Tobacco Atlas, 4th edition; tobaccoatlas.org

Female Smoking Prevalence (2010 or latest available)

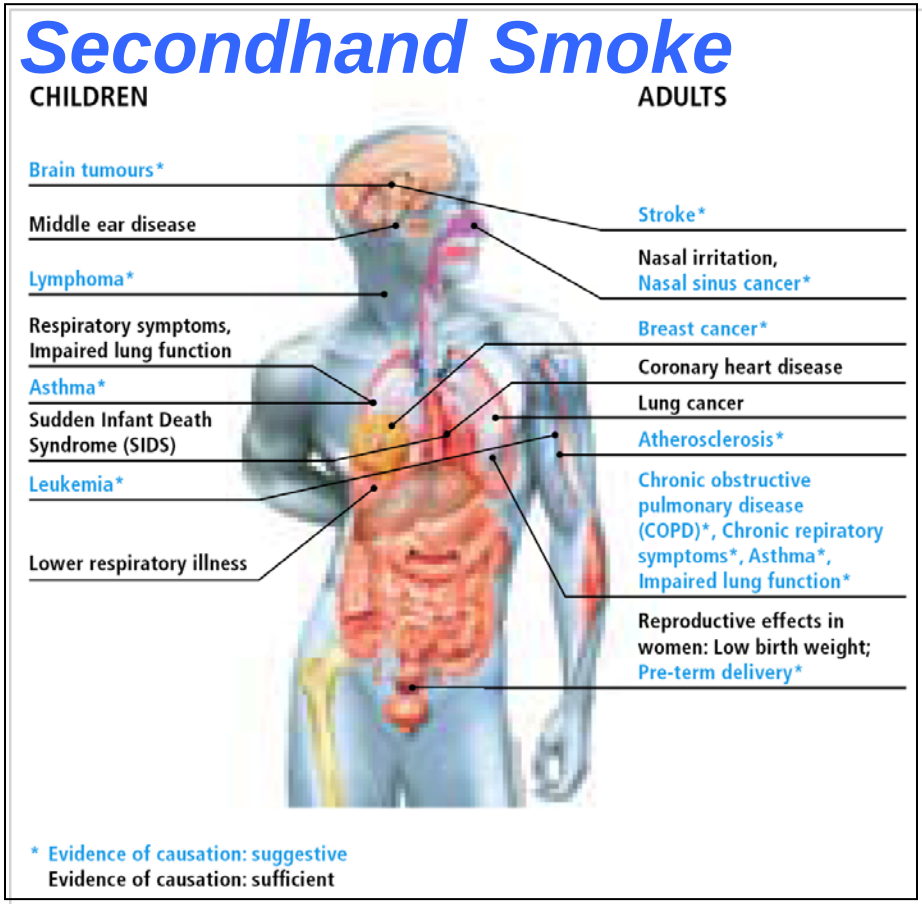


Tobacco Atlas, 2012, www.tobaccoatlas.org

Smoking and Secondhand Smoke Damage Every Part of the Body



Smoking



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	★			

Tobacco Atlas, 2012, www.tobaccoatlas.org

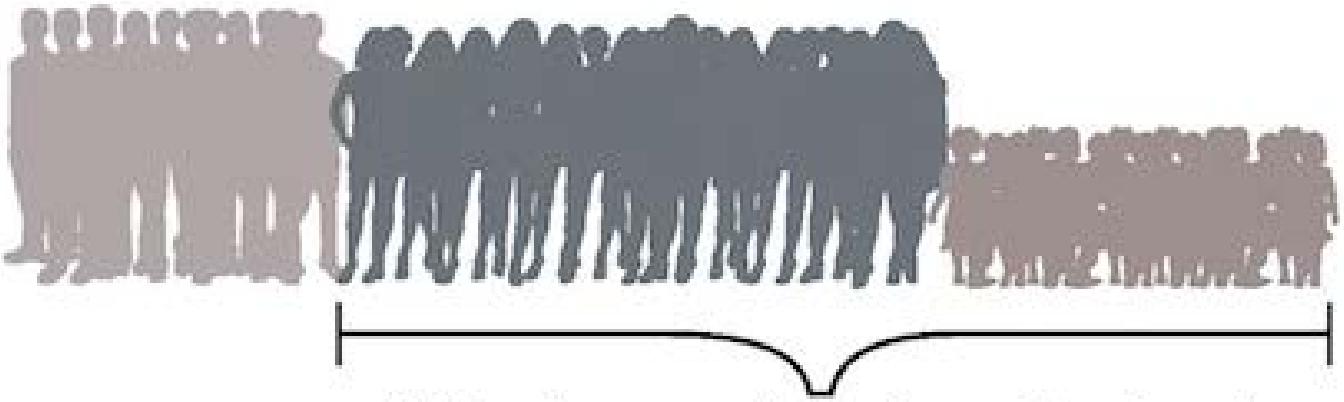
Global Burden of Tobacco Past and Present

- **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**

WHO Report on the Global Tobacco Epidemic, 2008, http://www.who.int/tobacco/mpower/gtcr_download/en/index.htm
MMWR April 12, 2002, http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5114a2.htm

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

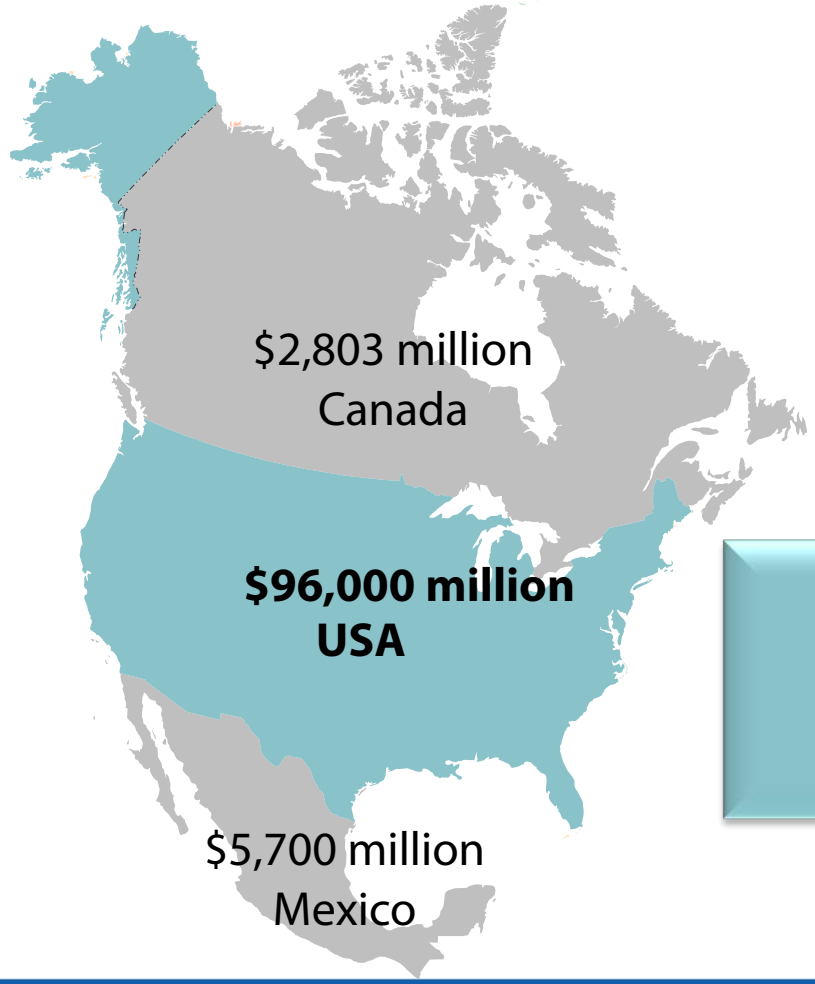
Men	Women	Children
26%	**47%**	**28%**
156,000	281,000	166,000



75% of secondhand smoke deaths occur among women and children

Tobacco Atlas, 2012, www.tobaccoatlas.org

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

Tobacco Atlas, 2012, www.tobaccoatlas.org

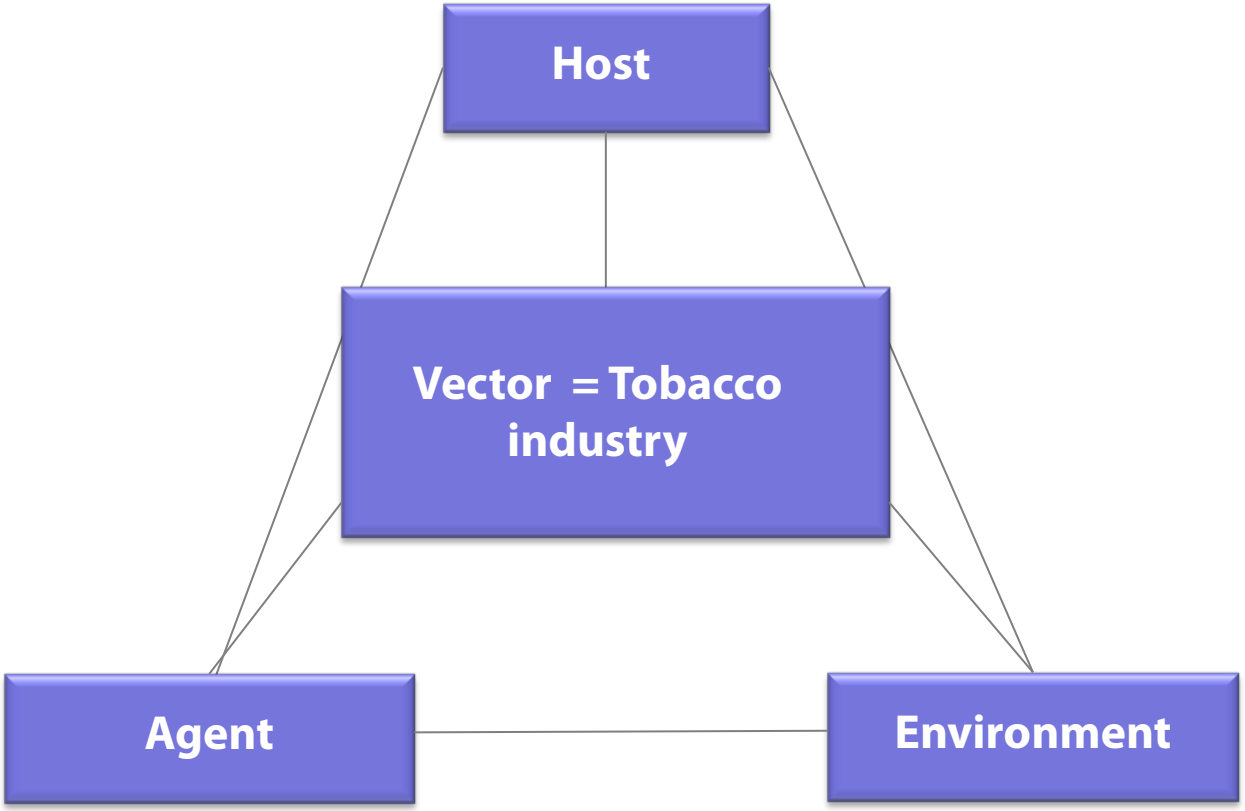
Future Global Burden of Tobacco

- **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!

WHO Report on the Global Tobacco Epidemic, 2008: http://www.who.int/tobacco/mpower/gtcr_download/en/index.html

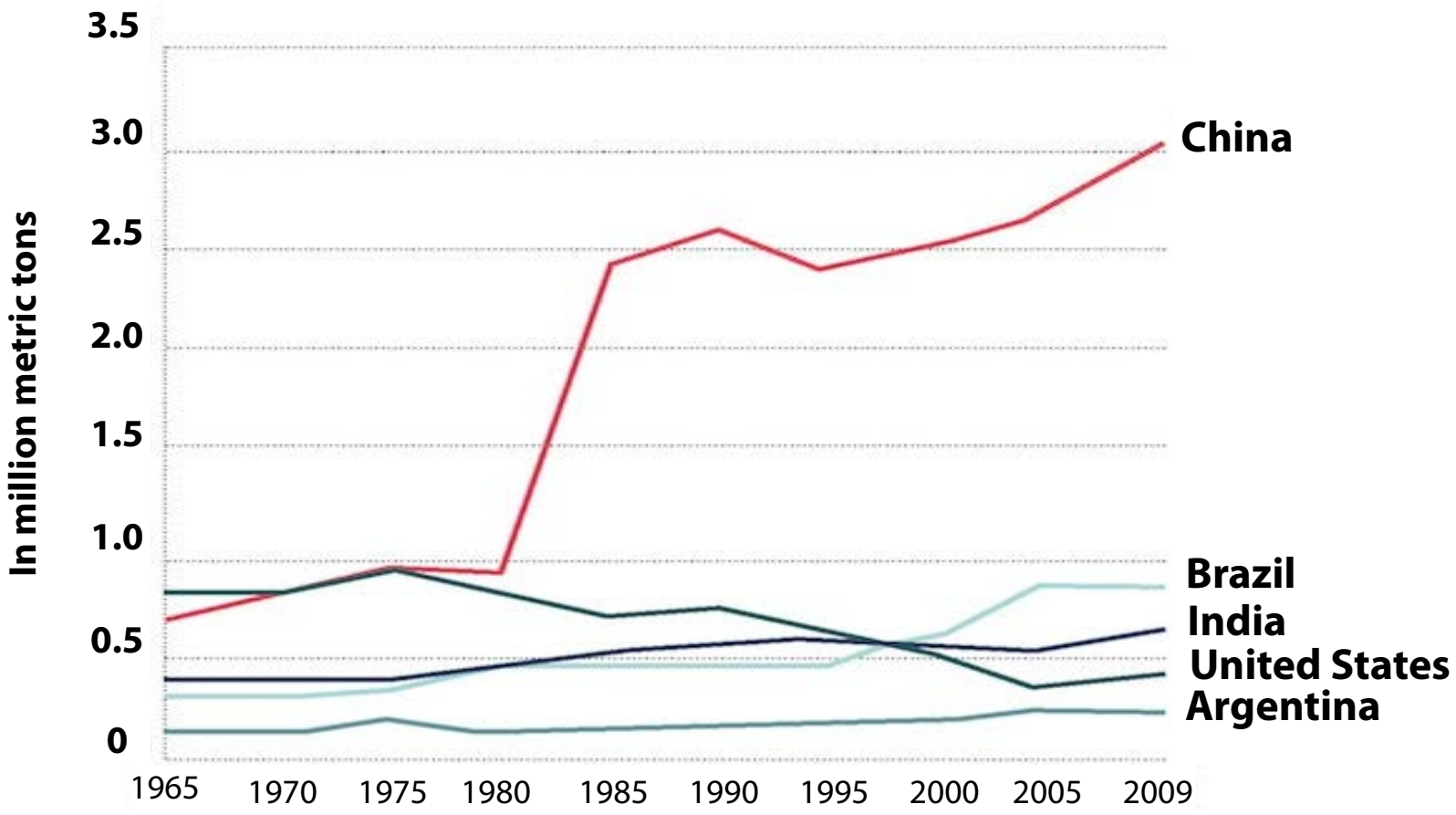
Vector of Disease



Cohen, et al. AJPM 2010;39:352-6
tobacco.health.usyd.edu.au/assets/pdfs/tobacco-industry/trustus.pdf

Trend in Tobacco Production

Production Quantity in Million Metric Tons, 1965–2009



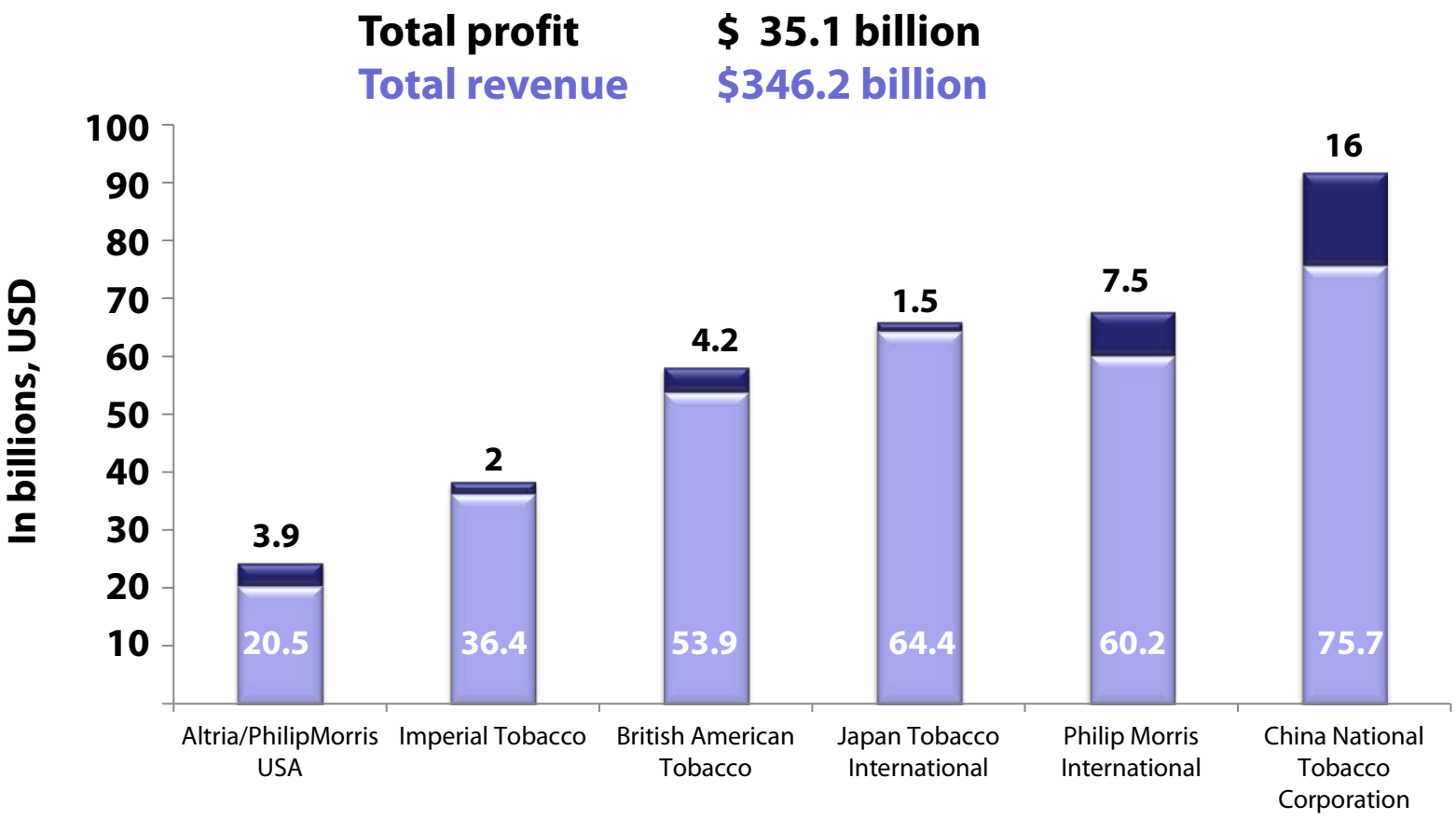
Tobacco Atlas, 2012, www.tobaccoatlas.org

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%

Callard C. Tobacco Control 2010; 19:285-90

Tobacco Company Revenue and Profits
Top 6 Companies, 2010



Tobacco Atlas, 2012, www.tobaccoatlas.org

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**

Tobacco Atlas, 2012, www.tobaccoatlas.org
http://www.tobaccopolicycenter.org/2012/01/11

Undue Influence

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

Tobacco Atlas, 2012, www.tobaccoatlas.org

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

WHO Report on the Global Tobacco Epidemic, 2008 http://www.who.int/tobacco/mpower/2008/en/index.html

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 an evaluate tobacco control policies

WHO FCTC Monitoring Protocol 20.2

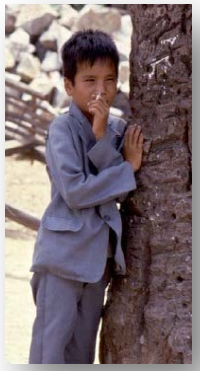
"…integrate tobacco surveillance programs into national, regional, and global health surveillance programs so that data are comparable and can be analyzed at the regional and international levels, as appropriate."

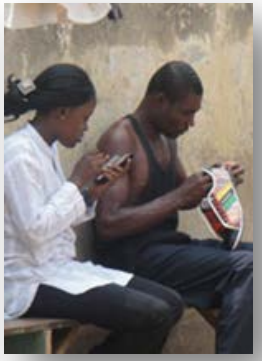
GTSS: Global Tobacco Surveillance System

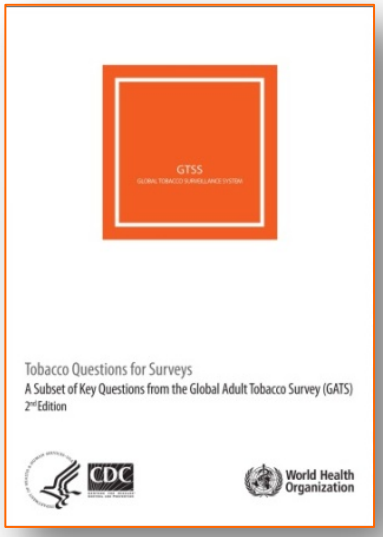
GYTS | GLOBAL YOUTH TOBACCO SURVEY

GATS | GLOBAL ADULT TOBACCO SURVEY

TQS | TOBACCO QUESTIONS FOR SURVEYS

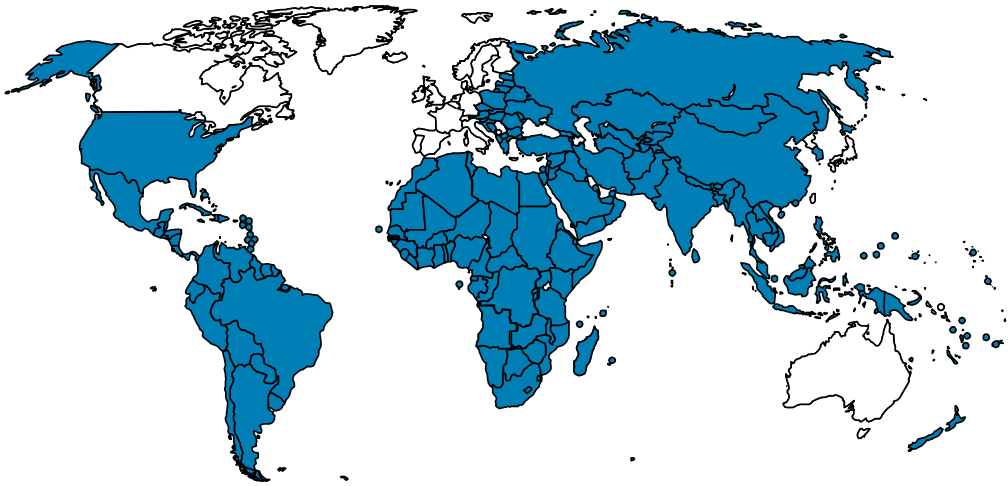




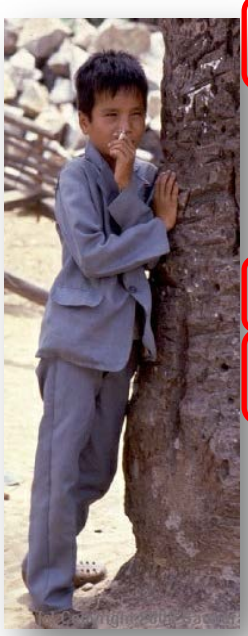


GYTS: Global Youth Tobacco Survey 1999–2012

- 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



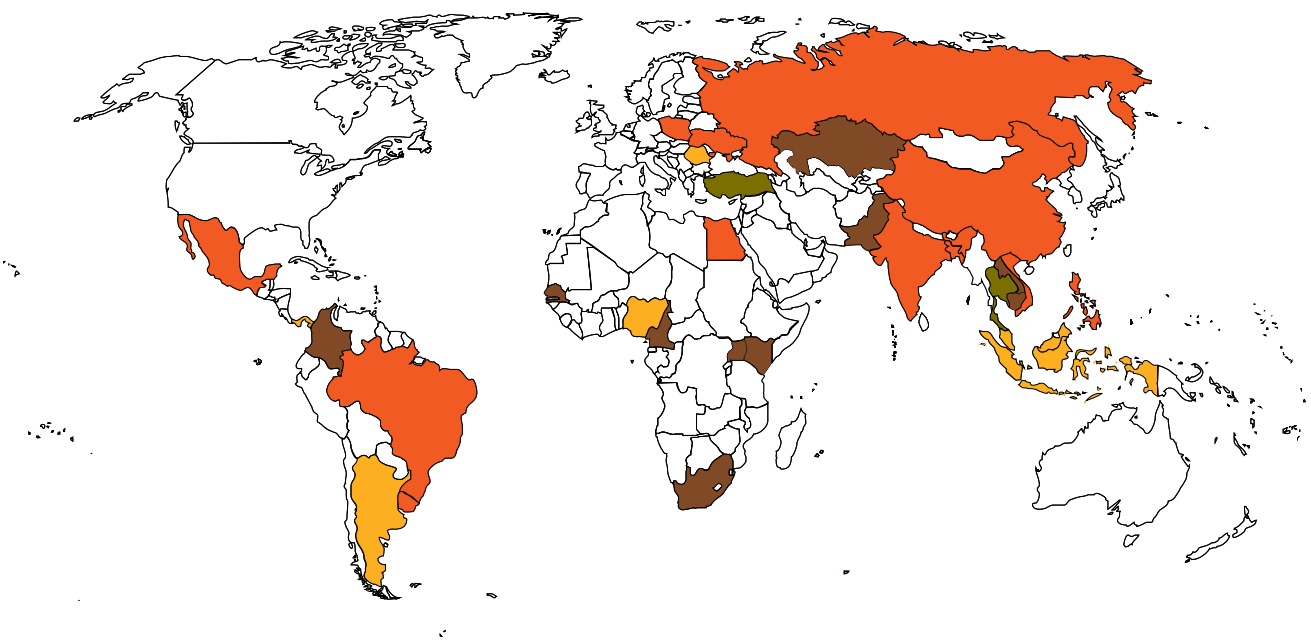
GYTS: Global Youth Tobacco Survey
Key Findings



- 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

Centers for Disease Control and Prevention. Global Youth Tobacco Surveillance, 2000-2007. 2008 Jan 25. MMWR 2008; 57/ss-1

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!

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

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**

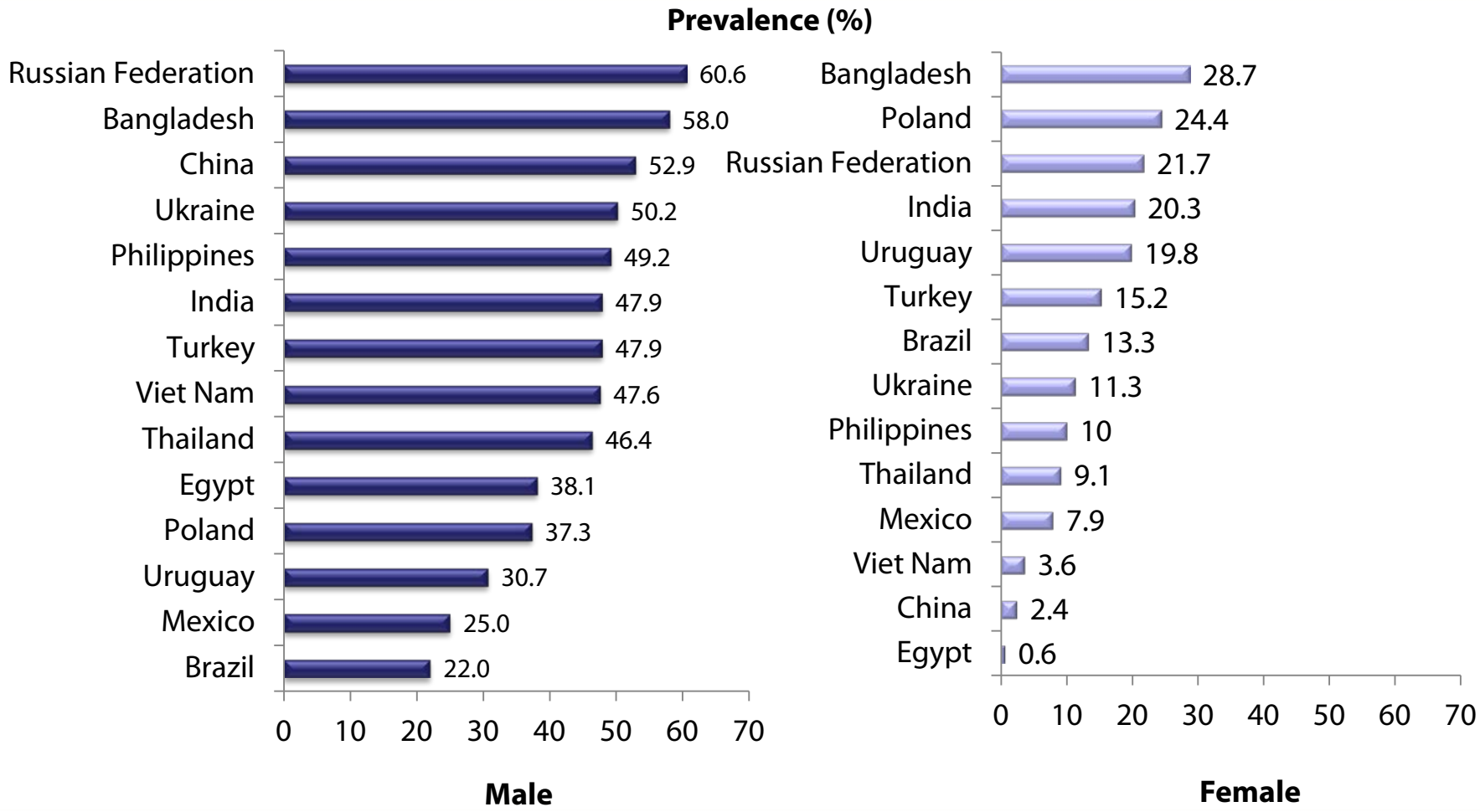
GATS: Global Adult Tobacco Survey
Key Findings

- 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

Global Adult Tobacco Survey, 2008-2010, http://apps.nccd.cdc.gov/GTSSData/default/default.aspx
Adult Awareness of Tobacco Advertising, Promotion, and Sponsorship-14 countries. MMWR 2012; 61(20)

Monitor

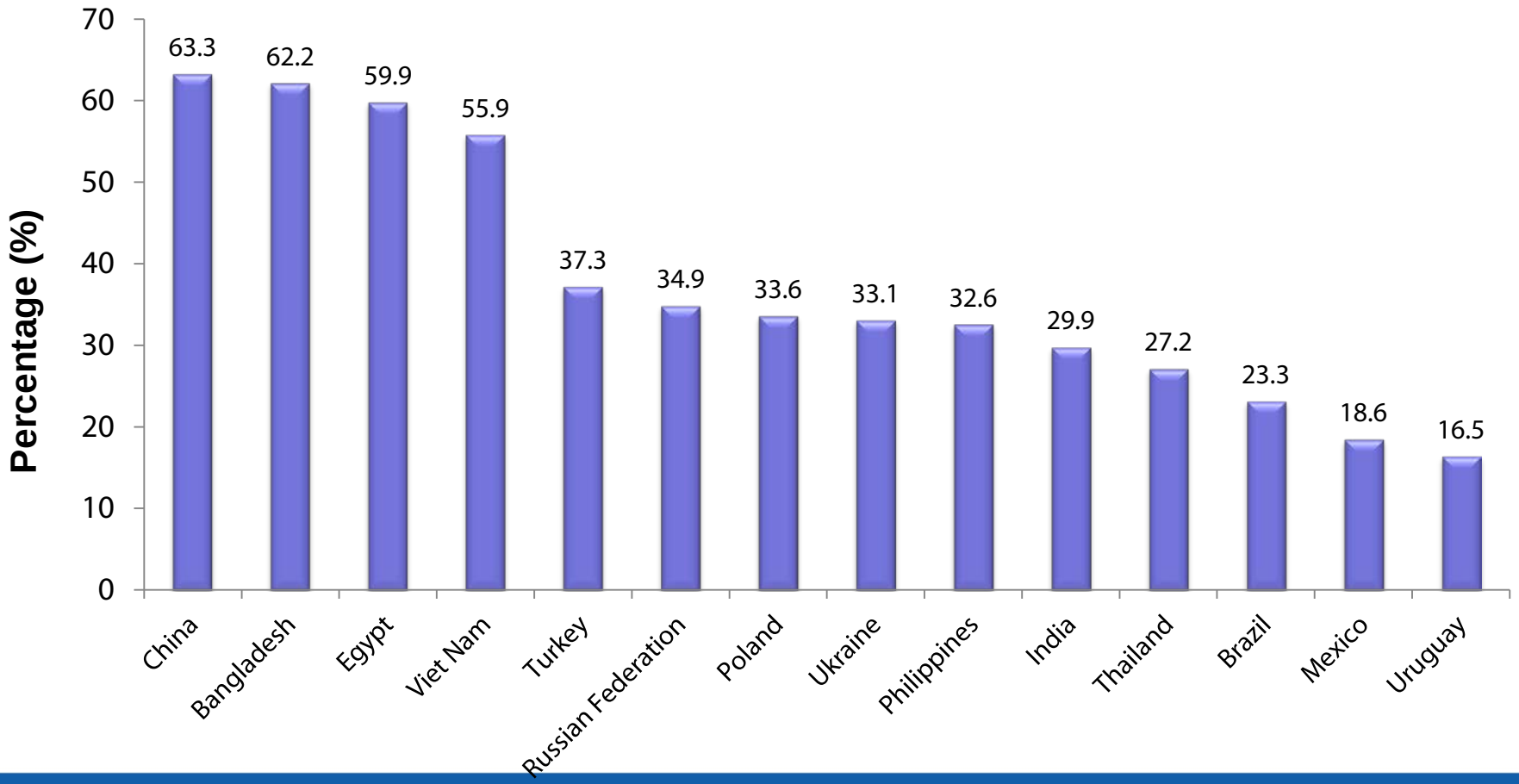
Tobacco Use by Gender



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

Protect

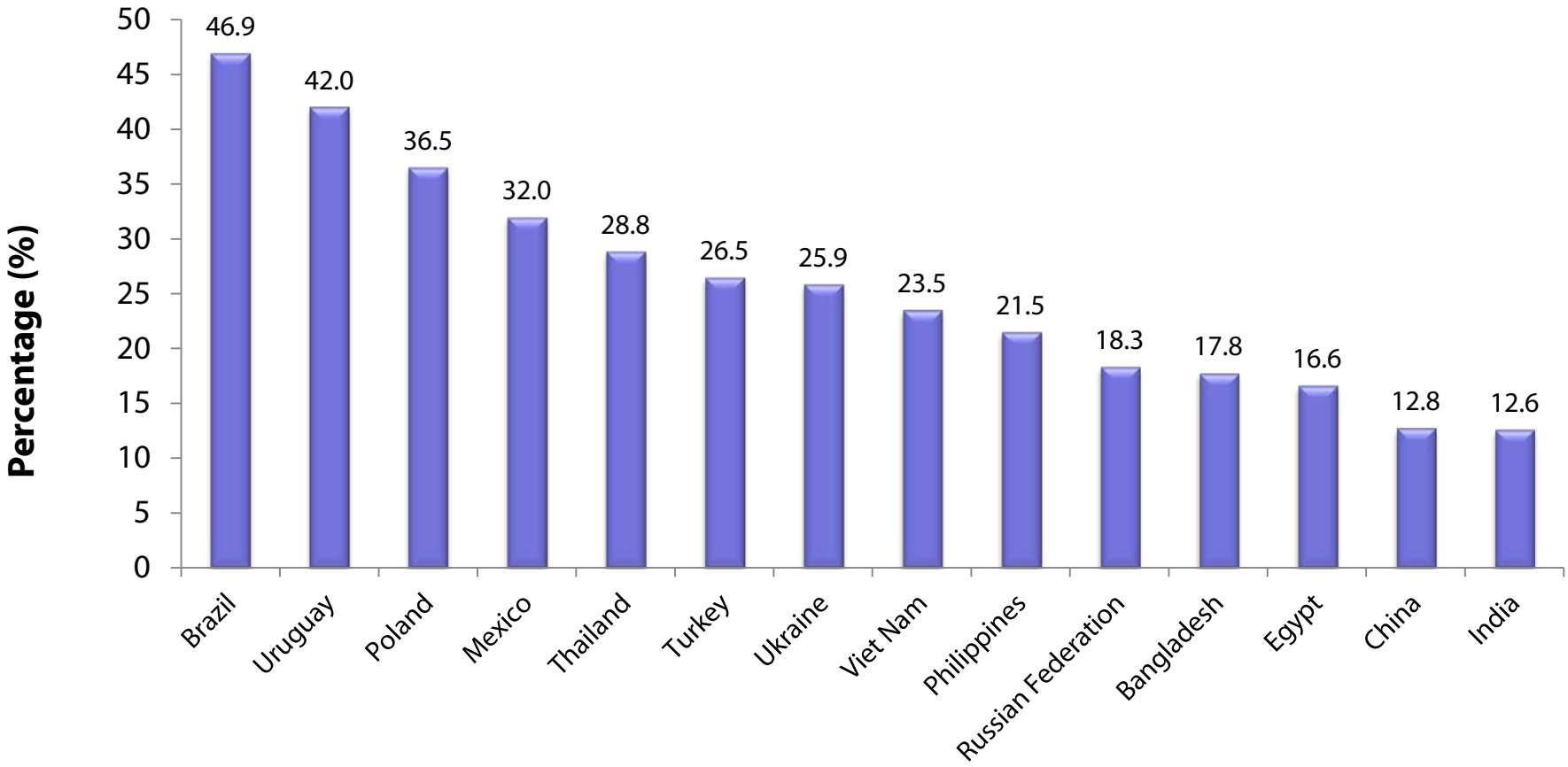
Exposure to Secondhand Smoke at Workplace



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

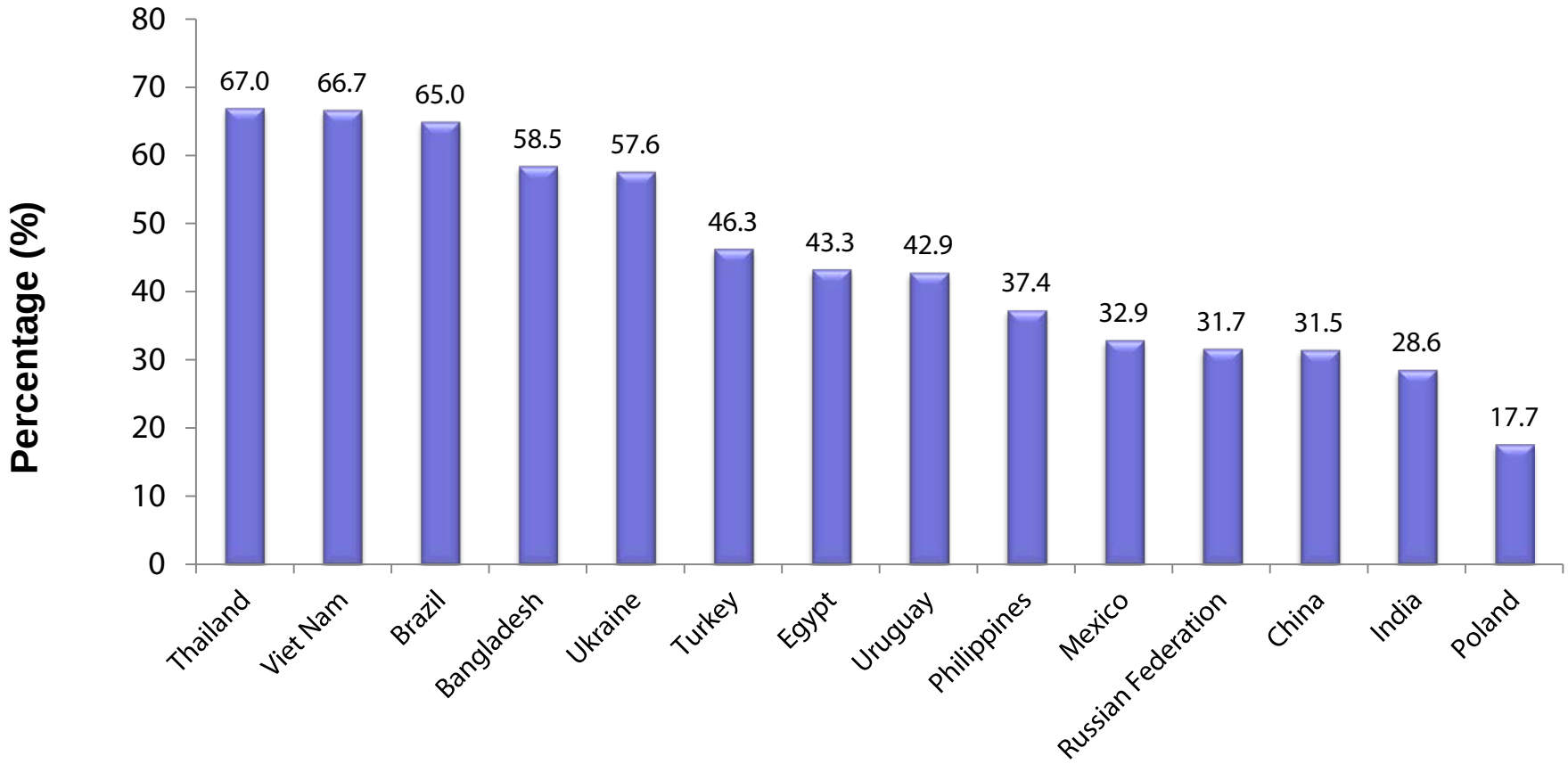
Former Smokers Who Quit



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

Warn

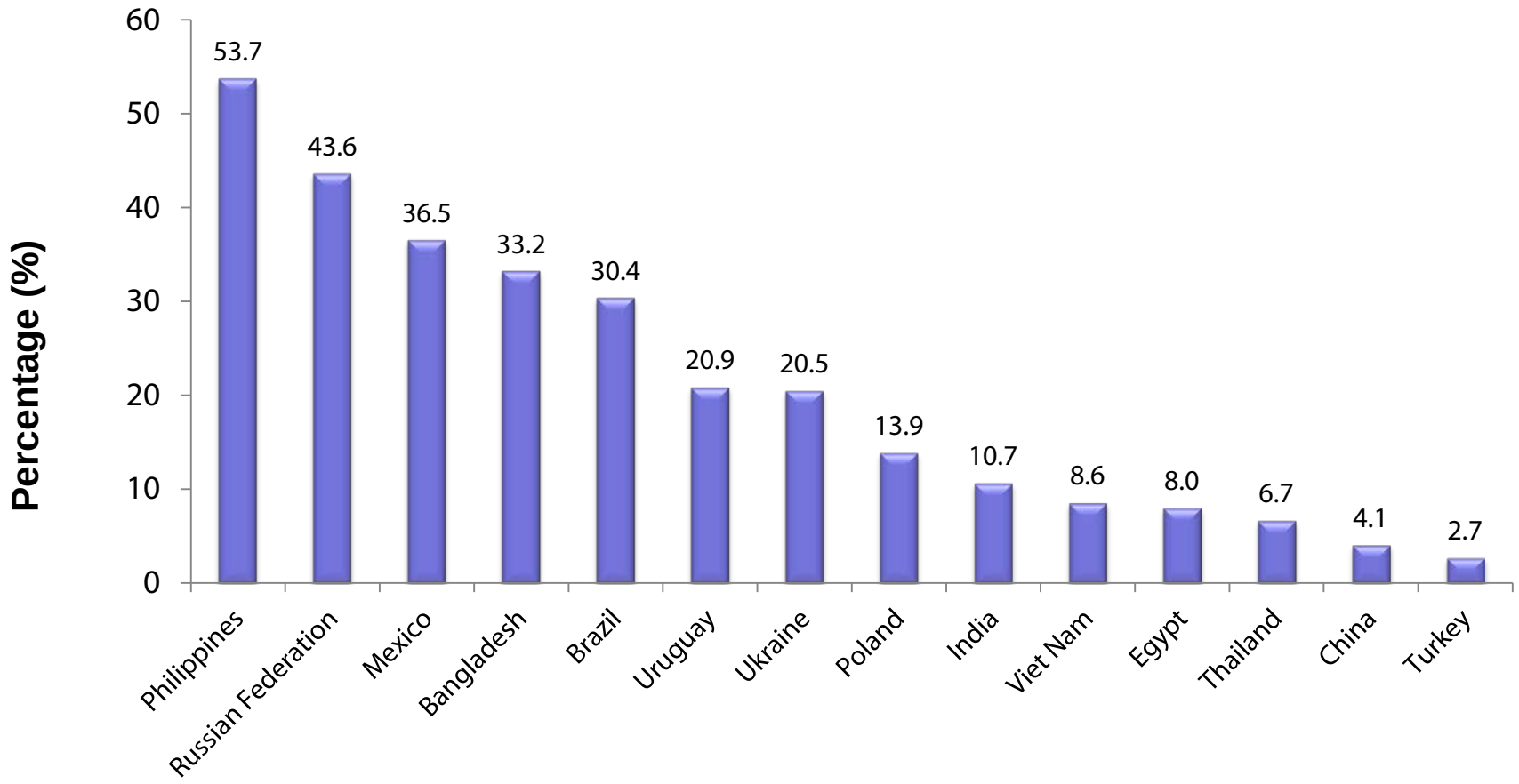
Thought about Quitting Smoking Because of Warning Labels on Cigarette Packages



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

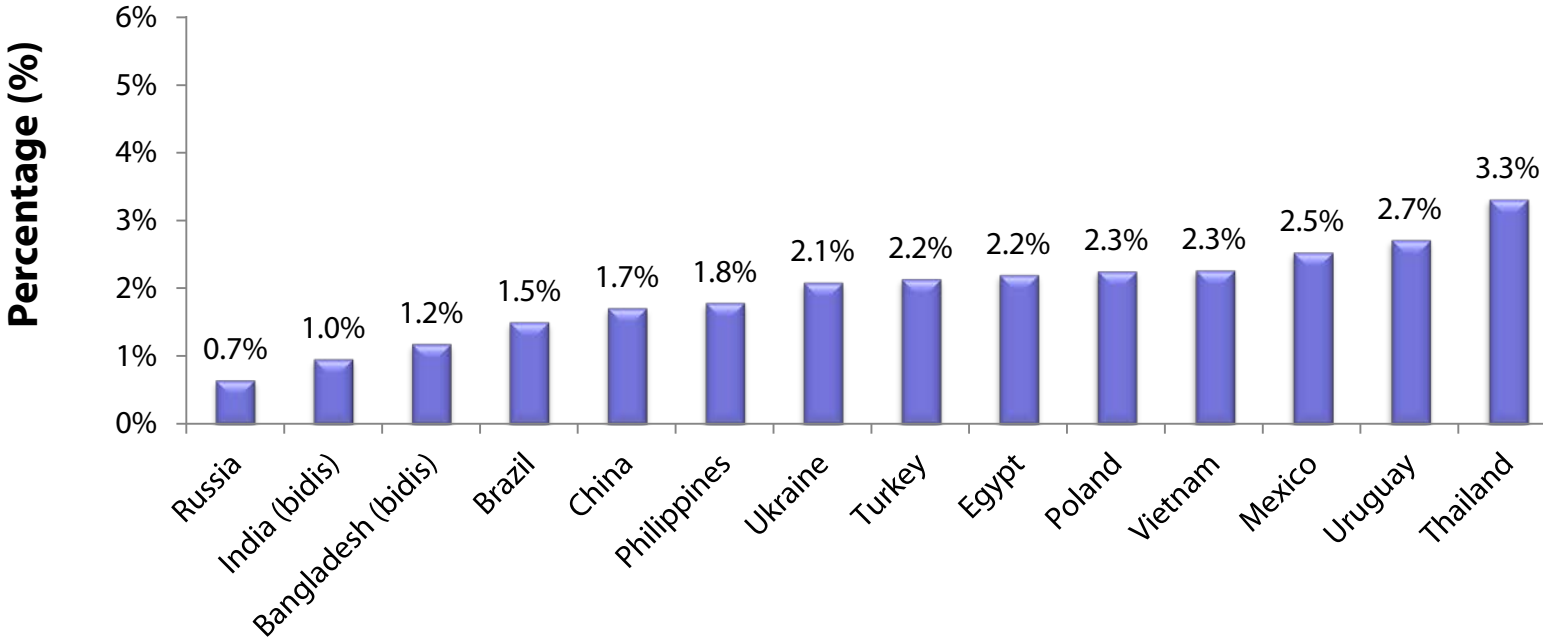
Enforce

Noticed Cigarette Marketing in Stores



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

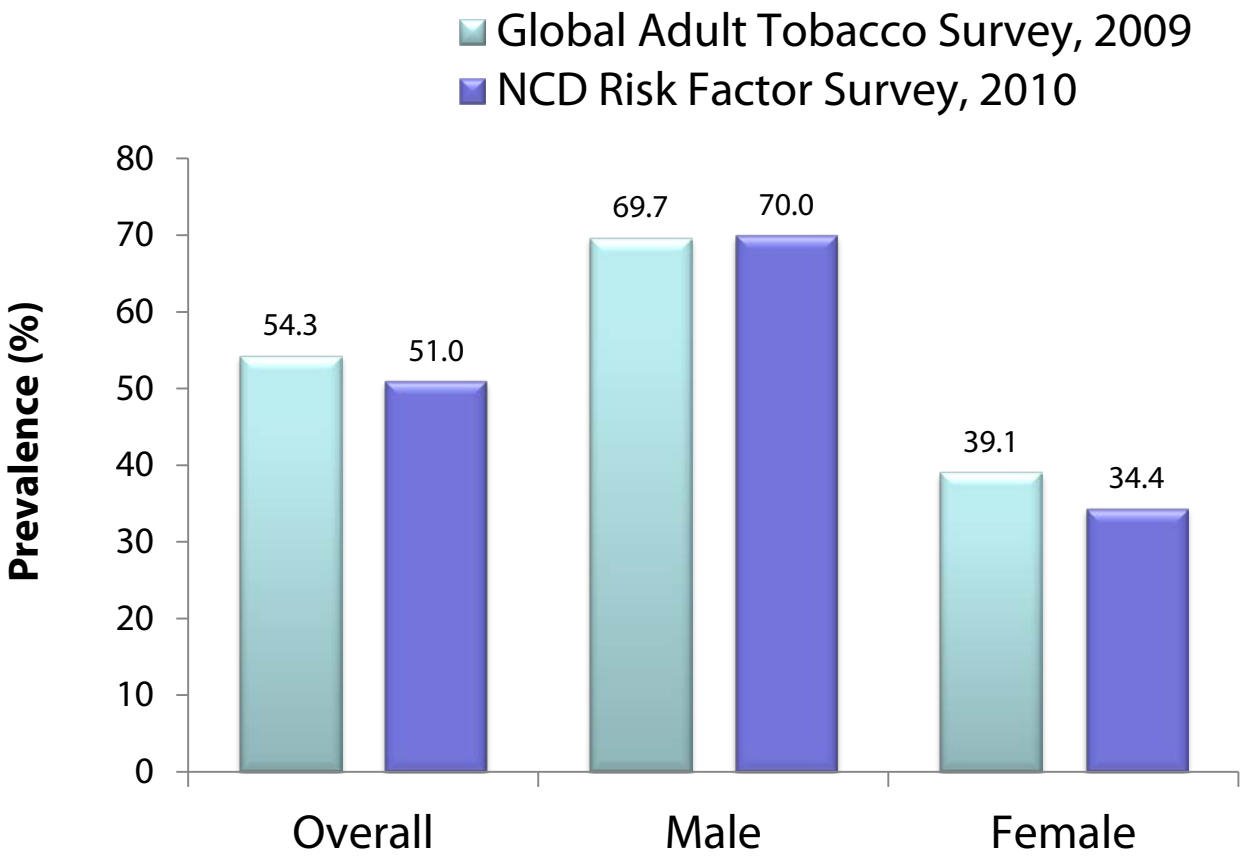


Global Adult Tobacco Survey, 2008-2010, http://apps.nccd.cdc.gov/GTSSData/default/default.aspx
Affordability as the relative income price - Median price paid per 2000 sticks as % of per capita GDP

TQS: Tobacco Questions for Survey 2010–2012

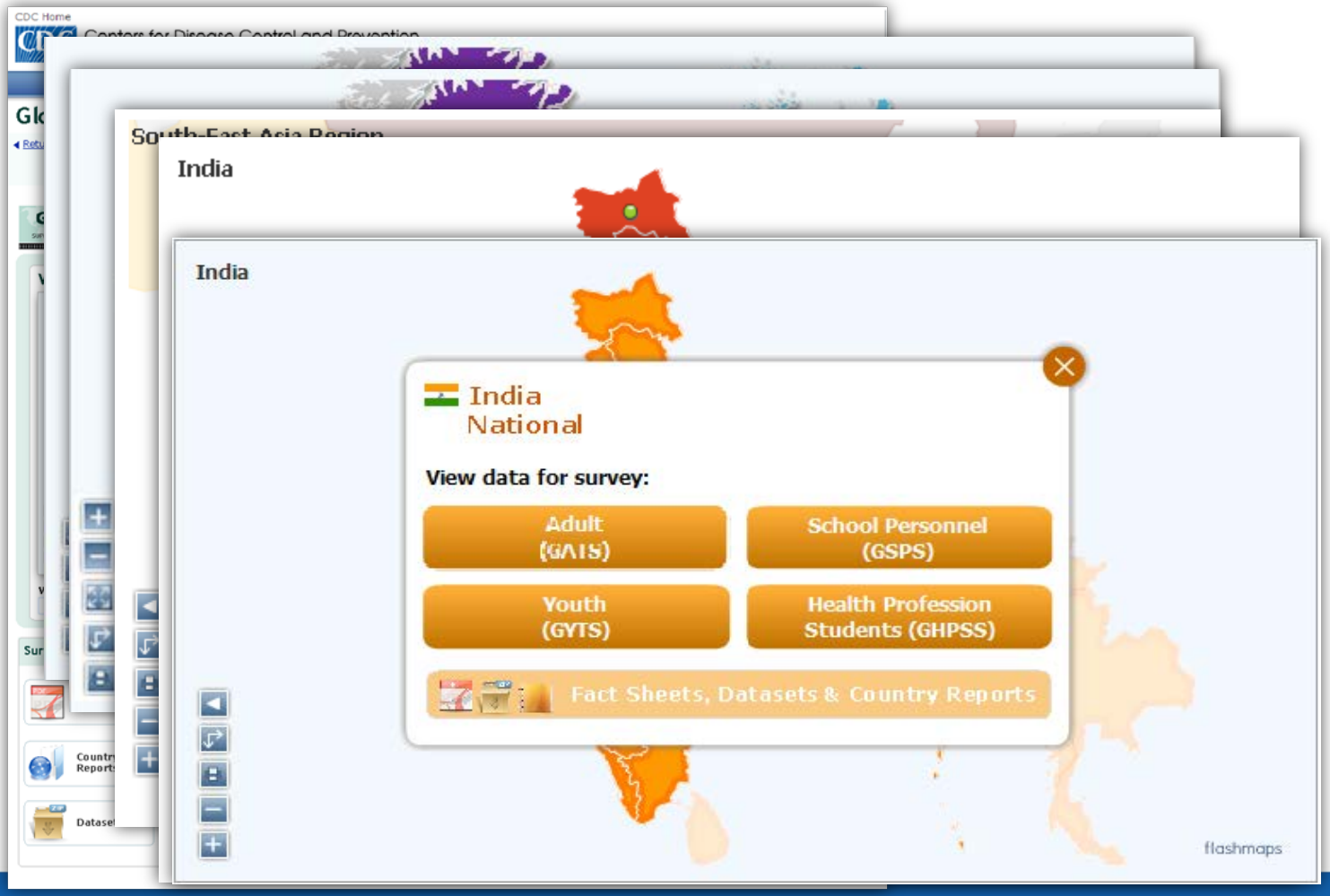
- 3 to 22 questions
- MPOWER focus
- Integration, standardization, and comparability

Current Tobacco Users Aged ≥25 Years, Bangladesh



Global Adult Tobacco Survey, 2008-2010
Bangladesh 2010. ISBN 978-92-9022-393-1
NCD, Non-communicable diseases

Data Dissemination



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

Georgia State University | INSTITUTE OF PUBLIC HEALTH

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

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

Frieden T, Bloomberg M. Lancet 2007;369:1758–61

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

mpower

Monitor tobacco use and prevention policies

Protect people from tobacco smoke

Offer help to quit tobacco use

Warn about the dangers of tobacco

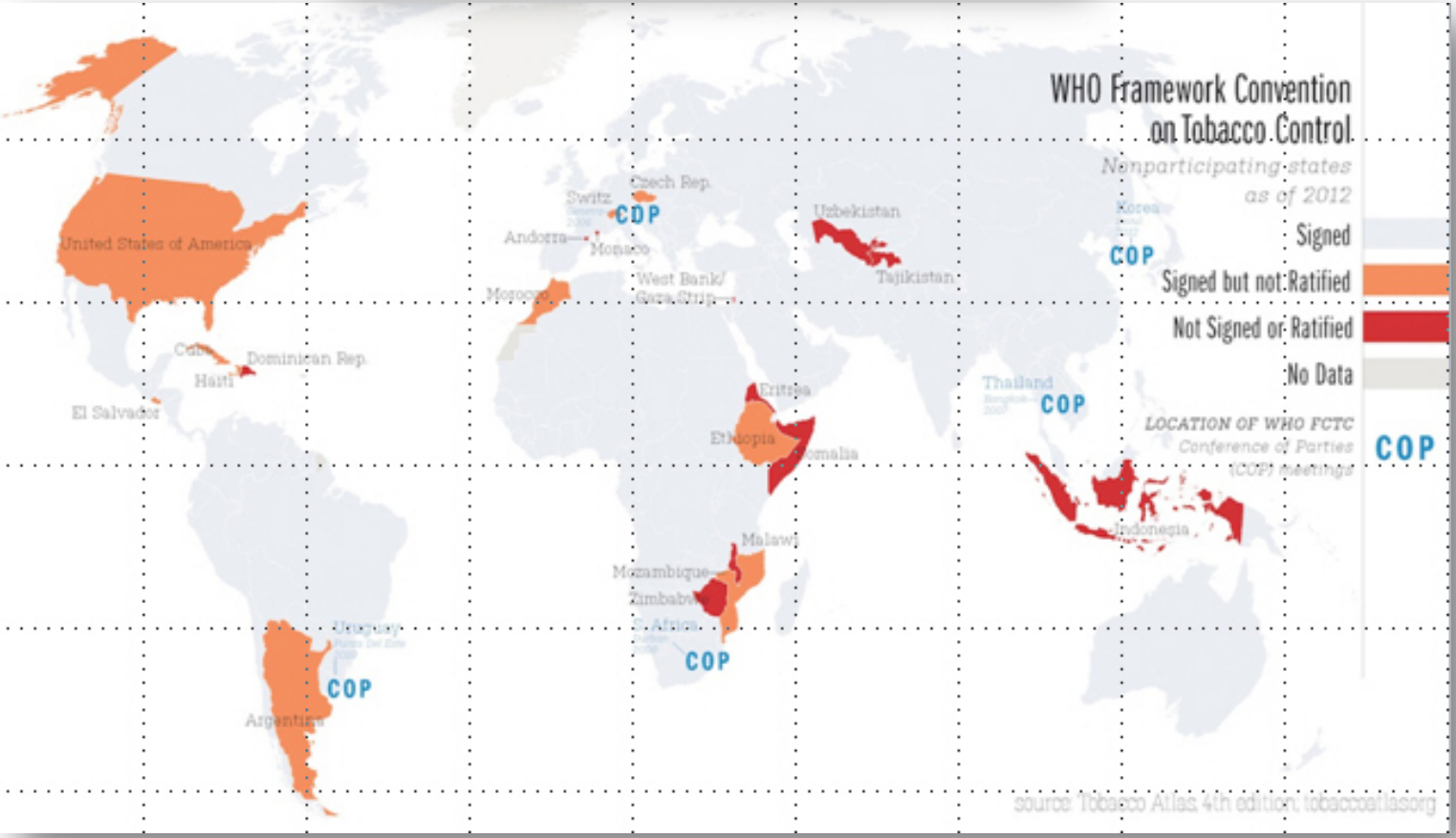
Enforce bans on tobacco advertising, promotion and sponsorship

Raise taxes on tobacco

WHO Report on the Global Tobacco Epidemic, 2008, http://www.who.int/tobacco/mpower/2008/en/index.html

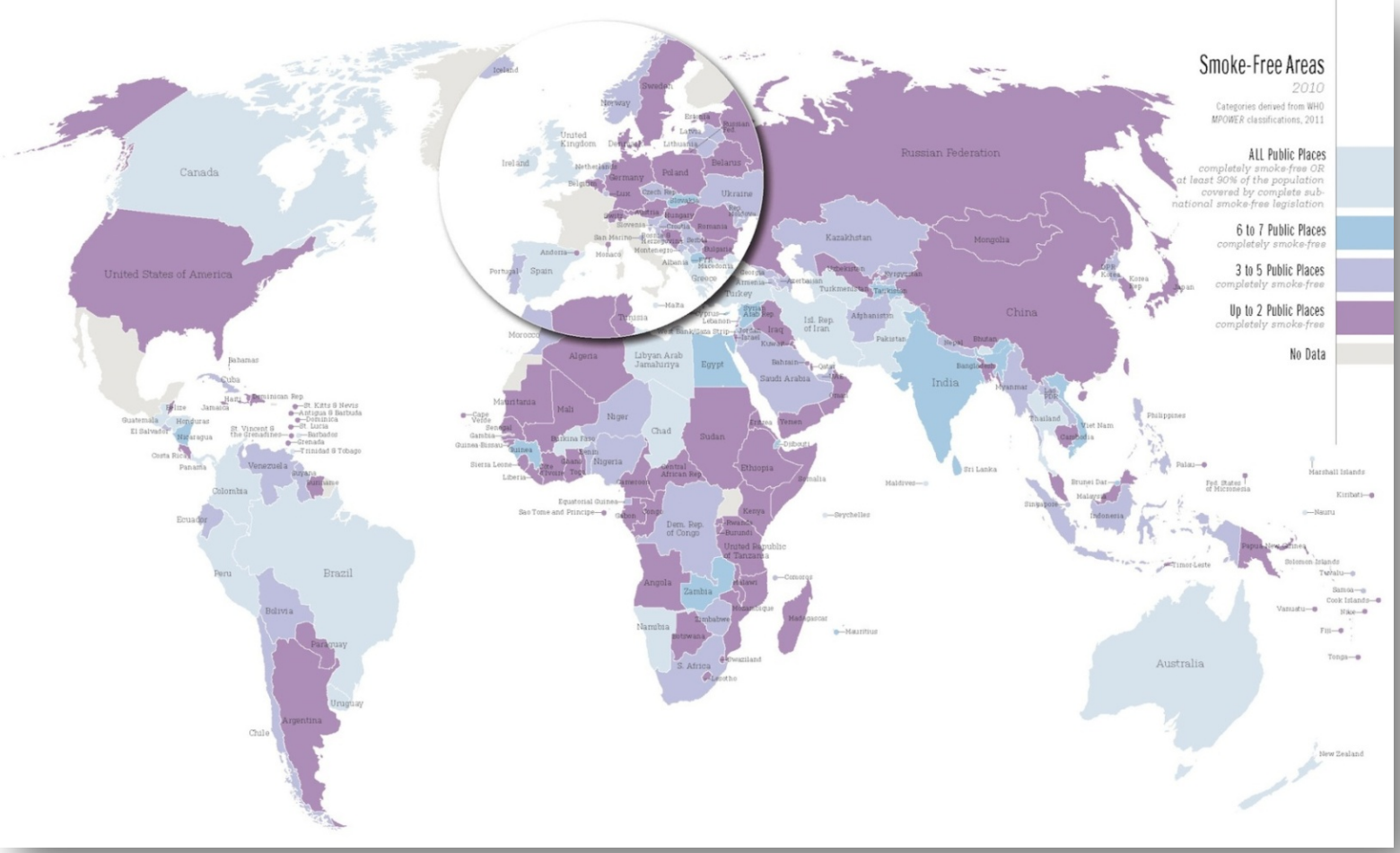
FCTC

WHO FRAMEWORK CONVENTION ON TOBACCO CONTROL



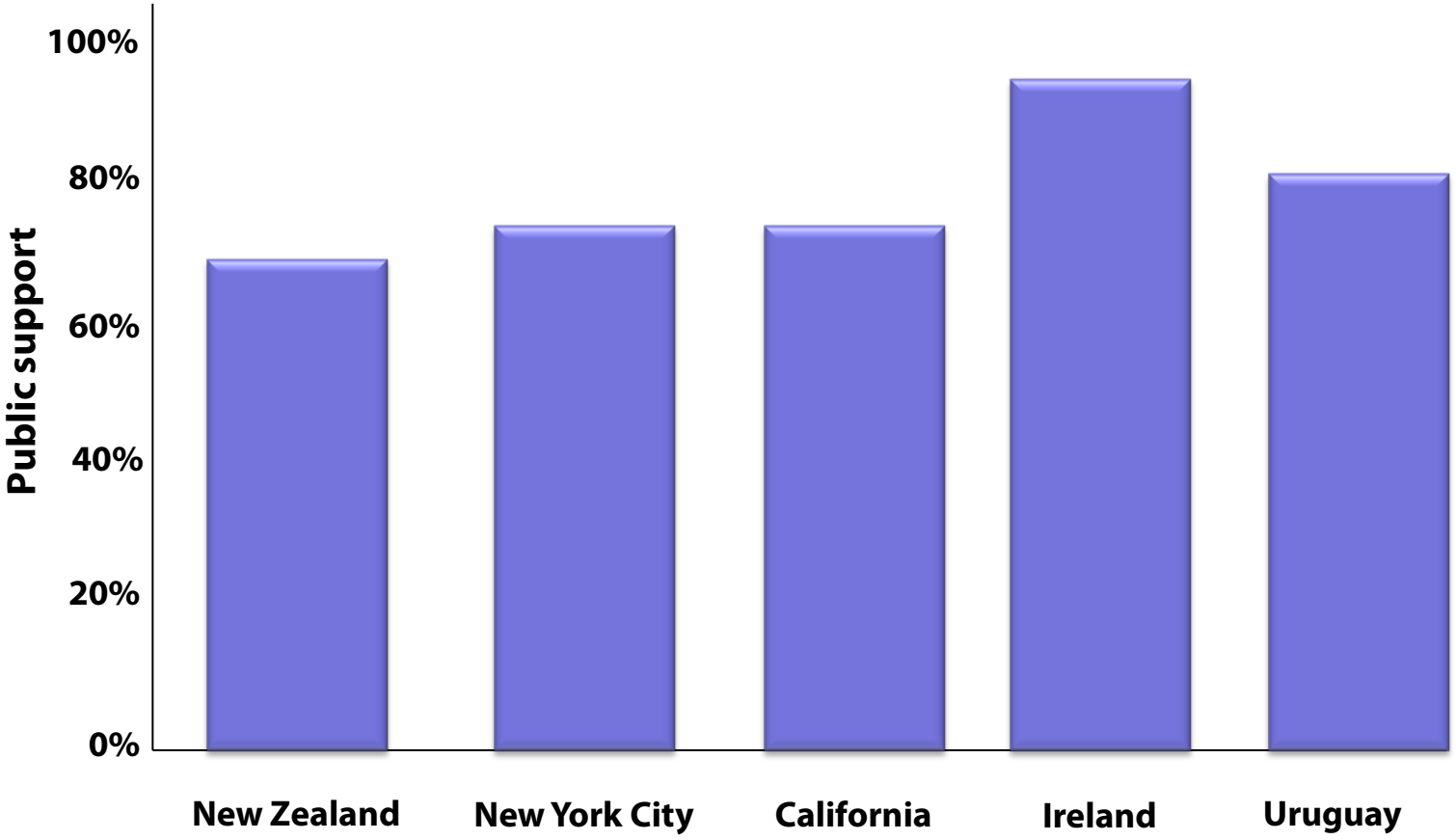
http://www.who.int/fctc/e

Smoke-Free Areas Doubled from 2008 to 2010



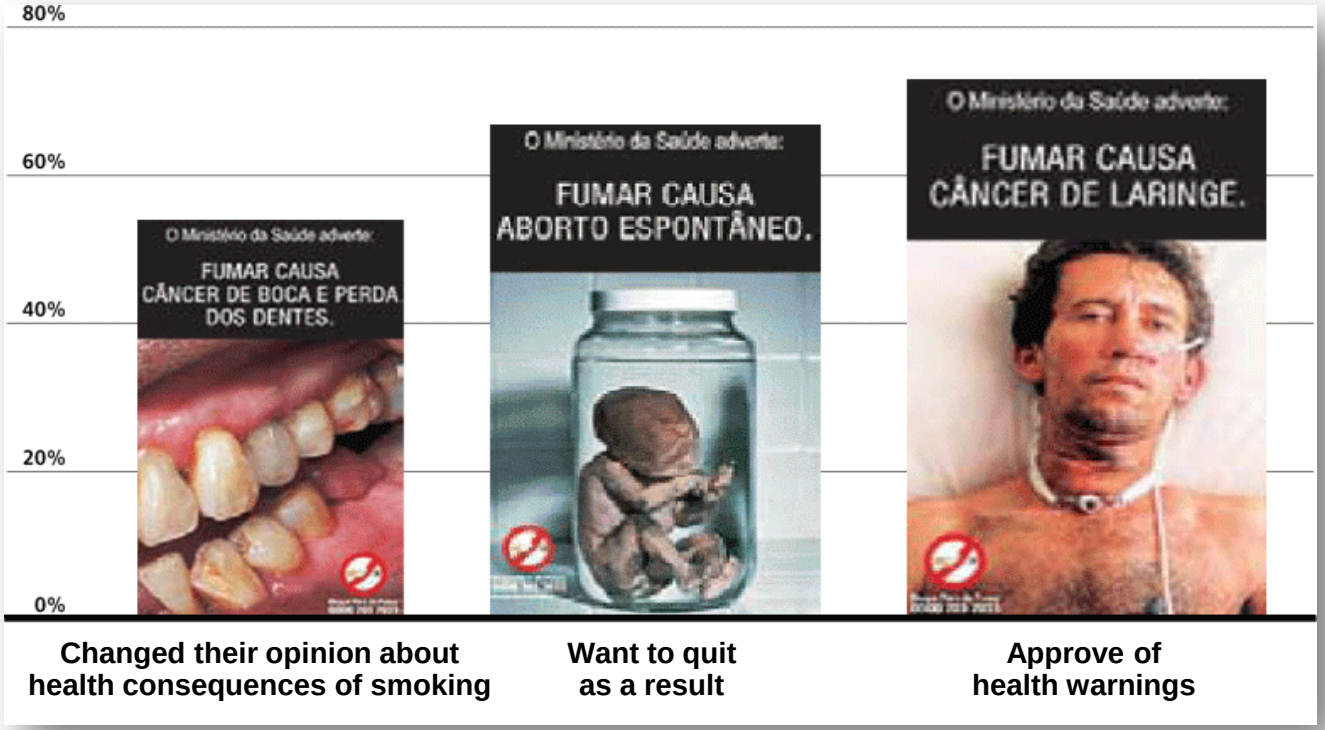
Tobacco Atlas, 2012, www.tobaccoatlas.org

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



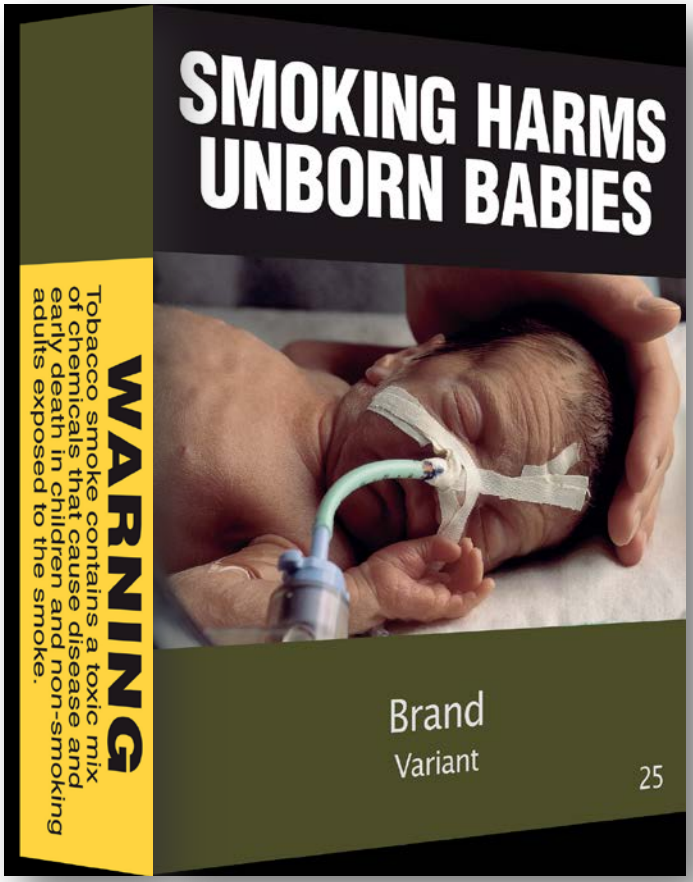
WHO MPOWER Report 2008, http://www.who.int/tobacco/mpower/2008/en/index.html

Impact of Pictorial Warnings on Brazilian Smokers



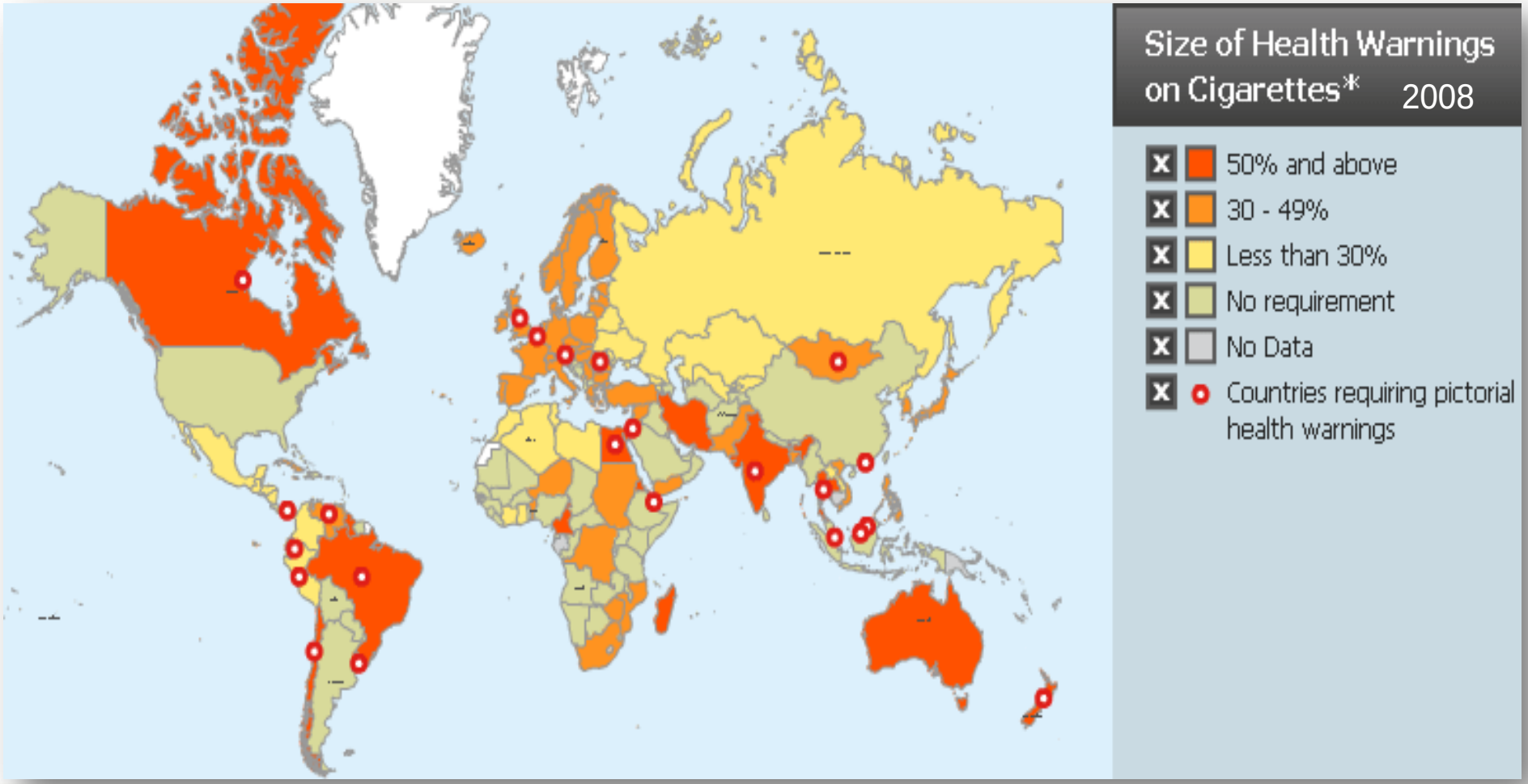
Datafolha Instituto de Pesquisas, 2002, Tobacco Atlas, 2012, www.tobaccoatlas.org

Plain Packaging in Australia



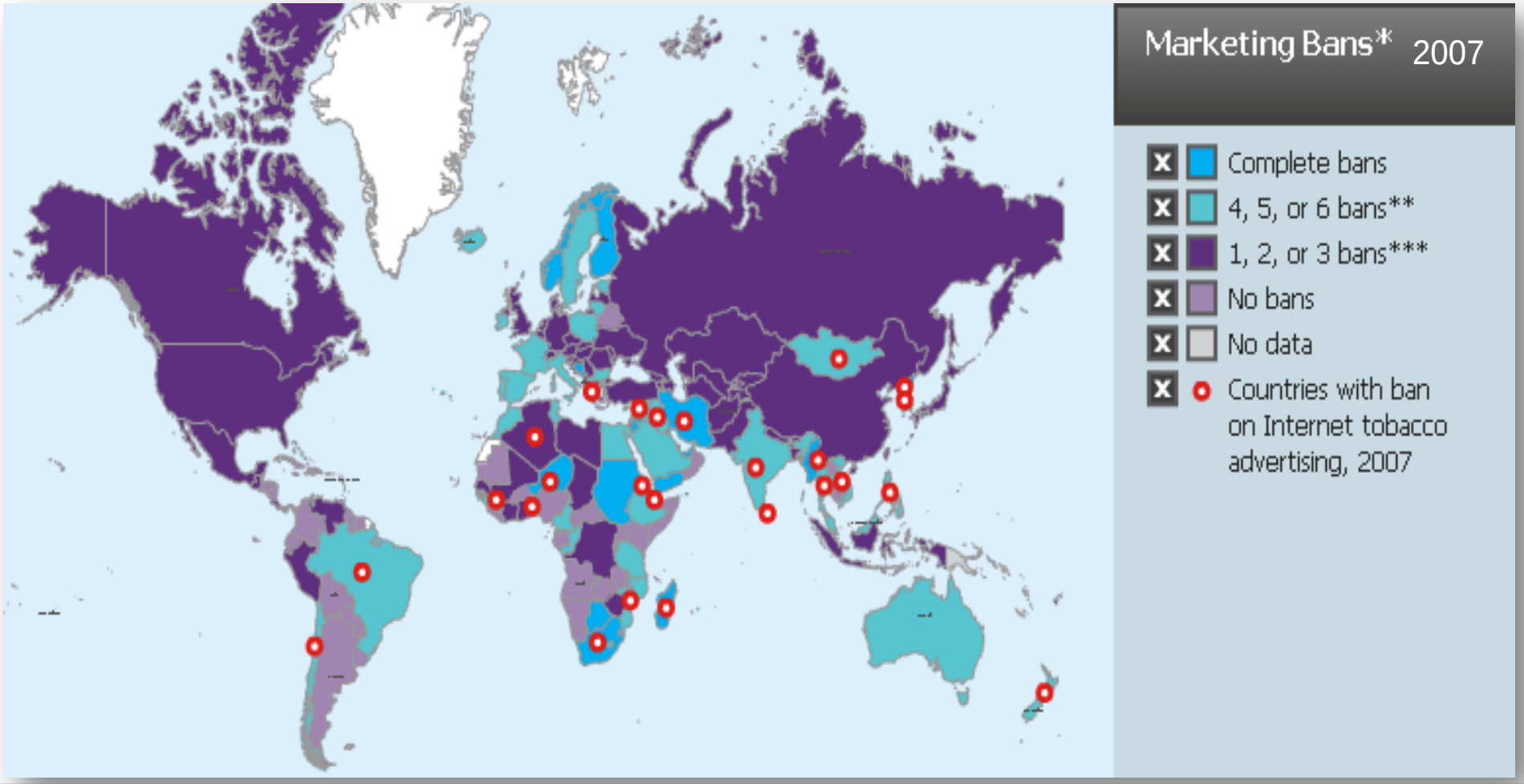
Plain packaging to be implemented by December 1, 2012, pending ongoing litigation

Health Warning Labels



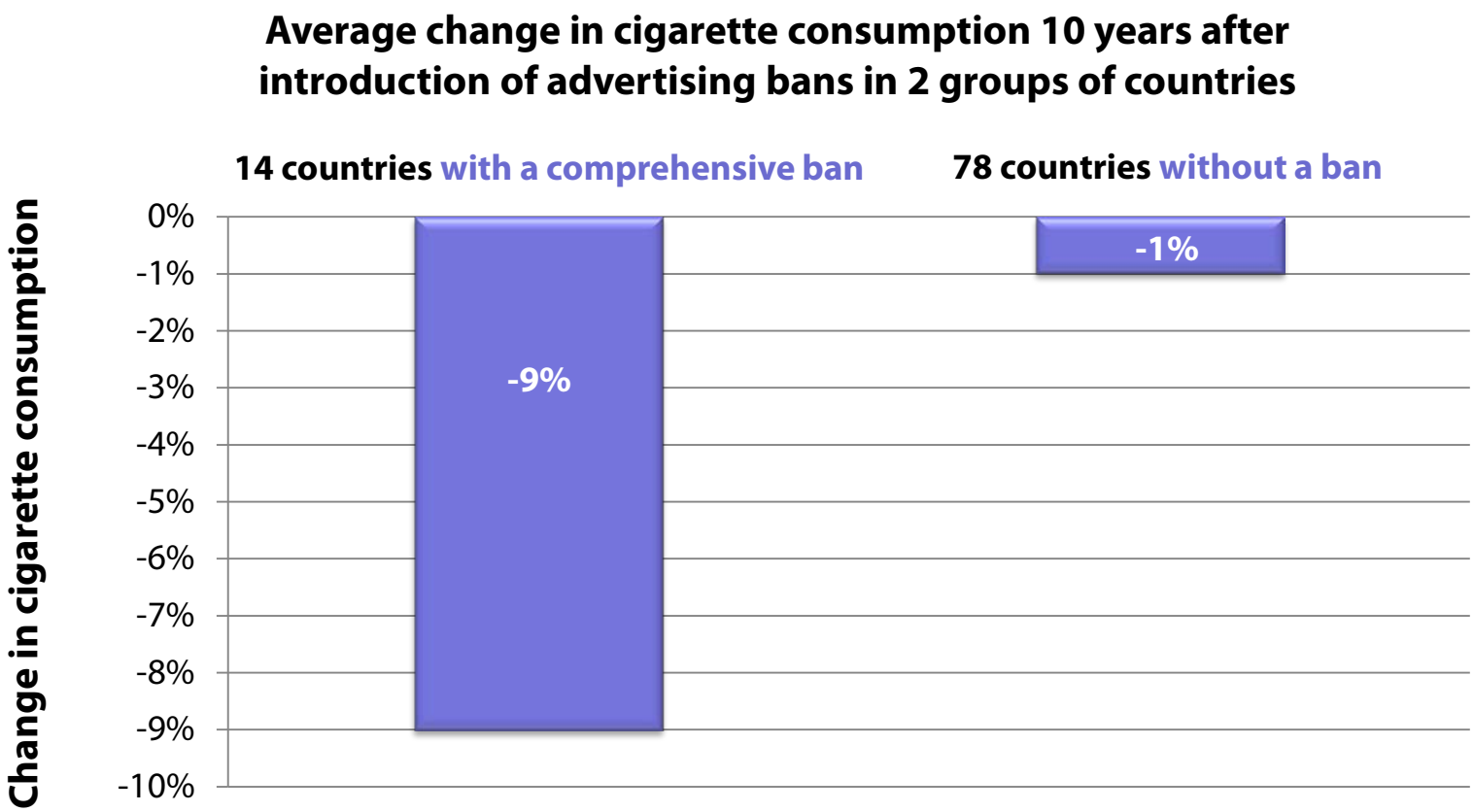
*Percent of principal display area of cigarette package legally mandated to be covered by health warning
The Tobacco Atlas, 3rd Edition, 2008, www.tobaccoatlas.org

Marketing Bans



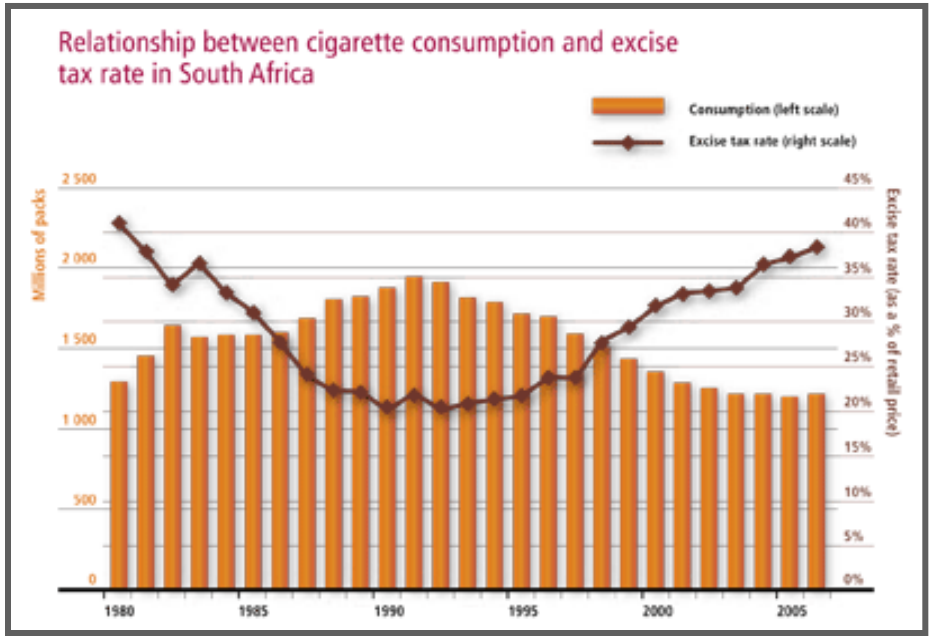
* Direct and indirect advertising bans, 2007
** Four, five or six direct bans and at least one indirect ban
***One, two or three direct bans or at least one indirect ban
The Tobacco Atlas, 3rd Edition, 2008

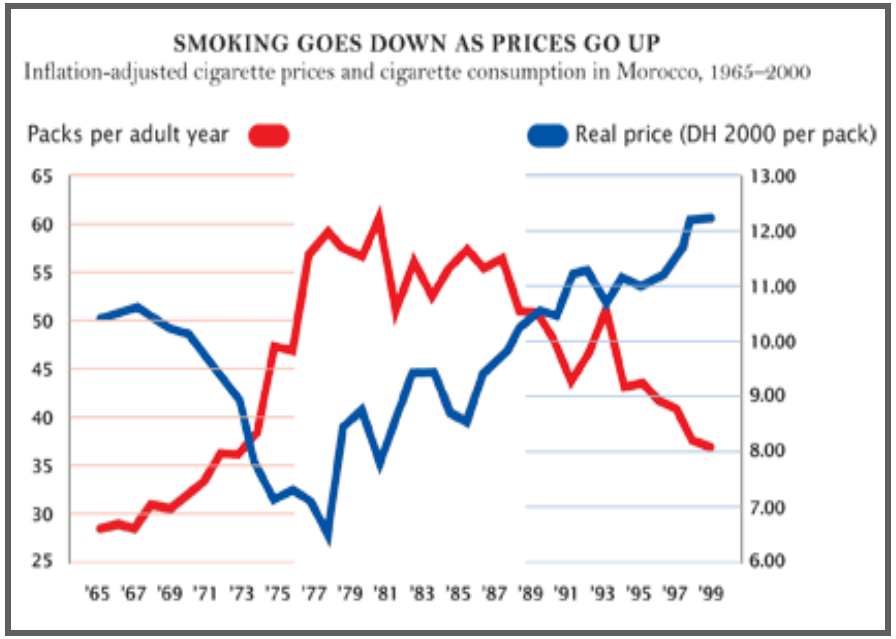
Comprehensive Advertising Bans Amplify Other Interventions



Saffer H. Tobacco advertising and promotion. In: Jha P, Chaloupka FJ, eds Tobacco control in developing countries. Oxford, Oxford University Press, 2000

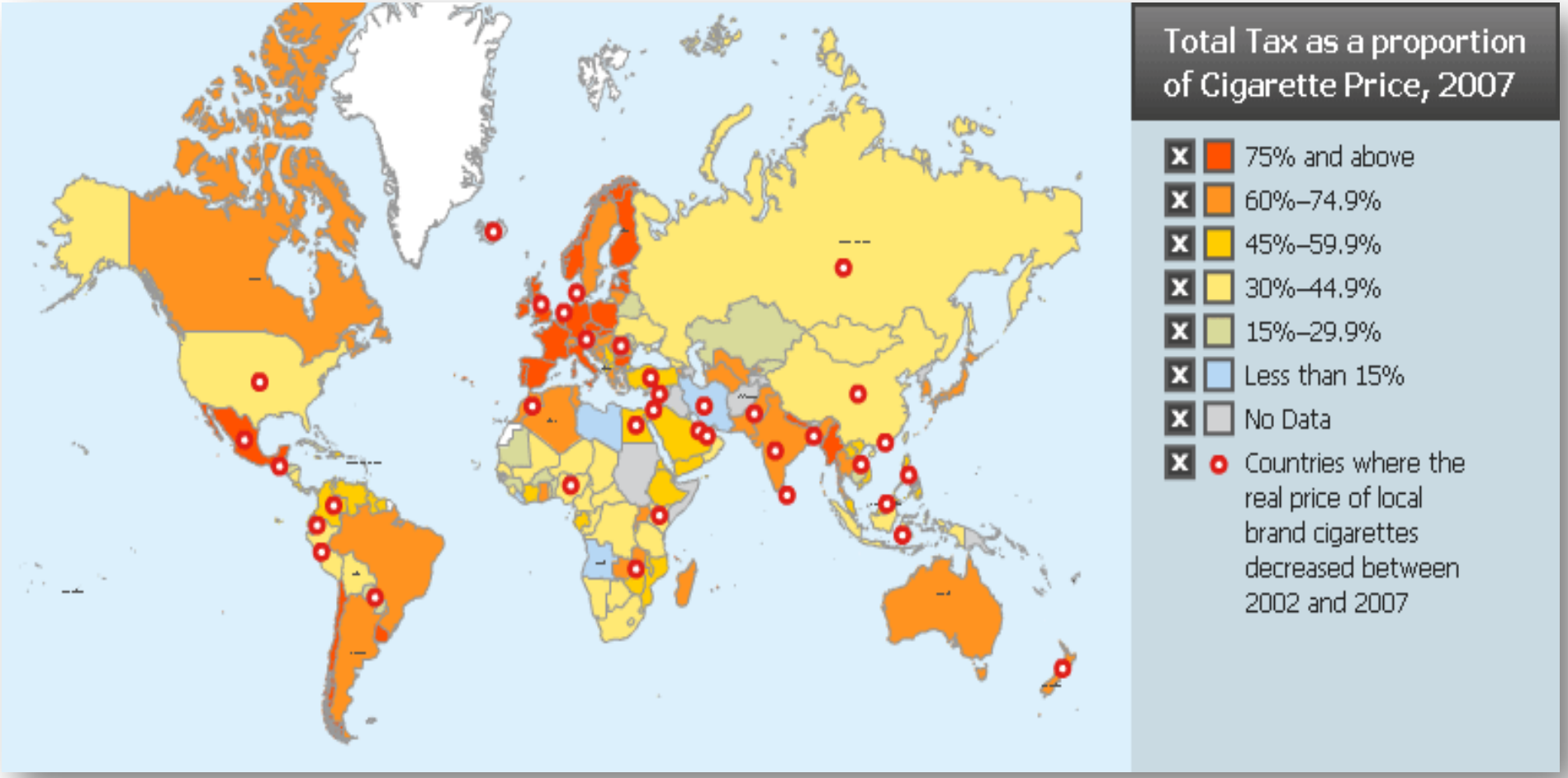
Tobacco Prices and Consumption South Africa and Morocco





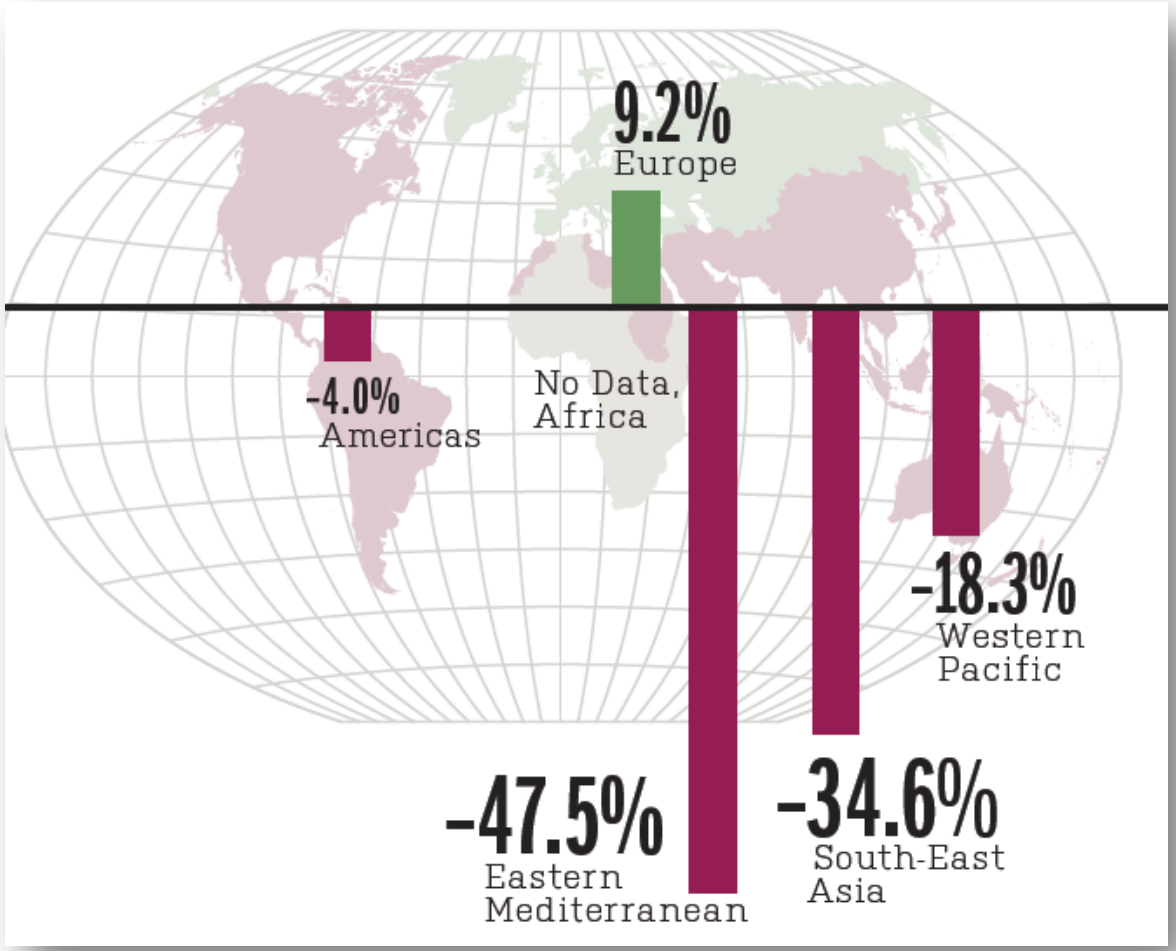
Walbeek C. 2003. Tobacco excise taxation in South Africa (left graph), http://ped.sagepub.com/content/12/4_suppl/25.long Aloui O. 2003. Analysis of the economics of tobacco in Morocco (right graph) http://siteresources.worldbank.org/HEALTHNUTRITIONANDPOPULATION/Resources/281627-1095698140167/Aloui-Analysis_of-whole.pdf

Tobacco Prices and Taxes



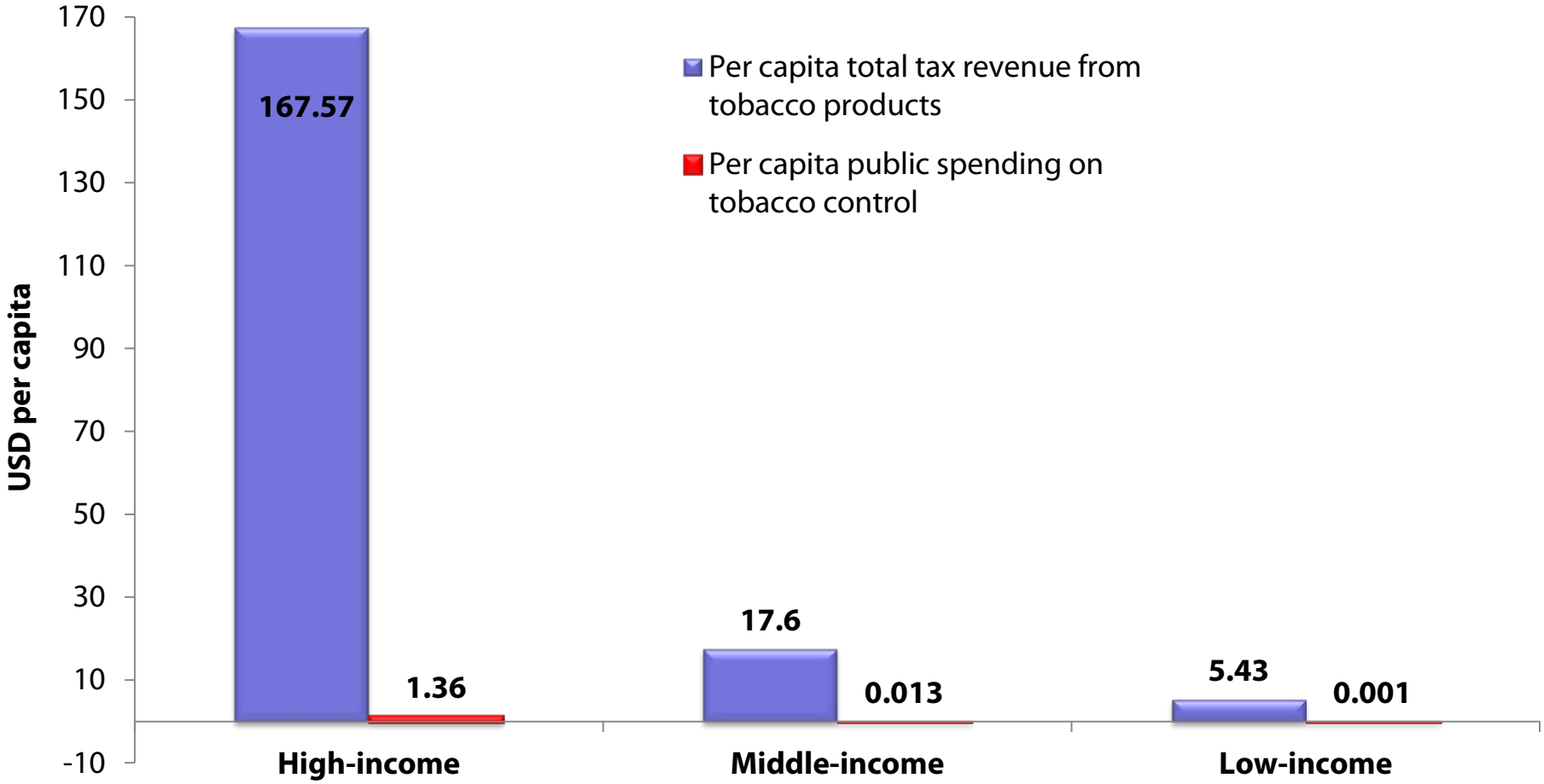
The Tobacco Atlas, 3rd Edition, 2008, www.tobaccoatlas.org

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

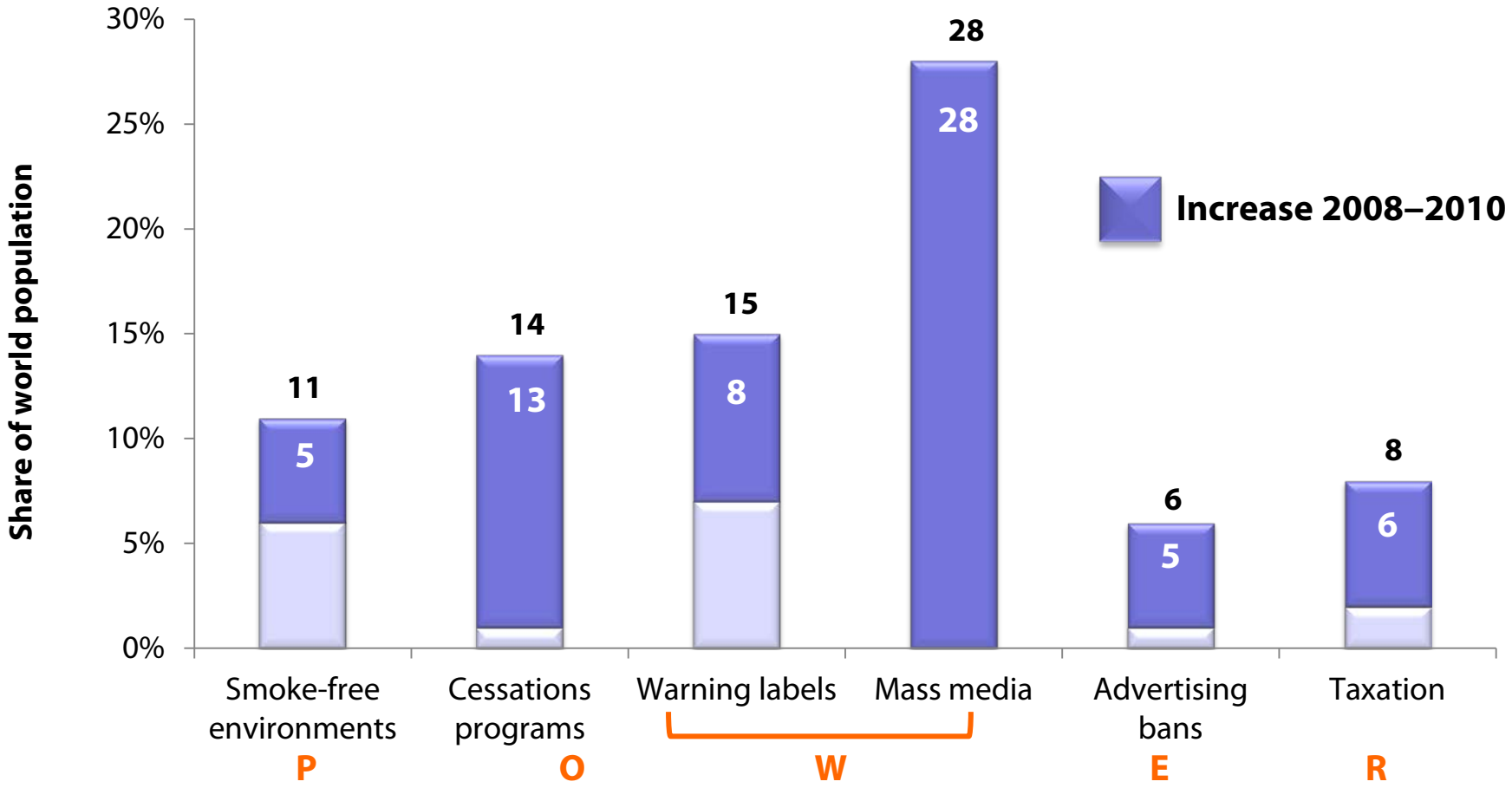


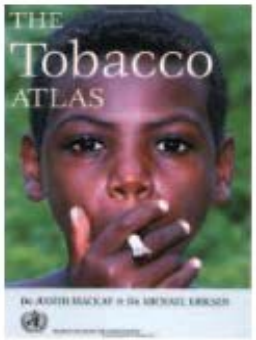
Tobacco Atlas, 2012, www.tobaccoatlas.org

Tobacco Control is Underfunded

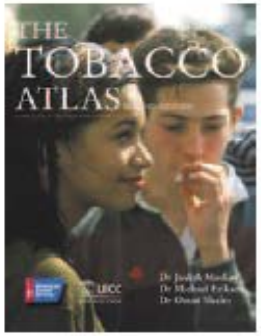


Most of the World's People Are Not Yet Fully Protected Against Tobacco Harms

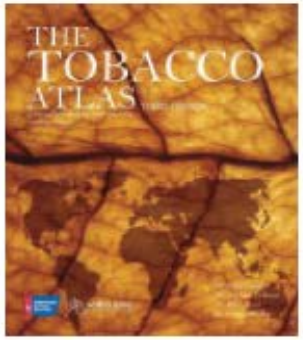




2002
First Edition
WHO FCTC: 0



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