4.1 Data sources for monitoring tobacco control policies

Introduction

Do we know why the prevalence of smoking in Sri Lanka decreased from 54% in 1988 to less than 40% in 2003? What is this decrease related to? Does tobacco control have a part in this? If so, what specific policy interventions were most useful in decreasing the prevalence in Sri Lanka? How does that compare to other countries? To respond to these and similar questions on the relationship between the implementation of specific tobacco control policies and tobacco use prevalence in any country, researchers and policy-makers need a solid understanding of the current state of policies and their specific impact at the country level (http://www.who.int/ncd_ surveillance/ infobase/web/InfoBaseCommon/).

This section describes the currently available sources of information on tobacco control policy interventions, with special attention to the new WHO Global Tobacco Control Report system, and assesses their credibility, completeness, and usefulness. It also discusses important methodological issues and gauges future prospects for such systems. Although tobacco control policy interventions can be initiated by private sectors of the civil society, this section is concerned with core governmental policy interventions, since in most countries, only governments have a population-wide reach and the capacity and authority to consistently enforce stringent measures. Such interventions typically include any governmental form of regulation, funding decision, institutional statement, organisational development, or administrative action to apply (or not apply) tobacco control policies. Further down, this section discusses evaluation criteria for tobacco control policy interventions monitoring systems, and reviews currently available data sources based on these criteria. The last part of the section builds on the first two and discusses renewed efforts to build comprehensive tobacco control monitoring systems in the new international tobacco control context.

Criteria for assessing tobacco control policy intervention monitoring systems

An ideal global tobacco control monitoring system would track interventions to decrease tobacco use in all relevant policy domains, and would make the data comparable across all jurisdictions, based on an explicit and transparent protocol. Such a monitoring system would have the following charac- teristics: (1) include all relevant tobacco control policies and regularly be updated to include new innovative policies; (2) characterise the interventions against current best practice standards; (3) include the degree of enforcement of policy interventions; (4) rely on credible sources; (5) cover all countries, as well as all relevant sub-national jurisdictions; (6) be updated as changes occur, or at least at regular and short intervals, while keeping historical information; and (7) span a long enough period to link changes in tobacco control policies to changes in the prevalence of tobacco use and other impact indicators. Therefore, tobacco control monitoring systems are assessed in this paper in relation to the following variables:

- Policy scope
- Characterization of interventions against best practice standard
- Characterization of degree of enforcement
- Source of the primary data
- Geographical/jurisdictional coverage and comparability of data across jurisdictions
- Timeliness and frequency of data collection
- Characterization of evolution of policies over time.

Scope of policies covered:

Tobacco control interventions are wide in scope and vary in time and space. However, despite the sheer diversity of possible policy interventions, they can be re-grouped in a few convenient categories that generally fall under "demand reduction" measures and "supply reduction" measures (although some policies do not easily yield to this rather strict dichotomy) (Table 4.1). In assessing the scope of tobacco control data systems, one must bear in mind that not all tobacco control policies are equal. Supply reduction policies are generally considered not to be very effective at reducing tobacco use, except perhaps for anti-smuggling measures under certain conditions (Rowena *et al.*, 2000). Given the limited resources devoted to data gathering, efforts should first be dedicated to demand reducing policies. Even among such policies, however, there are wide differences in effectiveness. Increasing prices through high taxes, as well as smoke-free environments, are generally seen as the most effective tobacco control policies (Ranson *et al.*, 2000), and therefore are considered essential in any information system.

If resources allow, clearly ineffective policies could be monitored. This could provide a scan of the policy environment and assess the imbalances produced by focusing on ineffective measures. For example, in the context of constant aggressions from the tobacco industry to avoid effective tobacco control, monitoring measures that are inefficient, but at the same time (and for the same reason?) the darling of the industry, might indicate how misguided the policy priorities of a given jurisdiction are. Examples are the effectiveness of school-based education programmes and prohibition sales of tobacco products to minors (Ling *et al.,* 2002; Cummings *et al.*, 2003; Glantz *et al.*, 2005; Wiehe *et al.*, 2005). Tobacco control monitoring systems should be assessed on the strategic choice of the policy domains and interventions they cover. Although this choice is generally implicit in all datasets, the data collector should clearly describe the basis for that choice, whether in terms of efficacy, or any other criteria.

Characterization of tobacco control policies based on best practice standards:

Once the scope is established, the data system must be assessed in relation to its capacity to characterise each policy according to an explicit standard or recognised best practices. For example, it is generally acknowledged that bans on advertising, promotion, and sponsorship should be comprehensive. Therefore, systems monitoring marketing restrictions should be

Demand Reduction Policy Domains	Supply Reduction Policy Domains
Price and tax of tobacco products	Liability and litigation
Protection from exposure to secondhand tobacco smoke	Access to tobacco by youth
Tobacco advertising, promotion and sponsorship	Banning sales of tobacco products
Packaging and labelling of tobacco products	Crop substitution
Treatment of tobacco dependence	Contents of tobacco products
Education, communication and public Awareness	Illicit trade in tobacco products

Table 4.1 Tobacco Control Interventions

assessed on their ability to provide information that would allow gauging the policies of any given jurisdiction against this standard.

According to this standard, the monitoring system must then select all relevant variables describing the components of this policy and collect the data accordingly (Joossens *et al.,* 2006). Following with the previous example, to ascertain the existence of a comprehensive ban on advertising, promotion, and sponsorship, the monitoring system should provide information separately on each form of commercial communication, recommendation or action, and any form of contribution to any event, activity, or individual with the aim, effect, or likely effect of promoting a tobacco product or tobacco use either directly or indirectly. Such a policy would include data on the existence of direct advertising bans of tobacco products or brands in every existing media, including national and international TV from any source (cable, satellite, internet, etc.), national and international radio, local and international magazines and newspapers, billboards, points-of-sale, the internet, and cinemas. Moreover, the monitoring system should collect data on the ban of each specific form of promotion of tobacco products, brand names, or company names, including direct mail giveaways, promotional discounts, non-tobacco products identified with cigarette brand names, brand name of non-tobacco products used for tobacco product, product placement in TV and/or films, and sponsored events. In addition, the existence of each element of the policy should be assessed with a Yes/No question that leaves little room for interpretation and explicitly meets the best practice standards. The monitoring system should clearly describe the criteria used in answering Yes/No questions, and these criteria should be termed in the same language as the laws. For instance, these apply notably in deciding whether a smoking ban is complete, whether health warnings are effective, whether advertisements are banned from the media, etc.

To have a clear characterization of any given policy intervention is not always easy. Even with all necessary legal information, the data collector is left to match their own definition of the desired policy with the jargon of the law. One desired policy might be a complete smoking ban. However, even good laws typically do not provide for "complete" bans and could include some exemptions. The Irish law is a case in point; it does not provide for a complete ban strictly speaking. However, judging when exemptions are minor or not might be a challenge, and setting a clear and detailed standard of excellence is important in assessing and collecting data for monitoring tobacco control policies. More complicated is the assessment of the Italian law. It does contain a smoking ban, but exceptions are allowed in the form of smoking rooms, usually not considered a best practice. If the applied standard considers that bans with smoking rooms are not complete, the Italian ban would not complete. However, the requirements for smoking rooms are so stringent, that Italian law *de facto* can be considered providing for a complete smoking ban, as smoking rooms are rarely available.

Characterizing of any given policy intervention becomes even more difficult in the absence of clear information on regulations. Some countries have legal systems where regulation is very general, leaving it to administrative actions to determine how regulations are to be applied. Some regulations have loopholes; some countries have contradictory decrees issued by many types of authorities, with uncertain rules determining which decree has precedence. In other countries, one must consider jurisprudence and court orders suspending or modifying regulations.

In summary, any tobacco control monitoring system, because it attempts to verify the existence of an implicitly defined "good" policy intervention, must synthesize complex information to answer simple questions. At one time or another, collecting the information may call for some judgment by the data collector. A good tobacco control monitoring system should minimize the impact of these judgment calls and make them as explicit as possible.

Enforcement

Any characterization of a policy intervention is not complete without assessing the actual enforcement of the measure. It is not enough to know that a policy intervention legally exists without knowing if it is applied. The system monitoring tobacco control policies can use two types of measures to assess the enforcement of a policy intervention: *de facto* implementation of the intervention in conformity with the policy, and enforcement efforts by the government. The first type of measure is best since it addresses exactly what needs to be gauged, while the second method is an indirect indicator that looks at the process leading to enforcement.

De facto implementation requires specific quantitative metrics based on direct observation of people or events, outside the purview of a monitoring system. Such measures are often unrealistic for many countries with low resources; measuring enforcement of smoking bans, for example, may require population surveys, sometimes including biological measures of exposure to secondhand smoke. Other metrics might include data provided by the industry, because of clear legal obligations (e.g. detailed sales or advertising data), that can help understand the impact of policy. Although preferable to other approaches, direct observation is not exempt from problems. Even surveys are difficult to interpret. In Brazil, for example, 70% of respondents to a survey reported that they had seen billboards with tobacco advertisement in the month before the survey, despite a successful complete ban enforced 5 years earlier. It is thus possible that survey respondents did not understand the question or that they might actually be reporting types of advertisement that are not covered by the law (Global Youth Tobacco Survey fact sheets; http://www.cdc.gov/tobacco/global/GYTS/factsheets/paho/factsheets.htm).

A more feasible alternative is to rely on the opinion of key informants or experts, providing some sort of qualitative direct observation. The panel of key informants or experts is especially sensitive to judgment calls and must be assessed very carefully. In this respect, developing a stringent, multi-layered protocol is probably a sound base, but there is not yet a consensus on what would be a method that is inclusive enough at the national level, yet comparable enough at the international level. Indeed, qualitative assessment of enforcement is not easy, especially at the international level, where national experts might have a widely different appreciation of enforcement.

Methods based on quantitative measures can be used to gauge efforts (usually by the government) leading to enforcement. These can be measured by enforcement budget, number of full-time equivalent inspectors, number of inspections, number of fines distributed, etc. There are two obvious problems with such measures: first is that the existence of enforcement efforts does not indicate enforcement of the law necessarily; and second, the absence of enforcement efforts is not an indication of lack of enforcement in countries where tobacco control measures are widely respected without severe enforcement. Countries where interventions are self-enforcing from the beginning, or where significant efforts might not be needed after many years of successful enforcement, will fare quite badly next to a country with a severe enforcement problem despite significant government efforts. In addition, such statistics are not always available. In fact, in some countries, it is not clear who should enforce the law, and gathering statistics then becomes difficult. In the case of smoke-free environments, for example, sometimes police are in charge of enforcement and often do not use fines to enforce the law, given the low social acceptability of a fine for smoking in a restaurant; casual reprimand is used instead and no trace is left in any official record.

Given these difficulties and inherent limitations of the second approach of measuring enforcement efforts, it is probably better to mainly rely on the first approach, but to also use some basic measures of government efforts that are in line with recommendations on enforcement. Monitoring systems could, in this case, gather data on the existence of a clearly identified body in charge of enforcing the law, and if

possible, the budget or staff of that specific agency or unit, if it exists.

Whichever approach is used, a monitoring system should be assessed on its explanation of the measure of enforcement used. The choice of approach and method must thus be explicit. If it uses a survey, a panel of experts, or any other investigation method to determine the actual impact of a policy, this method must be described in detail so that the reader can clearly understand it strengths and limitations.

Source of the primary data

The scope and characterization of policy interventions described above are key to assess the relevance of the contents of an information system. However, the crucial element to evaluate the quality of the information it provides is the assessment of the primary source of data. Written laws and regulations are the usual source of primary data for policy interventions. Monitoring systems should make all legal documents available for users to consult when in doubt (online if possible), so that the reader can see what relevant information was collected.

However, assessing the existence of some policy interventions cannot be done by looking at the written regulations. This is typically the case of treatment and education efforts. The presence of an easily reachable quitline, for example, requires a measure of actual existence and use. Observing and characterizing these policy interventions must often rely on surveys, *ad hoc* metrics, qualitative measures, and expert judgment. Moreover, it is very difficult to use a method that is suitable for all national contexts; hence, the importance of describing and justifying methods used.

Geographical/jurisdictional coverage

An ideal monitoring system should provide data on policy interventions in all countries of the world, and in all relevant subnational jurisdictions within each country. Worldwide geographical coverage comes at a cost; a balance must be struck between coverage and thoroughness. Not only can resources prove to be a constraint, but the wider the geographical coverage, the more difficult it becomes to make the data comparable, and the less uniform relevant policy scope tends to be. The goal of the monitoring system must thus be carefully considered before deciding what the best geographical coverage is.

In general, global coverage should be the main goal, with very clear questions and definitions and thought to specific regional issues. Given the broad diversity in national contexts, this type of exercise should also be decentralized; hence, the necessity for a wide, yet highly coordinated, network in order to make the data comparable. Such focus, however, should not preclude the existence of regional variations over and above a common core set of questions, in order to increase flexibility of the exercise and country level relevance and buy-in.

The coverage of specific subnational jurisdictions follows the same principle. In the countries where this is relevant, inclusion is an absolute priority. In Canada, for example, very stringent smoke-free laws are enforced at the provincial level, and excluding provinces would result in faulty answers. Yet, there are only a few cases where inclusion of subnational jurisdictions is essential, and once more, local knowledge on the existence and relevance of these policies is critical. Should municipal by-laws be included for example? What if a city comprises a significant minority or even a majority of the population and has such by-laws? Given the complexity of some political systems and jurisdictions, this will typically require local consultation. These questions can only be resolved on a case-by-case basis, hence the necessity of the monitoring system to outline clear guidelines for inclusion/exclusion. Among the guidelines is the stability of these institutions and laws, number of people affected by the laws, their share in the national population, strong within-country variations, etc.

Timeliness and frequency of data collection

Given the pace of change in the field of tobacco control, an ideal monitoring system should be live, that is, updated as changes occur. Live systems demand the

existence of a stable tobacco control country level network and a central coordination mechanism. Short of that standard, and in the absence of a stable network, the frequency of updates should mainly depend on budgetary issues, with a careful balance to be struck between the frequency of updates and budgetary sustainability. In all cases, the data should not be more than one or two years old, or the time it takes for these policies to significantly affect prevalence.

Change of policies over time

Old data should also be kept and made available, so that researchers can track the evolution of policy in an attempt to link it to prevalence. Old laws, date of changes in the law, date of changes in the implementation of the law, etc., are all very important for monitoring systems whose aim is to track the evolution of policy, and not just current policy, if we are to assess these measures.

Description and assessment of current data collection systems

Only two global tobacco control monitoring systems are presently operational: the WHO Global Tobacco Control Report (GTCR) and the reporting instrument of the Conference of the Parties (COP) to the WHO FCTC. The GTCR is based on the previous work of the National Tobacco Information Online System (NATIONS) and on still existing WHO regional databases. Described below are the reporting instruments of the WHO FCTC, the precursors of the GTCR, and the GTCR itself.

The reporting instrument of the Conference of Parties to the WHO FCTC:

The WHO Framework Convention on Tobacco Control (WHO FCTC) is the first treaty negotiated under the auspices of the WHO. It was adopted unanimously at the 56th World Health Assembly, in May 2003. Its provisions obligate only parties that have ratified the treaty, which as of September 2008 were 160 WHO member states. An important provision of the WHO FCTC is that each Party is obligated to submit periodic reports on its implementation of the Convention, in accordance with Article 21. To this end, the first meeting of the COP in 2006 provisionally adopted a reporting system whose objective is to understand and learn from the various experiences of parties in implementing the WHO FCTC. Questions in the reporting instrument are clustered into three groups. Only Group 1 questions have been designed and applied by countries reporting to the second meeting of the COP in 2007 [the third meeting of the COP on November 2008 approved changes to Group1 questions].

Scope and characterization of interventions:

Given the need to report on the wide range of obligations contained in the WHO FCTC, the policy scope of the COP reporting instrument is very large, but does not directly prioritize policies in terms of effectiveness. This instrument contains "Group 1" questions, which are wide in scope and range from tobacco use prevalence to measures taken to curb illicit trade, as well as education, and public awareness programmes. Core Group 1 questions require information about tobacco use, licit supply of tobacco, duty-free sales volume, price and tax measures to reduce demand for tobacco, regulation of tobacco product disclosures, illicit trade in tobacco products measures, seizures of illicit tobacco, education, communication, training and public awareness activities, measures on sales to and by minors, liability measures, management of tobacco dependence and cessation services, measures to support alternatives to tobacco growing, research, surveillance and exchange of information, programmes and plans, national coordinating mechanisms, and technical and financial assistance provided and received.

The data is collected at the country level, and its purpose is not to provide a uniform framework for comparison, but rather a way of observing the progress of the implementation of the treaty obligations within each country. Therefore the possibility of comparing answers across countries is extremely limited, although the questions on legislative measures are in general quite detailed.

Enforcement:

There are no enforcement measures considered in the COP reporting instrument.

Data sources:

The information is self-reported by governments, which are required to provide the supporting legislative documents. However, there is no external validation planned. The absence of any formal standardization process, beyond the instructions of the reporting instrument, might mean that the user should go back to supporting documents in a systematic fashion. This is especially the case for the questions regarding legislation, where countries are asked if they have "adopted and implemented legislative, executive, administrative, or other measures" on specific policies whose level of implementation is sometimes quite vague (e.g. smoke-free environments are defined as "full," "partial," or "none", without any specific definitions of these terms).

Geographical coverage:

The geographical coverage of the reporting instrument is limited to the signatory parties, although the number of parties increases regularly and might finally include all WHO member states. The issue of subnational legislation is also absent from the questionnaire.

Timeliness, frequency of data collection, and trend:

Group 1 questions must be answered within two years of entry into force of the Convention for that Party, and then every three years after that. Group 2 and 3 questions must be reported within five and eight years of entry into force of the Convention for that country, respectively. [Group 2 questions were approved in November 2008. However, Group 3 questions have not been designed yet]. By the end of 2008, 140 parties will all have completed the Group 1 questions for the first time.

The main goal of the reporting instrument is to report on treaty implementation and not on tracking the evolution of tobacco control. In this respect, following the trend of legislative measures is not an objective of the COP reporting instrument. The periodic reports submitted by parties, however, may allow some trend analysis within each country.

In summary, the WHO FCTC reporting system in its current form is not designed to be a thorough, scientifically-oriented, annual monitoring programme. It has serious limitations on the immediate use of its data for monitoring policy interventions and comparing legislative measures across countries. Once the data are available publicly, however, independent researchers can undertake the type of work they choose to, but it will be based on their own interpretation of the data and their own assumption on the comparability of the information, since there is no a detailed protocol to make the data comparable.

The reporting instrument, however, might evolve towards a monitoring system. An independent assessment of the current system is scheduled for 2009; the COP will further consider the matter of reporting in 2010. Already decisions of the second COP, that gathered in Bangkok in the summer of 2007, point to the need for increased standardisation through an improved questionnaire, as well as through the long-term evolution of the questionnaire with Group 2 and Group 3 questions.

The Global Tobacco Control Report (GTCR) precursors: NATIONS and the WHO regional databases

Although NATIONS (http://apps.nccd.cdc.gov/nations/) is not updated anymore, it was the first global monitoring system for tobacco control and played a historical role for later efforts. NATIONS was a collaborative effort by the United States Centers for Disease Control and Prevention (CDC) and the WHO, and also involved the American Cancer Society (ACS), and the World Bank (WB). Its aim was to monitor tobacco use and control, based on data gathered from several sources that stretched from governmental and international agencies to commercial entities, scientific literature, etc. A lot of the data was originally collected by the ACS and the

WHO to prepare the monograph *Tobacco Control Country Profiles,* which was first published in 2000, followed by a second edition in 2003 (Shafey *et al.*, editors). After the adoption of the WHO FCTC by WHO Member States in May 2003, the data and further responsibility for collection efforts was transferred to the WHO, and they undertook the creation of regional databases through their regional offices.

The data gathering process also underwent important changes. Data collection was decentralized to the regional level in order to increase proximity to the countries and obtain more accurate information on tobacco control measures and their implementation. The data being collected through the WHO regional offices became official, and had to be validated by national authorities before it could be published. The WHO Regional Office for Europe (EURO)(http://data.euro.who.int/tobacco/) has so far provided the most comprehensive data collection effort and has the most complete regional dataset of all regional offices. This database is used in turn to support the *European Tobacco Control Report*, a publication with detailed information on the state of tobacco control in the 52 countries of EURO (http://www.euro.who. int/Informa-tionSources/Publications/Catalogue/20070226_1). What follows is a description of the EURO database.

Scope and characterization of interventions:

The scope of policies covered in the EURO database is ample (Table 4.2). As for NATIONS, the data covers more than tobacco control (e.g. prevalence, mortality, economics of tobacco); it additionally covers policies, such as taxation and cessation.

The criteria for guiding the choice of policies are not explicitly provided, and the dataset includes tobacco control measures of very diverse cost-efficiency without characterizing them. The protocol and definitions to make the data comparable is also absent from the publicly available information on the website. This might lead to some comparability issues. In the case of smoke-free environments, for example, the situation of a country is classified into one of three categories: smoking bans, restrictions, and voluntary agreements. The first problem is that "smoking bans" in the EURO database are not really complete and might allow for some exceptions. The second problem is that "voluntary agreements" are not described to ascertain if, independently regulated by law of the agreement, they prescribe a 100% to smoke-free environments or not.

The same issue applies to all other tobacco control measures, where a clearer and more explicit protocol would be needed. The description of each tobacco control measure, and their characterization in terms of "Yes" and "No," are much more detailed than in NATIONS, thus leaving less room for interpretation by the data collector. The format of some of the data could also be improved, such as the tax data that provides not the rates, but the share of the price of a pack that goes into different types of taxes; the underlying tax rates and the methodology to convert them in share of the prices would be useful. However, most legal documents that were relied on are available on the website (except for taxes), thus mitigating that problem.

Enforcement:

The enforcement is assessed by the opinion of the focal point[1] collected by completion of a questionnaire. A score of 1 to 5 is provided for the enforcement of smoke-free legislation, bans on direct and indirect advertising, product regulation, and sales to minors. However, the assessment is not published on the website.

---

[1] A National Focal point (NFP) is a national centre, designated by each State Party, which is accessible at all times for communications with WHO International Health Regulation Contact Points. While the exact structure and organisation of the NFP are left to the State, IHR (2005) define the role, functions and operational requirements for real time management of information and for efficient communications. It is foreseen that NFPs will be offices rather than individuals.

Tobacco Use	• Smoking prevalence in adults
	• Smoking prevalence in young people
Economics	• Cigarette consumption
	• Cost (in money and labour) of tobacco products
	• Tobacco tax revenues from excise duties
	• Duty stamps, earmarking of tobacco taxes
	• Licensing
	• Government ownership and financial incentives
	• Studies of smuggling, economic and social costs, and litigation
	• Annual price variations of tobacco products in real terms (%)
	• Structure of taxation of tobacco products
Laws and Regulations	• Direct advertising of tobacco products
	• Indirect advertising of tobacco products
	• Distribution of tobacco products through various outlets
	• Regulations for sale of tobacco products
	• Smoke-free areas
	• Smoke-free public transport
	• Health warnings
	• Measurement, regulation and disclosure of tobacco product ingredients and smoke constituents
	• Treatment of dependence:
	- Interventions to support smoking cessation
	- Quitlines
	- Availability of smoking cessation treatment
	- Training for health professionals
	• General policy: different sub-national laws or regulations
	• Public information and advocacy
	• Participation in WHO networks
Health Consequences and Costs	• Average number of years lost per death from smoking (years)
	• Deaths attributed to smoking in all ages
	• Deaths attributed to smoking in middle age (35-69 years)
	• Proportion of deaths attributed to smoking in all ages (%)
	• Proportion of deaths attributed to smoking in middle age (35-69 years) (%)
	• Standardised death rate from trachea, bronchus, or lung cancer (per 100 000)

EURO: WHO Regional Office for Europe

Table 4.2 Scope of Policies Covered by the EURO Tobacco Control Regional Database

Data sources:

This database relies on a questionnaire that was distributed to national level tobacco control focal points, who often work from within their national Ministry of Health, thus ensuring accuracy and country endorsement. The data source is thus highly credible, but this process is not described on the website, so the reader cannot assess the validity of the information. Main sources are legislative measures to control tobacco, although other policies are also monitored, such as prevalence and epidemiological impact of tobacco consumption, as well as tobacco economics.

Geographical coverage:

The EURO database covers all European countries. Although data from subnational jurisdictions is not available, its existence is assessed for eight categories of legislative measures.

Timeliness, frequency of data collection, and trend:

The data collection involves a lot of back and forth between countries and the regional office, in order to clarify and standardize answers, as well as ensure country buy-in. This, however, creates long delays between initiation and conclusion of the data collection effort. The last round of data collection, for example, was initiated in June 2005, but was not completed until the fall of 2006, which allowed for

potential inaccuracies for countries that legislated during this period. The process of updating the data is not specified and there is no built-in regular update mechanism.

Situations in other regions:

Not all regional offices had the means to set up systems as complete as that of EURO (http://www.who.int/tobacco/global _data/regional_databases/en/inde x.html). In the Africa Regional Office (AFRO), the system does not exist and the outdated NATIONS represents the main source of data. In the Eastern Mediterranean Region (EMRO; http://www.emro.who.int/TFI/Coun tryProfile-Part6.htm) and the South East Asia Region (SEARO; http://www.searo.who.int/), the data was compiled in 2000-2002 and has been updated in 2008. The policy scope is much narrower than in EURO, reasons for selecting the indicators are not specified beyond being "relevant and readily available," and geographical coverage could be improved. As for other regions, the protocol or criteria for interpreting the laws is not explicitly described, thus raising issues of comparability between countries, but mostly between regions (some EMRO legal texts are available online). In the Pan American Health Organization (PAHO; (http://www.paho.org/tobacco/Pati osHome.asp) and the WHO Western Pacific Region (WPRO; (http://www.wpro.who.int/), the situation is somewhat in between

that of EURO and the regions with least policy database documentation, and the datasets cover mainly the information available in legal texts for a subset of countries. Criteria for assessing this information are much more detailed, with very specific questions leaving little room for interpretation.

Overall, the WHO regional databases represented until now the best existing global data source on tobacco control policies. However, they suffer from many issues, of which timeliness and lack of enforcement data are the most immediately obvious ones. Most important is that the tobacco control indicators are not the same between regions, and are not defined with the same criteria (besides the fact that these criteria are never fully described). This raises serious issues of overall comparability.

The Global Tobacco Control Report (GTCR) system

The Global Tobacco Control Report (GTCR), released in early 2008, is the central instrument of a worldwide tobacco control monitoring effort by WHO (http://www.who.int/tobacco/mpow er/en/). The objective of the report is to monitor a core of essential tobacco control policy initiatives, and to report on their implementation on an annual basis. The GTCR aims to provide a highly structured and focused framework through which progress towards the implementation of defined, concrete tobacco control measures at the country level will be

compared in a standardised manner across countries. Essential indicators are measured through a short questionnaire that is completed by country level focal points.

Scope and characterisation of interventions:

The GTCR focuses on a few policies that were selected based on their efficiency and cost-efficiency. The questionnaire requires information on national prevalence of daily tobacco use; the share of tobacco taxes in the price of a pack; the existence of visible health warnings occupying at least 30% of the package of tobacco products; complete advertising, marketing, and promotion bans of tobacco products by type of media; complete smoking bans by sector; the availability of tobacco dependence treatment; and existence of national tobacco control policy objectives. Policies such as awareness campaigns or anti-smuggling initiatives are not considered. Answers to this annual questionnaire will be analysed in the GTCR, which will use gaps between optimal and existing policies revealed in these data and analyses to develop a strong advocacy message. Table 4.3 provides the scope of policies covered by the GTCR.

Enforcement:

The GTCR uses the following protocol to assess the enforcement of smoke-free environments, as well as direct and indirect advertising bans for each country (Table 4.4). The assessment of enforcement is integrated globally through an enforcement score, where a highly enforced policy is worth two points, a moderately enforced policy one point, and a minimally enforced policy no points, hence a maximum score of 10 points given the five experts. This system, although very simple, works quite well with the majority of countries with legislation providing the assessment and enforcement scores conforming to expectations. Moreover, the scores are credible at the global level, with a wide dispersion of values, as well as within countries, with very few polarized expert assessments and yet very few consensual situations. The score, however, suffers from

Tobacco use	• Internationally comparable smoking prevalence in adults
Economics	• Structure of taxation of tobacco products
	• Earmarking of tobacco taxes
	• Tobacco tax revenues from excise duties
	• Price of main cigarette brands
Laws and Regulations	
	• Direct advertising of tobacco products
	• Indirect advertising of tobacco products
	• Smoke-free areas
	• Health warnings
	• Treatment of dependence:
	- Interventions to support smoking cessation
	- Quitlines
	- Availability of smoking cessation treatment
	• General policy: different sub-national laws or regulations

GTCR: Global Tobacco Control Report

Table 4.3 Scope of Policies Covered by the GTCR

1	Choose five key (non-paid) experts of different institutions and professions. Preferably select individuals with the following background: (1) one health professional with a strong background in tobacco control, (2) one academic who specializes in tobacco control, (3) the head of a prominent non-governmental organisation in tobacco control, (4) the government official responsible for tobacco control activities, (5) the WHO focal point for tobacco control (who usually is also filling out the questionnaire).
2	Consult the experts separately. In many countries, tobacco control networks are very small and the same individuals might wear many hats. For example, the chief tobacco control officers in the government are often dedicated to the point of also being the head of leading tobacco control non-governmental organisations. All such experts are likely to know each other and might not want to openly disagree or share the same limited experience, especially if this disagreement might have some impact on issues not related to monitoring.
3	Ask each expert to score, in writing, enforcement for three broad categories of tobacco control measures on a scale of 1 to 3 (minimally, moderately or highly enforced: (1) smoke-free environments, (2) direct advertising, (3) indirect advertising (promotion and sponsorship).
4	Review the expert's opinion at the national level. The GTCR national focal point: review these answers and clarify any pending issue or obtain more information regarding widely different answers.
5	Review national findings at the regional level. Consistency and comparability of the national answers could then be compared at the regional level and scores revised if needed.
6	Integrate results globally.

GTCR: Global Tobacco Control Report

Table 4.4 GTCR Protocol to Assess in Country Enforcement of Smoke-Free Environments, and Direct and Indirect Advertising Bans

the pitfalls of such measures described earlier, and the data collectors are aware of some countries where there are very close links between the experts. The system, however, is successful enough to serve as a basis for the next round of data collection.

Data sources:

In most cases, the source of primary data is legislation as assessed by country level informants. Informants also have to provide supporting information for these answers in the form of legal texts and official policy guidelines, although supporting documents are generally incomplete. This information is then assessed at the regional level by a regional data collector and then again at the worldwide level. For most countries, this process results in a large flow of communications where questionnaire answers are questioned, answered again, documented, and finally validated by all. The validation process thus spreads throughout data collection and is completed by a final country validation of the data. This validation includes official signing off on the questionnaire answers by an authorized civil servant[2]. Additional primary data sources are the actual knowledge of the country informant on local policies regarding the treatment of tobacco cessation. For example, the informant has to collect information on the national availability of quitlines, as well as counselling services for cessation. This

---

[2] This validation process was not followed for the European region in the first release, since the source of the data was the already validated data used for the European Tobacco Control Report, in addition to minor updates.

information is not backed by supporting documents unless policy papers, or even leaflet advertisements for these services, are available.

Some questionnaire items proved difficult to respond to. The simplicity of the questionnaire could not capture well the complexity of national tax data. Government spending on tobacco control also proved an elusive piece of information, because such expenditures are not clearly labelled and are often scattered across many budget items. It is therefore likely that future editions of the GTCR will need to modify the questionnaire to better capture very complex information. Finally, it proved easier to handle prevalence data through WHO's Global InfoBase than through prevalence-related questions on the questionnaire, given the clear advantage and networks InfoBase developed over the years.

Geographical coverage:

The geographical coverage is very wide, including all 193 WHO member states; although 21 countries, mostly from the Western Pacific and Americas regions, did not participate in the first release. At this stage, the GTCR questionnaire does not collect information on subnational jurisdictions, but does ask questions to certify the existence of such measures, in order to consider the feasibility of collecting these measures in the next release.

Timeliness, frequency of data collection, and trend:

The GTCR will be released annually, even if annual differences are minimal. Some changes in the data might occur despite the absence of any new measures, since a much larger team will be in charge of assessing questionnaire answers and comparing it to legislation; hence, possible revisions and refinements. The GTCR will keep an annual record of the situation in each country, which will permit trends analysis.

Reflections on the future of tobacco control monitoring systems

None of the existing monitoring systems fully meets all the criteria developed in the second part of this section, and thus it remains difficult to answer the questions outlined in the introduction without undertaking a detailed country analysis and relying on experts' opinion (Joossens & Raw, 2006). In other words, reliable, comparable, comprehensive, and ready-to-use time series on the prevalence of tobacco use and tobacco control measures do not exist and cannot be related to each other. This means that given the current stage of existing data, it remains challenging to properly and systematically assess all aspects of tobacco control as a public policy intervention at the international level, although the GTCR offers a good basis to do so if developed properly.

A new context

The environment of tobacco control has evolved very rapidly over the past few years and many initiatives either directly promote policy monitoring systems or create a strong demand for them. A major change has been the reversal of the tide in most high-income countries, with decreasing prevalence and number of smokers. However, despite prevalence rates that are also often decreasing in low- and middle-income countries, higher demographic growth will inevitably lead to deaths on a massive scale. Tobacco companies are also instituting shifts in their operations that are geared to these new markets. For this reason, tobacco control needs to quickly implement the same shift and undertake massive efforts in low- and middle-income countries.

Many factors could help this shift. The most important factor, and one that is often forgotten, is that tobacco control is now a tried and tested policy, with a tried and tested network of dedicated individuals and institutions. Tobacco control advocates can build on a lot of existing knowledge, experience, and successes, as well as failures. Awareness is also much higher, as not even the tobacco industry can argue anymore that tobacco is not bad for health.

The WHO FCTC is also a major structuring element for tobacco control. By signing it, a country *de facto* accepts its premises and commits itself in front of the world

community to enact very specific tobacco control measures, and report on the implementation of their international treaty obligations. By virtue of being a treaty, the WHO FCTC makes tobacco control a concern that is much broader than health, but an altogether international affairs issue; hence, additional pressure through linkage with other "high politics" issues.

Finally, new private and highly significant initiatives, such as the large donation by New York City Mayor Michael Bloomberg add fuel and momentum to tobacco control. These initiatives not only help strengthen existing efforts, such as the WHO FCTC, but also help empower tobacco control advocates who can then set the standards at a higher level and convince governments to follow suit. This new focus on tobacco control is thus a fantastic opportunity to start working on monitoring systems, as it creates a new demand for such information. It is time to rethink tobacco control based on past experience and highlight some of the improvements that should be implemented. These obviously have to do with the nature and analysis of the data, but mostly with the capacity to gather them.

Capacity for relevant data collection

Tobacco control is also a field that has greatly evolved with our knowledge of tobacco and of its social determinants and impact. Secondhand smoke, for example, was not a major concern for public policy before research clearly linked it to specific health conditions (US Department of Health and Human Services, 1986). Realizing that youth prevalence is a major explanatory factor for future adult prevalence, has meant that tobacco control could adopt much more aggressive policies towards this specific market. Knowledge that some of the harm caused by tobacco to the cardiovascular system can be reversed within a few years of cessation, has given a tremendous boost to cessation policies. The tobacco industry's reaction to original advertising bans has prompted a policy reaction that now stretches to promotion and sponsorship, etc. Linking smoking further to a general discomfort and economic costs for nonsmokers, and realizing that smoking bans were also a very efficient way to help addicted smokers quit, helped justify further tobacco control in the field of secondhand smoke. The health impact on nonsmokers, however, remains a crucial underpinning for public intervention in this field.

Monitoring systems for tobacco control must thus be flexible enough to evolve and keep up with the changes in overall policy objectives, tobacco control environment, and consumption patterns. Monitoring systems for tobacco control are consequently much more than just gathering data. They involve a complex process with clear objectives and constant reassessment of policy means. The most striking implication of this policy process is the ensuing need for a dedicated network of individuals, institutions, and ongoing discussions regarding both the evolution and continuity of the system, as well as the nature and usefulness of the collected data. Health practitioners, economists, epidemiologists, data managers and collectors, government officials, and many others need a very high level of collaboration in order to set up and maintain a good tobacco control monitoring system. A prerequisite to any good monitoring system is, therefore, a good organisation, which points directly to the most important ingredients: dedicated work with regular, predictable, and stable funding.

Referring back to the questions outlined in the first paragraph of the introduction: why can't we better assess the impact of specific tobacco control policy interventions in terms of efficiency and efficacy? One important factor is the capacity to build and sustain policy monitoring systems. In fact, many initiatives were started and left incomplete, mainly because of irregular or insufficient funding (perhaps as a reflection of lack of political will). As this section made clear, a high-quality international monitoring system is first and foremost a good and stable network of competent and highly coordinated individuals and institutions. Such networks are difficult to build and maintain. In addition, close supervision of

country level activities is impossible to perform from the outside, and this necessitates close involvement of local authorities and staff, hence the absolute necessity of country buy-in.

This means that the most pressing demand from countries is in capacity building to gather and analyse data. Indeed, based on past experiences, building a sustainable tobacco control monitoring system is impossible without a prior effort to build a solid network of competent individuals and institutions, and a national level capacity that can sustain this system. Previous data collection efforts were mainly donor-driven. A network of informants was set up from various sources (ministries of health, nongovernmental organisations, etc.), questionnaires were answered, stipends paid, and when funds dried up, this embryo of a network was unfortunately left to disintegrate. These data collection efforts provided highly valuable information, and individuals who worked on them were pioneers in tobacco control, but unfortunately a lot of the data cannot be used now.

The incredible opportunity that now exists, thanks to the WHO FCTC, is a global demand for capacity building, as countries will start to struggle to meet international obligations. Answering this demand quickly is crucial to build a comprehensive international network for tobacco control. This network is in turn a necessary condition to the emergence of a global tobacco control monitoring system. It follows that in this new international context, capacity building should come first with data collection undertaken as an integral part of it. This would ensure country buy-in, help keep competent data collectors in the network, and answer the needs of countries regarding the WHO FCTC. Most importantly, this would ensure that the data collection system does not vanish after a round of data collection, as it will be linked to the overall policy needs of the countries making these efforts relevant not only for international users, but also for local users. This network also needs to be expanded outside of the traditional country level individuals from ministries of health, and include officials from external affairs and economic ministries, as made possible, if not necessary, by the WHO FCTC.

Towards one effective policy data collection system

A monitoring system that is solidly anchored in a network to be assembled by a significant capacity building effort is a necessary condition for success, but surely not a sufficient condition; dispersing efforts among several systems should be avoided. Countries should not be burdened by excessive data collection, at least with regards to tobacco control. This means, for example, completing the integration of the WHO regional databases and GTCR. It also means that over the next few years, the relationship between this data collection system and the WHO FCTC should be carefully assessed. Although the WHO FCTC does not yet cover all countries and does not gather data with the aim of comparing them (at least for now), there is nevertheless a significant overlap between the COP reporting instrument and GTCR. The closer these processes are, the easier data collection becomes, and the more efficient the entire system will be.

Conclusions

This section describes the few existing data collection initiatives on policy interventions in the field of tobacco control. Only the WHO GTCR system is, at this moment, a repository of good quality information on a wide range of tobacco control policy interventions for the large majority of countries. It is also the only one with sustainable funding, and therefore the most promising initiative to support prospective national policy changes over time. Nevertheless, the GTCR only focuses on policy domains that have been proven to be effective in reducing tobacco use. Its main limitation is that it does not yet contain information about subnational policies. All policy researchers studying policy differences between countries are encouraged to use the WHO GTCR system in their investigations.