Conclusion

The number of people killed each year by tobacco will double over the next few decades unless urgent action is taken. But just as the epidemic of tobacco-caused disease is manmade, people – acting through their governments and civil society – can reverse the epidemic.

The WHO Framework Convention on Tobacco Control, with over 150 Parties, demonstrates global commitment to taking action and identifies key effective tobacco control policies. Through this landmark treaty, country leaders affirm their citizens' right to the highest attainable standard of health. To fulfil this fundamental human right, the MPOWER package of six effective tobacco control policies, if fully implemented and enforced, will protect each country's people from the illness and death that the tobacco epidemic will otherwise inevitably bring. The impact of the MPOWER policies can turn the vision of the Framework Convention into a global reality.

Although the tobacco epidemic can be countered, countries need to take effective steps to protect their populations. Furthermore, the tobacco epidemic is making health inequalities worse, both within countries, where in most cases the poor smoke far more than the wealthy, and internationally, with poor countries soon to make up more than 80% of the illness and death caused by tobacco.

Tobacco is unique among today's leading public health problems in that the means to curb the epidemic are clear and within our reach. If countries have the political commitment and technical and logistic support to implement the MPOWER policy package, they can save millions of lives.

This report shows that the overwhelming majority of the world's population:

- is not fully protected from other people's smoke;

- is not adequately protected from tobacco company advertising, promotion, and sponsorship;
- is not paying tobacco prices that are high enough to substantially reduce tobacco use;
- does not receive sufficient health information from tobacco pack warnings that are graphic, prominent and clear;
- does not have adequate access to help for quitting tobacco use.

And in more than half of the world, there is little accurate information on the full scope of the epidemic.

Governments around the world collect more than US$ 200 billion in tobacco taxes each year. They spend less than one fifth of 1% of that amount on tobacco control. In many low- and middle-income countries, governments receive about US$ 5 000 in tobacco tax revenues for every US$ 1 they spend on tobacco control activities. Yet the costs for the most effective tobacco control interventions – taxation, smoke-free public places, advertising, promotion and sponsorship bans and graphic pack warnings – are very low. Only anti-tobacco advertising and cessation services require significant financial resources, which in many cases can be covered through increased tax revenues and partnerships.

But all tobacco control measures require political commitment. Because the tobacco industry is far better funded and more politically powerful than those who advocate to protect children and non-smokers from tobacco and to help tobacco users quit, much more needs to be done by every country to reverse the tobacco epidemic. By taking action to implement the MPOWER policies, governments and civil society can create the enabling environment necessary to help people quit tobacco use. WHO, with the help of its global partners, stands ready to support Member States as they face the challenges ahead.

Unless urgent action is taken, more than one billion people could be killed by tobacco during this century. But this dire future can be changed by the leaders of governments and civil society. As the tobacco epidemic is entirely manmade, the end of the tobacco epidemic must also be manmade. We must act now.

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TECHNICAL NOTES

APPENDICES

TECHNICAL NOTE I

Evaluating existing policies and enforcement

The *WHO Report on the Global Tobacco Epidemic, 2008* used a 32-question survey instrument to assess countries' implementation of the six MPOWER policies. The questionnaire was completed by the WHO Tobacco Free Initiative country focal point and is available online at www.who.int/tobacco/mpower. The large body of information generated by this survey cannot be adequately presented via text alone, so summary measures were developed to assess implementation and guide policy.

Policy assessment was classified by grouping countries into four categories in each area (five categories in the case of monitoring), in addition to prevalence of tobacco use reported as a percentage of the adult population. This analysis was intended to better identify and target efforts on policy areas in each country that require most urgent action, as well as to track progress over time towards full implementation of the MPOWER package.

Enforcement of smoke-free policies and advertising, promotion and sponsorship bans (both direct and indirect marketing) were assessed by a group of five country-specific local experts, who evaluated their countries' legislation in these two areas as "minimally," "moderately" or "highly" enforced. These five experts were selected by the country's WHO Tobacco Free Initiative focal point, such that one each matched the following profiles:

- the person in charge of tobacco prevention in the country's Ministry of Health, or the most senior government official in charge of tobacco control or tobacco-related conditions;
- the head of a prominent NGO dedicated to tobacco control;
- a health professional (e.g. physician, nurse, pharmacist or dentist) specializing in tobacco-related conditions;
- a staff member of a public health university department;
- the Tobacco Free Initiative focal point of the WHO country office.

The experts performed their assessments independently. Summary scores were calculated by WHO from the five individual assessments by assigning two points for highly enforced policies, one point for moderately enforced policies and no points for minimally enforced policies, with a potential minimum of 0 and maximum of 10 points in total from these five experts. This methodology has been piloted in this first release of the report and will be reviewed in subsequent reports.

The country-reported answers to each survey question are listed in Tables 2.1.1 to 2.6.7. Tables 2.1 to 2.6 summarize this information. Enforcement scores are represented separately, i.e. enforcement is not included in the calculation of the four categories. The definitions of these categories and enforcement could change with further data collection and analyses in subsequent reports.

Monitoring

As a first step to a complete assessment of monitoring capabilities, information on tobacco use prevalence at the national level was collected. The available information was assessed based on how recent it was, whether it was representative of the country's population, and whether it covered adults, youth, or both.

To account for variances in monitoring capabilities, countries with recent information

on adult prevalence (i.e. less than five years old) were given one point, with an additional point awarded if the survey data were also representative. A similar method was used for youth tobacco use data, for a potential maximum total of four points. Countries were then grouped based on the number of accumulated points.

	Recent but not representative data for either adults or youths
	Recent but not representative data for both adults and youths; or recent and representative data for adults but no recent data for youths; or recent and representative data for youths but no recent data for adults
	Recent data for both adults and youths, but missing representative data for either adults or youths
	Minimum requirements met for recent and representative adult and youth data
...	No recent data or no data

Smoke-free environments

There are a wide range of places and institutions where it is possible to prohibit smoking. These include:

- health-care facilities;
- educational facilities other than universities;
- universities;
- government facilities;
- indoor offices;
- restaurants;
- pubs and bars;
- other indoor workplaces.

However, banning smoking in schools and hospitals was determined to be an overall minimal level of protection; countries were assigned to the lowest category if a ban was missing for either of these. Assignment to higher categories was determined by the number (rather than the types) of other places and institutions that are regulated.

	Complete absence of smoke-free legislation, or absence of smoke-free legislation covering either health-care or educational facilities
	Smoke-free legislation covering both health-care and educational facilities, as well as one or two other places or institutions
	Smoke-free legislation covering both health-care and educational facilities, as well as three, four or five other places and institutions
	Smoke-free legislation covering all types of places and institutions
...	Data not reported

Treatment of tobacco dependence

Despite the low cost of quit lines, few countries other than high-income countries have implemented such programmes. Thus, including quit lines as a qualification for the second-lowest category would have relegated almost all countries to that group, and would not have provided a sufficiently clear picture of existing policies. Reimbursement for treatment was considered only for the highest category, to take the tight national budgets of many lower-income countries into consideration. The top three categories reflect varying levels of government commitment to the availability of nicotine replacement therapy and basic counselling.

	No availability of nicotine replacement therapy or cessation services
	Availability of either nicotine replacement therapy or some clinical cessation services (*neither* cost-covered)
	Availability of both nicotine replacement therapy and some clinical cessation services (*neither* cost-covered)
	Availability of a national quit line, as well as both nicotine replacement therapy and some clinical cessation services, with *either* replacement therapy or cessation services cost-covered.
...	Data not reported

Health warnings

The assessment of cigarette pack warnings was based on the size of the warning as well as on its characteristics and contents, including whether deceitful terms are banned. The data collection thus gathered information on the size of the warnings as a percentage of the main pack display areas, bans on deceitful terms and inclusion of the following characteristics:

- inclusion in the law mandating specific health warnings;
- health warnings appear on individual packages as well as on any outside packaging and labelling used in retail sale;
- descriptions of specific harmful effects of tobacco use on health;
- warnings are large, clear, visible and legible (e.g. specific colours and font sizes are mandated);
- health warnings rotate;
- health warnings written in all principal language(s) of the country;
- health warnings include a picture.

The grouping was done empirically, i.e. in analysing the data there were clear groupings of countries, with one group having no pack warnings at all, and a second group with

only minimal policies. Assigning countries to the highest two categories was more complex because many countries with health warning legislation require many of the pack characteristics outlined above, including warning labels that cover 30% or more of main pack display areas, but most miss one of the most important ones, pictorial warnings. For this reason, the second-highest category includes up to six of the characteristics, and the highest includes all of them in addition to a ban on deceitful terms.

	No warning
	A warning that covers < 30% of the principal display area of the pack
	A warning that covers at least 30% of the principal display area of the pack, and includes one to six of the seven pack warning criteria outlined above
	A warning that covers at least 50% of the principal display area of the pack, and includes all seven pack warning criteria outlined above as well as a ban on deceitful terms
...	Data not reported

Bans on advertising, promotion and sponsorship

Countries do not implement direct and indirect marketing bans in a universally clear, progressive pattern. Direct marketing bans generally progress from bans in local media to bans in international media, but this progression is far from uniform. The number of bans implemented was used as the basis for assessment, and took into account the general lag in implementing indirect bans, compared with direct bans. The bans surveyed included the following direct marketing practices:

- national television and radio;
- local magazines and newspapers;
- billboards and outdoor advertising;
- point of sale.

Also monitored was the implementation of bans on indirect marketing through the following policies:

- free distribution of tobacco products in the mail or through other means;
- promotional discounts;
- non-tobacco products identified with tobacco brand names (brand extension);
- brand names of non-tobacco products used for tobacco products;
- appearance of tobacco products in television and/or films;
- sponsored events.

	No direct or indirect ban
	One, two or three direct bans or at least one indirect ban
	Four, five, or six direct bans and at least one indirect ban
	Complete direct and indirect bans
...	Data not reported

Taxation

Countries were grouped based on the percentage contribution of tobacco-specific taxes to the total retail price of the most widely sold local brand. The decision to include or exclude a certain tax was not based on statutory definitions, but rather on its final contribution to retail prices. Depending on the national context, these might include excise taxes, import duties or any other tax specific to cigarettes. Given the lack of information on country- and brand-specific retailer's profit margin, retailer's profit was assumed to be nil in order to provide an upper bound to calculated shares of taxes in the price of the pack.

	≤ 25% of retail price is tobacco tax
	26–50% of retail price is tobacco tax
	51–75% of retail price is tobacco tax
	> 75 % of retail price is tobacco tax
...	Data not reported

Prevalence

The WHO InfoBase[113] adjusted estimates of smoking prevalence were used to group countries. See Appendix III to review gender-specific prevalence data.

	≥ 30% of adults are smokers
	20–29.9% of adults are smokers
	15–19.9% of adults are smokers
	< 15% of adults are smokers
...	No comparable data

TECHNICAL NOTE II

Smoking prevalence in WHO Member States

Data for the *WHO Report on the Global Tobacco Epidemic, 2008* includes the latest available surveys on tobacco use prevalence in each country. However, surveys on tobacco use differ widely. For example, some surveys cover only cigarettes, while others include pipes or cigars; some surveys include only daily users in prevalence figures, while others also include occasional users; surveys may have been performed in different years. For these reasons, prevalence figures obtained from these surveys cannot be directly compared with each other, and any comparison must explicitly take these differences into account by correcting the estimates for the following factors:

- date of the survey: comparison must be done for a common year;
- sampling methodology: corrections might be needed if surveys are not nationally representative;
- definition of smoking: comparing current daily smoking in one country with occasional smoking in another might lead to erroneous conclusions;
- age categories for which data are reported: comparing smoking among individuals 35 years old and over in one country with that of people 18 years old and over in another is misleading; there is a strong association between age and tobacco use, and measured differences in tobacco use might reflect the age of the population surveyed more than its tobacco use;
- age structure of countries: although age-specific rates might be identical, the overall prevalence rate might differ because of differences in the age structure of the two populations; differences in prevalence may be erroneously attributed to policies or other factors when the actual cause is strictly demographic.

National surveys on tobacco use prevalence provided through the data collection process were compared with WHO's Global InfoBase to ensure that the most current information was provided. Based on this comparison, data were included in the estimation process if they came from surveys that:

- provided country survey summary data for one or more of four tobacco use definitions: current smoker, current cigarette smoker, daily smoker, or daily cigarette smoker;
- included randomly selected participants who were representative of a general population;
- presented prevalence values by age groupings and by sex;
- surveyed the adult population aged 15 years and above.

The resulting estimates were therefore produced for the four definitions of tobacco use listed above. The use of these categories relates directly to an individual's risk of tobacco-related illness and death. Summary data were taken from all data sources and analysis of tobacco use prevalence data was performed according to three main steps: exploratory data analysis techniques were used to assess the general shape of the age association with prevalence and the relationships between the preferred definitions of tobacco use, and to check for data errors; models were fitted to country-reported data and country-level estimates were made; regional and subregional estimates were obtained by pooling across country-level estimates using the United Nations Statistics Division regional and subregional designations.

Using all available sources, the relationships between current smokers and daily smokers and between current and daily cigarette smokers were examined, and these results were applied to countries reporting only one

definition. The regression models were run separately for both sexes and for each of the 18 United Nations subregions. The logit transformation was used to provide continuous unbounded variables for the regression analysis, since prevalence is bounded within the range 0 to 1. For example, the complete regression models for daily and current smokers were as follows:

$$\text{logit (prevalence of daily smokers)} = \alpha + \beta_1 * \text{logit (prevalence of current smokers)} + \beta_2 * \text{logit (prevalence of current smokers)} * \text{mid-age} + \beta_3 * \text{mid-age} + \varepsilon$$

$$\text{logit (prevalence of current smokers)} = \alpha + \beta_1 * \text{logit (prevalence of daily smokers)} + \beta_2 * \text{logit (prevalence of daily smokers)} * \text{mid-age} + \beta_3 * \text{mid-age} + \varepsilon$$

where **mid-age** is the midpoint of the age range in years for each of the observations and ε is the error term, assumed to be normally distributed. The interaction term was dropped if it was not a statistically significant predictor of either current or daily smokers.

In order to estimate prevalence for standard age ranges (i.e. five-year groups starting from age 15), the association between age and tobacco use was examined for each country and by sex, using scatter plots of data from the latest nationally representative surveys. The second-order or third-order function best fitting the country-reported values was applied to derive prevalence values for the standard age ranges for each country, where the data were sufficient to allow this.

The adjustment of country-reported survey data was limited by the availability and quality of country survey data. If a survey was recent, representative and complete with regard to definition and age and sex-specific rates, the results of the survey would differ only slightly from the adjusted WHO estimates. If survey data were not available for a country, no estimate was attempted. The methods used for calculating these estimates have been published in the European Tobacco Control Report[114] and have been peer reviewed.[115]

For countries with no recent survey data, or where the most recent national survey did not provide the age and sex breakdown necessary to make these calculations, Appendix IV of the *WHO Report on the Global Tobacco Epidemic, 2008* provides the most recent national-level data, but these are not comparable with the adjusted figures provided here. If no data existed, nothing was reported. The number of countries in each of these three data categories is:

Countries with recent internationally comparable adjusted data	135
Countries with national data that are neither recent nor comparable internationally	18
Countries with no data	41

In Appendix III, two types of estimates are shown in Tables 3a and 3b: adjusted estimates and age-standardized estimates. The adjusted estimates correct national crude data. The age-standardized estimates provided in the data tables were used to group countries.

Appendix IV includes national data and their sources. Definitions of smoking, age ranges, survey year and representativeness differ between country-specific surveys. More details on the national data can be found at www.who.int/Infobase.

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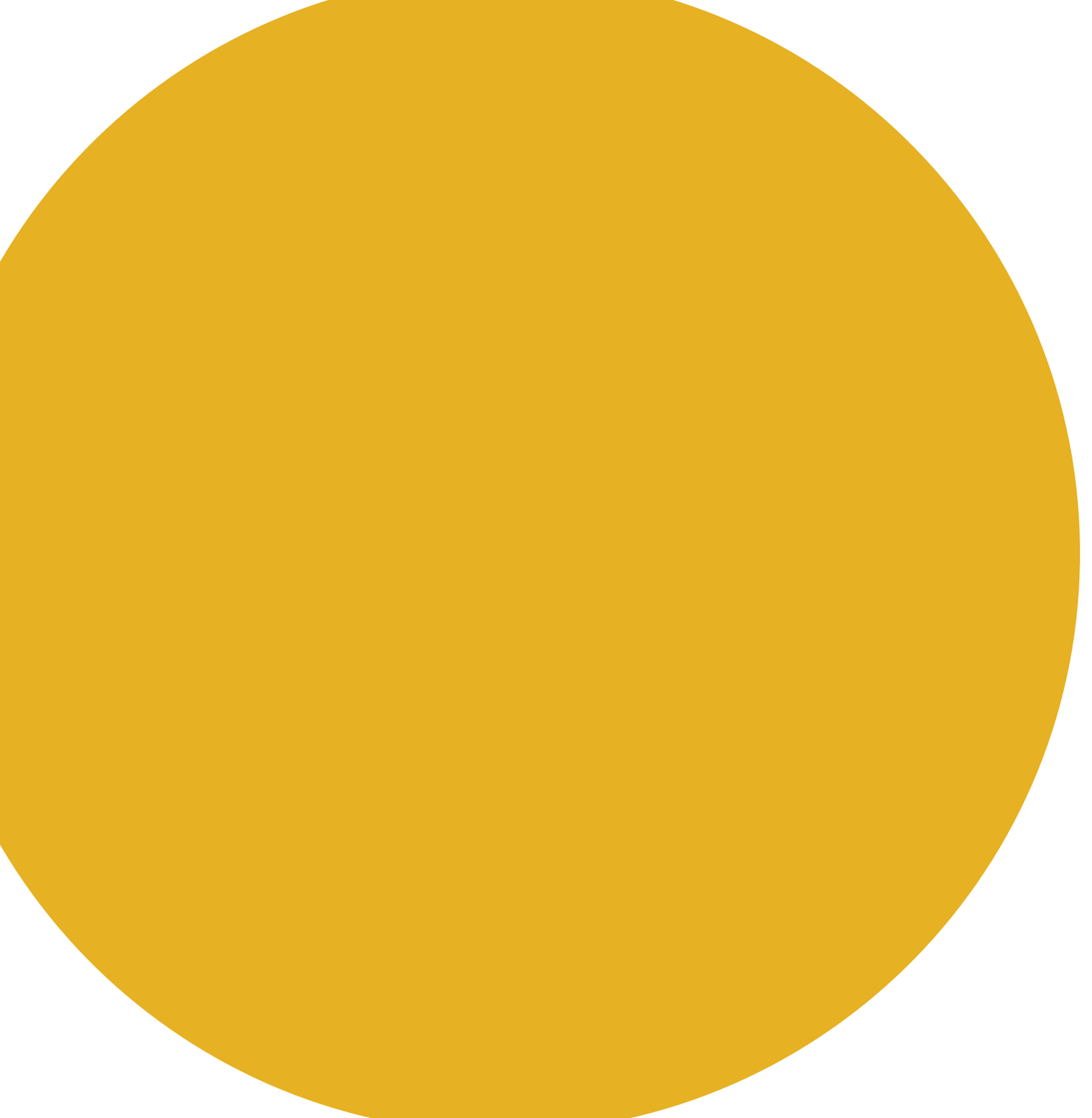

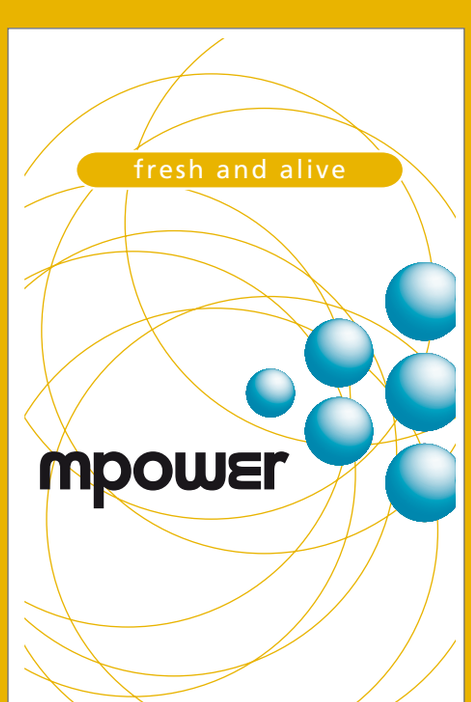
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