

# Assessing Compliance with Smoke-Free Laws

A “How-to” Guide for Conducting Compliance Studies



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## Introduction

Jurisdictions around the world have passed legislation to protect people from exposure to tobacco smoke in public places and in the workplace. Indeed, the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC) and its guidelines establish 100% smoke-free policies in work and public places as the best practice to protect people from exposure to secondhand smoke (Article 8 and guidelines). MPOWER, the WHO's technical assistance package of evidence-based policies, also identifies the adoption of 100% smoke-free policies as a critical strategy to reversing the tobacco epidemic.

Although the enactment of a 100% smoke-free law is necessary to widely protect people from exposure to tobacco smoke, it does not always automatically result in smoke-free environments. In order for a law to result in reductions in exposure to secondhand smoke, compliance with the law must be high.

The purpose of this guide is to help tobacco control organizations and others working to promote smoke-free environments and public health prepare for and implement studies to assess compliance with smoke-free laws. The key outcome variable of a compliance study is the visual observation of smoking in venues under study.

This guide presents step-by-step information, beginning with the need to clarify why a compliance study might be conducted and an assessment of the requirements of the law and enforcement activity to date. The guide then discusses practical considerations such as timelines, resources, tools, sampling plans, and the actual study implementation. Finally, the guide briefly addresses how to analyze, present and disseminate study results to best meet the strategic reasons for the study.

### COMPLIANCE VS. ENFORCEMENT

The terms “compliance” and “enforcement” are often used interchangeably. However, it is important to note that while these concepts are related, they are distinct.

**Compliance** is the degree to which a law (or other legislative instrument) is being obeyed.

**Enforcement** includes activities undertaken to increase compliance. Enforcement generally refers to the use of inspections and application of sanctions for non-compliance to increase compliance. Public education about the law and its sanctions is another critical component of efforts to increase compliance with the law.

High compliance can occur with or without enforcement, although some means of enforcement is usually necessary. High compliance, however, does not always mean full protection from secondhand smoke. If there are loopholes or deficiencies in the law, full protection may not be provided.

It's important to understand these distinctions before planning compliance studies.

## STEP 1

# Know the Smoke-Free Law

In order to know how to measure compliance with the law, you need to understand the provisions of the law. The types of details to be familiar with include:

- **Types of Venues Covered.** A smoke-free law will specify the types of venues covered by the law. Examples of venues include restaurants and bars, government buildings, workplaces, schools, and health care facilities. Within any venue category subject to the law, there can also be exemptions. For example, a smoke-free law covering bars and restaurants may include exemptions for restaurants with small capacity and private clubs.
- **Definitions of Venues.** It is also important to understand how venue categories are defined in the law. For example, how is a “workplace” or “public place” defined?
- **Deficiencies in the Law.** Smoke-free laws may allow smoking in certain areas or have other loopholes which may weaken the protection provided by the law. The exact smoking restrictions defined by the law must be understood to assess compliance. Questions to consider when determining the extent of coverage include:
  - Does the law prohibit smoking completely in enclosed or indoor areas? How is “indoor” or “enclosed” defined?
  - Where is smoking permitted, if at all?
  - If smoking is permitted, what are the permitted conditions? For example, definition of designated smoking areas (whether indoor or outdoor areas), ventilation and other physical requirements for these areas, if any.
  - Does the law allow phase-in periods for certain venues or settings?
  - Are there any other provisions in the law that create gaps in coverage or weaken protections?
  - Is there a lack of clarity in definitions that make implementation difficult?

- **Signage Requirements.** Smoke-free laws often include signage requirements that specify sign dimensions, the content and format of signs, where signs are to be located within the venue, and who is responsible for ensuring signs are posted.
- **Prohibitions in Addition to Those on Smoking.** The law may also contain provisions mandating actions that reinforce a nonsmoking environment. For example, the law may prohibit restaurants from leaving out ashtrays or providing matches.
- **Implementation.** The law may mandate the entity responsible for enforcing the law and specify whether resources are provided for enforcement, penalties for violations, and when and how penalties are applied?

Compliance studies can assess the degrees to which many, if not all, provisions of the smoke-free law are implemented.

## STEP 2

### Determine Status of Enforcement

Keeping in mind the distinction between compliance and enforcement discussed in the Introduction, if enforcement is active, information about the enforcement activity and inspection results may be helpful in the design and interpretation of compliance studies. As a first step in applying sanctions, an enforcement agency must establish if a location is out of compliance with the law. If enforcement has occurred, you should find out as much as you can about how the enforcement agency assessed compliance, including:

- When and where it occurred. For example, did the agency focus on particular venues and/or geographic areas;
- How the enforcement agency chose the sample of venues it visited;
- The procedure for conducting compliance checks or data collection tools; and
- Whether there is a plan for ongoing enforcement activity.

If possible, ask the enforcement agency for copies of its procedure for conducting compliance checks and data collection tools. These may be helpful models for your planned observations. Also, when learning about enforcement activity, it is helpful to ask about the challenges encountered during this work and how these challenges were addressed. This information could help you plan for or avoid similar challenges with your compliance study.

Information about the results of enforcement activity to-date will also be useful for your planning:

- Has compliance been high, low, or somewhere in the middle?
- Has compliance improved with successive waves of enforcement?
- Do compliance levels differ by type of venue?

Information about results may help shape the planned compliance study by steering it toward specific types of venues, times of day, etc. This information may also help to inform your decisions about how to communicate your compliance study results.

Lastly, it is important to know what has been done with the enforcement results. Have violators been notified? Have others been notified such as the media? Have violators been penalized in any way? For example have fines been levied against smokers or owners? This information may help to explain why compliance levels are what they are as well as inform what you may do as follow-up to your compliance activities.

## STEP 3

# Clarify the Purpose of Conducting Your Compliance Study

Compliance studies can serve many purposes and should only be conducted if they serve a strategic purpose. Think about why you want to conduct a compliance study and how you intend to use the results. Clarifying the intended use of the results will help to focus your survey design, determine what data you collect and analyze, and drive how you report and disseminate the results.

The most common purpose of a compliance study is to inform enforcement and public health agencies about where to target enforcement and public education resources. For example, low compliance rates can support calls for active enforcement and/or intensified educational strategies. Results may also indicate types of venues and geographic areas that require more targeted intervention. Periodic compliance studies can also be used to evaluate progress by documenting changes in the rate of compliance over time.

Other common purposes for compliance studies are to:

- **Educate the public and owners of affected venues.** Studies can be used to educate venue owners, policymakers, employees, and/or the general public about the existence of the smoke-free law and the status of compliance.
- **Demonstrate that the law is being complied with.** A common tobacco industry argument after a strong smoke-free law has come into force is that the law is widely disregarded. These claims are often false, or at least exaggerated. A compliance study can show that compliance with the law is high, thus countering industry claims that the law is not working.
- **Provide evidence to show why loopholes or deficiencies in the law must be resolved.** As discussed in the “know

The most common purpose of a compliance study is to inform enforcement and public health agencies about where to target enforcement and public education resources.

the law” section, some laws may only partially restrict smoking. A compliance study can be used to show policymakers how these loopholes weaken the protection provided by the law. For example, if a law allows smoking in a smoking section in restaurants and a study finds that compliance with the law is much lower in restaurants with smoking sections than in restaurants without smoking sections, this information can be used as a part of a campaign to convince policymakers of the need to eliminate smoking sections to improve overall compliance with the law.



## STEP 4

# Assess Available Resources and Secure Needed Resources

You will need to know what resources you have and what you need to procure before you can plan and conduct your compliance study. Once you know this information, you can construct a plan that is realistic and feasible. Key resources for a compliance study include labor and funding.

### Labor

There are a number of tasks associated with conducting a compliance study. Some tasks require technical expertise, while some require the flexibility to visit locations at odd hours. Partnerships between technical groups, such as a local university or research group, and policy or advocacy groups can effectively bring together the various skills sets needed. When securing individuals to perform various tasks, be sure to identify the following:

- **A Study Coordinator** will be responsible for making sure that all study tasks occur according to the timeline and to the standards established for the study. The coordinator ensures that data collectors have all necessary materials before collecting data. The coordinator also serves as the “go to” person for data collectors should they encounter any difficulties when performing observations.
- **Data Collectors** can be paid staff, but volunteers can also be recruited to conduct observations, provided they are properly trained.
- **Technical Experts** should be consulted to ensure that the sampling approach and data collection tools and procedures are appropriate.

### Funding

A compliance study need not be very expensive to undertake. The cost of a study is generally driven by how many locations will be visited and whether the people who are conducting the visits are paid or volunteer their time. If funding is limited, you can look to partner with another entity with technical expertise or staff time or recruit volunteers to get the work done. A local university can be an excellent source of volunteers with technical expertise since students may be able to use volunteer work on a compliance study to fulfill graduation requirements.

## STEP 5

# Clarify the Scope of Your Compliance Study

The scope of your compliance study will have important implications for the timelines, sampling approach, and procedures needed for the observations. In addition to your purpose and available resources, the scope is also defined by two other factors: geographic scope and types of venues to be covered.

### Geographic Scope

One factor to consider when defining the scope of compliance studies is the policy level (national, state/provincial, city, district, other) that you seek to influence, and the way in which you want to influence that policy. A common dilemma is balancing resources with geographic scope.

A key question to answer when determining the scope of the study is how the results of a compliance study will be used. If you are conducting a compliance study with the goal of influencing national lawmakers to provide more resources for enforcement, you should carefully consider whether policymakers will respond only to data collected from a national survey. In a large country, getting a truly nationally representative sample could be costly. It may well be that policymakers will be sufficiently convinced that more resources are needed based on a study done in two or three cities or indeed maybe only in one. For example, you could assess compliance in three major cities with different cultural, economic or social characteristics. Or you may be able to look at compliance in one city in a way that can credibly inform national-level decisions by studying neighborhoods within that city that represent different cultural types, density, or economic levels.

In addition, you will need to carefully consider how enforcement activities are funded and implemented. In many places, the allocation of enforcement resources is made at the sub-national level, thus, to influence local enforcement decision-makers, studies of local jurisdictions may be most appropriate.

### Type of Venue

A second key decision that must be made at the onset of a compliance study is the type of venues to assess. If the law covers many types of venues, such as bars and restaurants, government buildings, educational institutions, retail shops, health centers, etc, this guide recommends carefully choosing venues to assess based on the purpose of your study. If you are attempting to inform a policy change or influence enforcement in only one type of venue, then the decision is clear – the compliance study should focus only on that venue. If, for example, you want to study compliance in order to assess and counter industry arguments about implementation in bars and restaurants, you should study only bars and restaurants. If, on the other hand, you want to generate pressure for better enforcement based on suspicions that the law is not being followed, you may want to study those venues where you would expect compliance to be lowest or those venues for which you think you have the most likelihood of influencing enforcement activities.

This guide cautions that a study that attempts to look at all venues at one time may not produce information that can be effectively used to inform enforcement in a global manner across venues. The mechanisms to enforce smoke-free laws tend to vary by venue. For example, the agency and procedures for enforcing smoke-free laws in restaurants is often different than the agency and procedures responsible for enforcing smoke-free laws in office places. Collecting enough information to provide adequate information to assess and inform efforts to enforce laws in a particular venue requires an adequate sample size for each venue. A study of small numbers of locations representing many types of venues is less likely to provide adequate information to inform enforcement in any single venue than a more focused compliance study with larger numbers of locations for one or two venues.



## STEP 6

# Set a Timeline for Your Compliance Study

Good planning includes developing a timeline for compliance study activities that will enable you to understand and adequately prepare for all of the practical steps involved in completing the study and maximizing the use of the results.

In developing your timeline, you will want to consider if there is an ideal time to release the results; for example during legislative discussions concerning policy to address exposure to secondhand smoke or on the one-year anniversary of a smoke-free law's enactment. If so, this date should serve as the end point on your timeline, and all other tasks should be entered into the timeline working backward from this point.

There are a number of tasks that should be incorporated into your timeline. These tasks occur at three points:

1. Pre-Implementation: before the compliance observations occur;
2. Implementation: During the compliance check activity;
3. Post-Implementation: After the compliance observations have been conducted.

Appendix A provides a sample timeline.

### STEPS IN A COMPLIANCE STUDY

- ▶ Develop Compliance Check Tools and Procedures
- ▶ Choose Locations to Visit
- ▶ Conduct Compliance Observations
- ▶ Analyze Your Compliance Study Results
- ▶ Use the Results

## STEP 7

# Develop Compliance Check Tools and Procedures

Compliance check tools and procedures need to match the provisions of the smoke-free law and be designed to ensure high quality data collection. The volunteers or staff who will be conducting observations will need to understand precisely what they are to do when they enter a location and how they are to record what they observe and learn. Consequently, you will need to develop standard data collection tools and a clear and detailed procedure to guide data collectors.

The types of venues that will be included in a compliance study have implications for the tools and procedures that will be used to assess compliance. For example, the tools and procedures needed to assess compliance in office buildings and hospitals will differ from those needed to inspect bars and restaurants due to differences in access for data collection and the best times of day to conduct observations.

### Develop Data Collection Tools

Data collectors will need to use standard tools to collect and record the same information for each type of venue to be observed.

#### Data Forms

A data collection tool must be developed to guide the collection of observational data at each location. Checklists with yes/no options are easy to use and provide standardized data collection. To ensure good quality data, be sure that your questions are clear and specific.

Include items that reflect the key provisions of the law that you want to assess. These are the variables that will be used to determine if the location is in compliance with the law.

The key item that must be recorded is whether any smoking is observed in non-smoking areas during a compliance visit. However, because data collectors will only be visiting each location for a short period of time, it is also important to gather other information that may serve as indicators of compliance, for example, the presence of cigarette butts, ashtrays or matches. This guide discourages the inclusion of a question about whether the surveyor smells smoke because responses

**The key item that must be recorded is whether any smoking is observed in non-smoking areas during a compliance visit.**

to this question may be influenced by the surveyor's sensitivity to smell.

Include space at the bottom of the form for the data collector to record any additional comments he or she might wish to make. The data collector might want to note, for example, if there are special circumstances regarding a particular inspection or reason why a venue is not in compliance with a given aspect of the law.

Appendix B1 provides a sample checklist for hospitality venues in jurisdictions with 100% smoke-free law and Appendix B2 provides a sample checklist for hospitality venues in jurisdictions with partial bans. These may be modified to address the provisions of your law and to develop data collection tools for other types of venues.

#### Interview Protocol

You may decide to supplement the observational data with information that may explain why a venue does or does not comply with the law. Such information can be gathered through an interview with the person responsible for maintaining a smoke-free venue; for example, a restaurant manager. Interviewing could enable you to learn if an establishment has trained its employees in how to facilitate smoke-free environments and about challenges encountered when implementing the smoke-free law.

Interviews do pose challenges, however. For example, if they are to be conducted at the time of the visit, additional time will be needed to complete the visit. Interviews can also generate qualitative data which generally requires more time to analyze. It is also not uncommon for people to be hesitant to speak honestly about matters that involve their compliance with law. Therefore, it is best to assure anonymity by not asking

for names and not recording personal information about the interviewee on the interview protocol. Participation in an interview should be entirely voluntary.

Many smoke-free compliance studies do not include interviews, so as you develop your study, you should carefully consider how you will use the information collected and if such information is necessary to achieve the purpose of your study.

If you decide to conduct interviews, you will need to develop an interview protocol. An interview protocol consists of a set of questions that will be asked of a designated individual. Having a protocol does not restrict the data collector to only asking questions on the form, but it does ensure that information on a standard set of items is collected. Because the qualitative data produced by interviews can be quite time consuming to analyze, it is advisable to devise questions with yes/no answers and to limit the number of open-ended questions to no more than three to five. You might also consider conducting interviews with a smaller number of the venues visited, since the information generated through the interviews will not be specific to determining the rate of compliance. Appendix C provides a sample interview protocol.

## Develop Procedures

You will need to develop a standard procedure for conducting observations that describes every step in the process. It is best to make the procedures easy to follow so that data collectors can be easily trained, but the procedures must also be sufficiently detailed to enable data collectors to collect standard data.

The procedure should address:

- **Definitions for each of the variables on the observation checklist.** For example, indicate the exact requirements for signage.
- **Times of day for data collection.** There is no best practice for the time of day for observing compliance. One alternative is to visit venues at peak business hours to assess compliance when the most number of people are affected. Alternatively, venues could be visited at different times of the day to determine if

compliance varies by time of day. The data collection tool should record the time of day of the visit.

- **Where the data collectors are to go within the location and how long they should stay there.** The locations that are visited may consist of one room, many rooms, or entire buildings. The procedures should make clear where data collectors should go once inside a location and how long they should stay there.
- **Where data collectors should be when they are recording their data.** For example, you may want them to record some of the information while they are in the venue and some after they leave the site, or you may want them to record all of the data while inside the venue or record all of it after they have left.

Completing a checklist while inside the venue could draw attention to the data collectors and reveal the fact that a compliance observation is in progress. This may not be a concern for your study, but if you intend to inspect similar venues nearby, awareness that observations are occurring may spread and influence activity in other locations, and your inspection results could be affected. If you decide to have data collectors complete the checklists after they have left the venue, your procedures should specify that the recording of data should happen immediately after exiting the location and before visiting another location. The procedures should also specify or suggest where this should happen; for example, in a car, across the street, etc.

- **Interviewing.** If you plan to have the data collector interview the person responsible for the venue while making the visit, indicate when the data collectors should conduct the interview. Interviews should generally be conducted after observations have been completed.
- **What data collectors should say when they visit locations to collect data.** The protocol should specify if data collectors should tell the manager or staff what they are doing, how much information they can provide, and what to do in case they encounter a hostile venue owner or manager.
- **How many data collectors will make observations within**

**a location.** The data collection procedures should specify if data collectors will work alone or in teams of two.

- **Policies on safety.** For example, the data collection procedure should provide instructions about what a data collector should do if he or she perceives that a location is not safe (fights going on, drug sales, etc.). The instruction should be to leave the location.
- **What data collectors should do with the data collection forms after data collection is complete.** Data collectors should be clearly told where and when to return the forms.

A sample procedure for hospitality venue observations is included in Appendix D. Procedures for data collectors visiting other types of venues will be considerably different. Inspection procedures will need to accommodate the specific setting for your study and the specific mandates of your law as applied to that venue type. The table below offers some suggested approaches to surveying venues typically covered in smoke-free laws. Some of these venues require permission to enter. Under ideal circumstances, however, compliance observations should be conducted at an unannounced time, in order to capture typical behavior.

#### GUIDANCE ON OBSERVATION TIMES AND AREAS

Type of Venue	Suggested Time of Observation	Specific Places within the Jurisdiction to Observe
Educational institution	During school hours	At least two classrooms; teachers' common room; office room; students' common room; one toilet
Government offices	Office time (9:00 - 5:00)	Reception; common waiting room; at least two office rooms; employee break room, one toilet; meeting room; lobby (if any), at least one back side corridor or balcony (if any); cafeteria
Hospitals	4:00 - 8:00 pm (usual visiting hours)	Reception; at least one male and one female ward; one office room; one nurses' room; one doctors' room; one toilet; one patients' waiting area; cafeteria
Clinics	9:00 - 5:00 or evening if open	Reception; at least one waiting room for patients; one office room; one doctor's chamber; stairs; one toilet
Non-government offices	Office time (9:00 - 5:00)	Reception; common waiting room; at least two office rooms; employee break room, one toilet; meeting room; lobby (if any); at least one back side corridor or balcony (if any); one cafeteria
Train/Bus/Water transport	Anytime	The entire vehicle
Bars	Busiest hours	The entire bar
Restaurants	1:00 - 3:00 pm & 6:00 - 9:00 pm (meal times)	The entire restaurant
Shopping malls	1:00 - 8:00 pm (busiest hours)	At least 1 food court; main entrance area; at least 2 toilets; information area; at least 2-3 stores

## STEP 8

# Choose Locations to Visit

The venues to be visited in a smoke-free compliance study should be defined by the scope of the smoke-free law and the specific questions to be addressed by the study. Within each venue type, specific venue locations must be selected for the study. The selection of locations within a venue is driven by the purpose of the study, the number of locations in a particular venue type in the area under study, the resources available and the extent to which you want to generalize the study results to the broader population.

If the purpose of a study is to assess compliance for a specific type of venue and the number of locations for a venue type is small, then all locations should be visited to best assess compliance with the law. For example, if a study is assessing compliance with the smoke-free law in hospitals in a small city, the number of hospitals may be quite small and all could be visited. This guide recommends that if the number of locations for a particular venue type is less than 20, all locations should be visited.

In contrast, if the study is focused on a venue with a large number of locations, a method must be established to choose a sub-set of locations to be visited. The following section provides some key definitions of terms, describes sampling approaches and makes recommendations for choosing samples. This section begins with a brief overview of sampling strategies, followed by guidance on how to choose samples for studies with varying scopes.

### Sampling Strategies

In general, there are two types of sampling designs, probability and non-probability sampling.

Random (or probability) sampling in which each sampling unit is chosen randomly from the population under study. Random sampling approaches include both simple or systematic random sampling where each sampling unit has the same chance of being selected, and cluster sampling approaches where the population is split up into sub-groups (clusters) and sampling units are chosen randomly within clusters. Done well, a random sampling approach allows you to generalize the results of your study to the broader population.

Convenience (or non-probability) sampling in which sample selection is based on convenience, logistical considerations, or some other reason. For example, it may not be feasible to randomly choose a set of clusters within a very large city. A set of clusters may be chosen based on certain characteristics of the cluster or logistical considerations for where data collectors can reasonably travel. It is important to understand that with a convenience sample, it is not possible to conclude that the results are representative of the entire population of interest, but if done well, the data collected can provide a useful indication of the levels of compliance in the places studied.

### Choosing a Sampling Approach

When a list of each location within a venue type is available, it may be feasible to choose a random sample. For example, most cities have lists of schools. If a list of schools exists, the names of all of the schools in the city can be put into a hat. If you have determined that you need a sample size of 40 for the population of 120 schools, randomly draw 40 names from the hat (simple random sampling). You could also put the names of all the schools on a list in alphabetical order, randomly pick a starting point and choose every third school on the list (systematic random sampling).

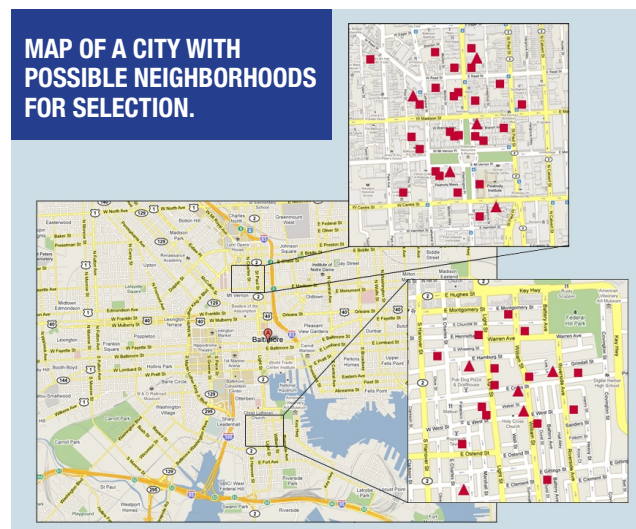
Choosing either a simple or systematic random sample of some types of venues – in particular hospitality venues such as bars, restaurants, and cafes – is unlikely to be feasible for two main reasons. First, a complete list of all locations for some venue types within a country or city often times does not exist. Second, monitoring compliance across a large geographic area with numerous hospitality locations, such as in a large city, within a reasonable time frame may be logistically quite challenging.

#### DEFINITIONS

- ▶ **Population:** All members of a group about which you want to learn. An example of a population for a compliance study is all restaurants in a city.
- ▶ **Sample:** A selected portion of the population.
- ▶ **Sampling unit:** The locations, people, etc. that are being sampled. For example, for a compliance study of all restaurants, the sampling unit is a single restaurant.



Thus for assessing compliance rates for hospitality venues within large geographical areas, we recommend a cluster sampling design. The cluster chosen should represent the smallest division within the geographical area (e.g., a city) consisting of multiple streets, business and/or homes. We use the term neighborhood for the cluster and suggest identifying clear boundaries for each neighborhood.



Neighborhoods may be chosen randomly or using non-probability-based sampling methods. In large cities, it may be more feasible to choose a convenience or purposeful sample of neighborhoods. The figure below provides possible criteria for selecting neighborhoods for a study.

#### EXAMPLES OF CRITERIA FOR SELECTING NEIGHBORHOODS FOR MONITORING HOSPITALITY VENUES.

- ▶ Select neighborhoods with a high density of restaurants and bars
- ▶ If compliance is thought to vary by socio-economic level or some other demographic characteristic, select neighborhoods by level or characteristic.
- ▶ If data were collected previously, select neighborhoods where smoking was previously observed.

Neighborhoods that have a high density of restaurants and bars could be a primary focus for any smoke-free compliance study. If a law has just been enacted and compliance monitoring was conducted before the law, you could sample where smoking was observed prior to the law to examine its impact. It may be of interest to assess whether compliance varies according to socioeconomic status or other demographic factors of neighborhoods (e.g., ethnicity). If this is the case, neighborhoods could be selected based on socio-economic status or other demographic characteristics.

The number of neighborhoods to be selected is based on a compromise between study objectives and feasibility. If the goal is to provide a good indication of compliance across the city, one should select as many neighborhoods as possible. In most cases, selection of four to six neighborhoods can provide a reasonable snapshot of compliance with a smoke-free law. For large cities, more neighborhoods may be needed to capture important variation across the city.

Accurately assessing one rate of compliance for an entire city is not possible with a non-probability-based cluster sampling approach and results could mask important variation in compliance across the city. However, the data across clusters can be combined to produce an aggregate compliance rate, which is an estimate for the combined neighborhoods. When the aggregate compliance rate is provided, it is important to describe what neighborhoods are included in study and to clarify that this rate should not be assumed to represent the entire city. Compliance rates for each neighborhood can provide insight on the level of compliance within each neighborhood and serve to identify where targeted enforcement efforts are needed.

#### Sampling within Clusters

Once the neighborhoods have been selected, try to obtain a map of each cluster; for example, neighborhood that depicts its boundaries. Typically, the boundaries of city neighborhoods are well-defined. However, if they are unclear, boundaries can be defined specifically for the purposes of the project. If a neighborhood is too large to be covered by a team of data collectors, it can



be divided into smaller units. The map should cover all of the main roads within the neighborhood boundaries.

Two strategies are described below for choosing a sample of locations to be visited within a neighborhood. The first strategy presumes a list of locations exists or can be obtained while the second can be used when a list does not exist or cannot be easily developed.

### **List of locations is available**

Under ideal circumstances, a team of data collectors would first list all locations within the neighborhood boundaries. This would provide information to determine how to select locations. Lists for certain venues and in some cities may be available. If all locations within a neighborhood are to be visited, the data collector will stop at each location along the pre-specified route. Otherwise, simple random sampling can be used to select the locations to visit. A sample of locations can be randomly chosen from the list. The locations can then be located on a map, and a route planned to visit locations chosen.

### **No list exists**

When no list of locations exists for a venue type under study, a sample can be chosen by identifying a fixed central point and selecting locations surrounding or radiating from this point.

The central point chosen should be situated in commercial area where you would expect to find a number of hospitality locations within a short distance. Examples of central points in neighborhoods include the main post office, a main intersection, or prominent religious buildings such as a church, temple, or mosque.

After selecting the central point for each neighborhood, determine an operational radius from each point. Normally, this would be city blocks, but it can also be a set distance. The total area covered will be determined by the density of commerce in the area and the sample size needed. In a very dense region, a one block radius may be sufficient, while in others it may be necessary to venture out several blocks in order to find a sufficient sampling of hospitality locations.

From each central point the “survey pathway” will be

formed as follows:

**Step 1.** Walk south and survey each hospitality location for the number of blocks in the radius you defined.

*Note:* Visit both sides of the street.

**Step 2.** Turn east (left), and survey each hospitality location for the number of blocks in the radius you defined.

**Step 3.** Turn north (left) and survey each hospitality location for the number of blocks in the radius you defined.

**Step 4.** Turn west (right) and survey each hospitality location for the number of blocks in the radius you defined.

**Step 5.** At the next street, turn south (right) and begin with Step 1 again, this time starting at the outer edge of where you completed the first round of surveys.

Continue this pattern until you reach the total number of locations to be surveyed

### **Number of Locations to Monitor**

Within each cluster (e.g. neighborhood), you will need to determine the number of locations to visit. The number of locations will reflect a choice between time and resources, and statistical precision. If the number of locations is manageable then it is best to visit all. In general, this guide recommends that if the number of locations for a venue type is less than 20, you should visit all the locations. However if this not the case, you will need to establish the number of locations to be visited before actual data collection begins in order to choose your final sample through the approaches described above.

Estimating the number of locations to visit is primarily dependent on:

1. The statistical precision (e.g., the level of confidence) you want to have in the results of the study, and
2. The estimated compliance level of the locations at the start of the study.

If you have access to a sampling expert, she or he can help you make decisions about how to balance the level

## STEP 9

# Conduct Compliance Observations

of confidence you can have in your results with what you know about the number of locations and the compliance level of these locations. A sample size calculator can be used to calculate the sample size needed based on the above factors (e.g., <http://www.surveysystem.com/sscalc.htm>).

If you do not have access to an expert or to a calculator, the following table provides the recommended sample size by the total number of locations available to sample. For example, if there are more than 175 locations in the area under study, a sample size of 60 is recommended; if the number of locations is less than 20, all locations should be visited.

### SAMPLE SIZE RECOMMENDATIONS FOR EACH CLUSTER

Total number of locations from which to choose	Recommended sample size (at least)*
176+	60
101 – 175	50
51 – 100	40
36 – 50	30
20 – 35	20
<20	All

\*Compliance rate (95%-50%) and margin of error (12%-5%).

Data collection works best when the people conducting the observations receive training, are able to practice before actual data collection begins, and have adequate supervision.

Once you have completed the Steps 1 to 8, you will be able to focus on data collection.

### Training Your Staff

Make sure your data collectors are trained in every aspect of the procedures so they know what to do and what to look for. A training session should include brief discussion of the purpose of the study and ample time for reviewing the procedure for conducting observations and recording information. Training should also include time for on-site practice conducting observations.

### Overseeing Data Collection

When out making observations, data collectors should report back to the Project Coordinator regularly and submit completed survey forms. The Coordinator should review forms carefully to ensure that they are being filled out properly and provide feedback to surveyors about their work.

## STEP 10

### Analyze Your Compliance Study Results

Once data are collected, the data quality must be checked and analyses conducted to answer your study questions.

#### Checking Data Quality

Ensuring that you obtain high quality data involves good planning at every step of your study. The protocols you established and the staff training conducted will help to ensure that your data are high quality. Once data are collected, they should be checked to ensure they are clearly recorded, complete and are consistent across responses. Once this is done, the data can be entered into a data analysis software such as Excel.

#### Analyzing Your Observational Data

Data analysis should be guided by the key questions that need to be answered, such as:

- What was the overall rate of compliance for all locations visited within each venue?
- If a cluster design was used for the study, what was the compliance rate for each cluster and for the combined clusters?
- If more than one type of venue was visited, what were the compliance rates for each type of venue?
- If studies were conducted in the past, how do current rates compare with them?

#### Analyzing Interview Data

Interview data are qualitative in nature, and interview data analysis requires time in order to produce results that are informative. Interview data should be analyzed to determine themes from respondents and to identify any key variations in responses to questions about smoke-free compliance issues.

## STEP 11

### Use the Results

Compliance study results should be used in ways that correspond to the purpose of the study and that are appropriate in light of the methodology used. In using the results, be sure to define your audience, develop key messages that are tailored to purposes of the study and disseminate in ways designed to reach and influence your target audiences. This guide recommends working with experienced advocates and public relations experts for guidance when disseminating your results. Common audiences and dissemination strategies include:

#### Policymakers

The primary target of dissemination efforts for compliance studies is usually policymakers. Results should be presented to clearly show policymakers how well the law is being complied with and the link between the levels of compliance found and resources needed to improve or maintain compliance with smoke-free laws. Results can be presented in private briefings with legislators and senior government officials and/or released to the media through press conferences or other events.

#### Enforcement agencies

Private briefings with enforcement agencies may be a good practice in releasing results. This will build trust and may be more likely to result in action from the agencies. If action is not taken, you may decide to then disseminate the results through the media to create greater pressure for action.

#### Owners or managers of the locations visited

You might choose to present the results of the study to owners or managers of the locations visited in order to provide them with information about overall compliance. The presentation of results might be used to warn them that compliance checks are being conducted and encourage them to comply with the law. Be sure to congratulate those who were found to be in compliance.

#### The public

Mass media can be used to inform the public about levels of compliance with the law, encourage the public to comply with the law, and call for ongoing or increased enforcement of the law by the government.

## Summary

The overall goal of a smoke-free compliance study is to assess the degree of compliance with a smoke-free law in a particular area or among a type or types of venues. This guide outlines key steps to conducting a compliance study, highlighting following:

- Smoke-free laws contain provisions that specify what is and is not permissible under the law. Knowledge of these provisions is fundamental to understanding how well it is being implemented. These provisions should guide how compliance studies are designed and conducted.
- If enforcement of a smoke-free law is active, information about the enforcement activity and results can be helpful in the design and interpretation of the compliance studies.
- Compliance studies can serve multiple purposes, but they should always be linked to a broader strategic plan. This means being very specific about why a study is being conducted and what will be done with the results.
- Organizations conducting studies should be realistic about the resources they have and those they will need to acquire in order to conduct a compliance study; chiefly labor and funding.
- The scope of the compliance study will drive its design. Scope is defined by the geographic level at which compliance will be assessed and the type(s) of venues to be visited. Having a clear understanding of the law and how the compliance study results will be used should guide the decisions about the scope of the study. There is no one “right” approach to determining the scope, and often resources will be a key factor in determining it.
- The conduct of a compliance study should follow a clear and comprehensive timeline that will enable everyone involved to understand and adequately prepare for all of the practical steps involved with conducting observations of locations and generating and maximizing the use of results.
- Data collection requires the use of standardized tools that match the provisions of the smoke-free law and procedures that ensure high-quality data collection. That is, data collectors will need to understand precisely what they are to do when they enter a location and how they are to record what they observe and learn.
- Organizations may choose to secure the assistance of someone with technical expertise in sampling to develop a sample of locations to visit during the data collection period.
- Once the study sample is defined, data collection is ready to begin. Effective data collection begins with proper training for data collectors and includes opportunities to practice collecting data in locations similar to those included in the study sample (but not a part of it). Data collectors should be supervised when involved in actual data collection.
- When using the results of a smoke-free compliance study, the study organizer should review the initial reason for conducting the study. A compliance study should be tied to a broader strategic advocacy plan. Recalling the study’s purpose and the broader strategic plan will help determine which findings need to be shared with target audiences via carefully crafted key messages.

## Appendix A: Sample Timeline For Compliance Study Task Completion

TASKS	WEEK	PERSONS INVOLVED	PERSON RESPONSIBLE / SUPERVISOR	DEADLINE FOR COMPLETION
<b>Pre-Implementation Tasks</b>				
Data collection tool development				
Develop study procedures				
Develop sample				
Train data collectors				
Pilot test tools and procedure				
<b>Implementation Tasks</b>				
Conduct compliance checks				
<b>Post-Implementation Tasks</b>				
Check data quality				
Data entry				
Data analysis				
Use compliance study results				

## Appendix B1: Sample Observation Checklist #1

For Hospitality Venues with Complete Smoking Ban

<b>PART I. LOCATION INFORMATION</b>	
Name of location / facility	
Address	
Type of location <i>(Add a coding scheme for types of venue locations covered by smoke-free law)</i>	No. of seats / capacity
Nature of access <input type="radio"/> Open public access <input type="radio"/> Limited access (e.g., employees, students)	Date of visit _____ / _____ / _____
Time of entry to location _____ am / pm <i>(circle one)</i>	
Time of departure from location _____ am / pm <i>(circle one)</i>	
Data collector name / code	
<b>PART II. OBSERVATION INFORMATION</b>	
Is anyone smoking?	<input type="radio"/> YES <input type="radio"/> NO
Is there signage stating that smoking is not permitted?	<input type="radio"/> YES <input type="radio"/> NO
Does signage comply with the law?	<input type="radio"/> YES <input type="radio"/> NO
Are there any ashtrays or matches visible?	<input type="radio"/> YES <input type="radio"/> NO
Are there any cigarette butts visible?	<input type="radio"/> YES <input type="radio"/> NO
When entering or exiting the location, did you observe users / patrons of this location smoking outside the entrance /exit?	<input type="radio"/> YES <input type="radio"/> NO
<i>Optional additional notes about your observation visit.</i>	



## Appendix B2: Sample Observation Checklist #2

For Hospitality Venues with Designated Smoking Areas

<b>PART I. LOCATION INFORMATION</b>	
Name of location / facility	
Address	
Type of location <i>(Add a coding scheme for types of venue locations covered by smoke-free law)</i>	No. of seats / capacity
Nature of access <input type="radio"/> Open public access <input type="radio"/> Limited access (e.g., employees, students)	Date of visit    ____ / ____ / ____
Time of entry to location        ____ am / pm <i>(circle one)</i>	
Time of departure from location    ____ am / pm <i>(circle one)</i>	
Data collector name / code	
<b>PART II. OBSERVATION INFORMATION</b>	
Is anyone smoking in the non-smoking area?	<input type="radio"/> YES <input type="radio"/> NO
Is there signage stating that smoking is not permitted in the non-smoking area?	<input type="radio"/> YES <input type="radio"/> NO
Does signage comply with the law?	<input type="radio"/> YES <input type="radio"/> NO
Are there any ashtrays or matches visible in the non-smoking area?	<input type="radio"/> YES <input type="radio"/> NO
Are there any cigarette butts visible in the non-smoking area?	<input type="radio"/> YES <input type="radio"/> NO
Is there a designated smoking area (DSA) or designated smoking room (DSR) in the location?	<input type="radio"/> YES <input type="radio"/> NO
Is the designated smoking area (DSA) or designated smoking room (DSR) clearly identified?	<input type="radio"/> YES <input type="radio"/> NO
Is the designated smoking area (DSA) a room (with walls and doorway) or an open area?	<input type="radio"/> Room <input type="radio"/> Open Area
If an enclosed room, is access to the DSA closed (door and windows connecting to non-smoking area are closed)?	<input type="radio"/> YES <input type="radio"/> NO
Do you see a vent in the DSA?	<input type="radio"/> YES <input type="radio"/> NO
<i>Optional additional notes about your observation visit.</i>	

## Appendix C: Sample Interview Protocol

For persons responsible for ensuring a smoke-free environment

INTERVIEW PROTOCOL FOR HOSPITALITY VENUES		
Name of location / facility	Date of visit ____ / ____ / ____	
Title of person interviewed		
Data collector name / code		
Is there a formal policy regarding whether customers and employees can smoke in this facility?		
	<input type="radio"/> YES	<input type="radio"/> NO
Are you aware of the smoke-free law in _____?		
	<input type="radio"/> YES	<input type="radio"/> NO
If yes, what is your understanding of the law?		
Have you done anything to educate or inform the people who use this facility (e.g., workers, patrons, visitors, etc.) that smoking is not permitted in this location?		
	<input type="radio"/> YES	<input type="radio"/> NO
If yes, what have you done to educate or inform others?		
What kind of response have you had to these educational efforts?		
<input type="radio"/> Mostly positive	<input type="radio"/> Both positive and negative	<input type="radio"/> Mostly negative
Have you encountered any difficulties trying to keep this environment smoke-free?		
	<input type="radio"/> YES	<input type="radio"/> NO
If yes, what kind of difficulties have you encountered?		
How have you tried to resolve these difficulties?		

## Appendix D: Sample Observation Protocol For Hospitality Venues with Complete Smoking Areas

*Data collectors conduct observations during peak business hours. When you visit the hospitality location, employees will be busy serving customers. Because data collection is to be covert, please do not record your observations while in the location. Engage in conversation only if prompted by others but avoid extended conversation. The observation period in the establishment should last approximately five to ten minutes.*

1. As you enter the establishment, begin your observations immediately. If there is a reception or waiting area, note whether people are smoking in this area, any posted signage, and indicators of smoking behavior (e.g., ashtrays, matches, cigarette butts).
2. After entering the main area of this location and if it is customary for patrons to stand, move to an area where patrons collect. If patrons are expected to be seated, take a seat or allow yourself to be seated. While you are standing or sitting, conduct your observations. If you are asked if you would like to order a drink or food, ask for more time to make a decision.
3. After approximately two minutes of standing or seated observation, go to the restroom. As you move through the establishment and once inside the restroom, continue your observations. You may choose to use the restroom, wash your hands, or check your appearance in a mirror while in the restroom to conceal the fact that you are also conducting an observation.
4. After exiting the restroom, proceed directly to the exit of the establishment and leave.
5. Proceed to the designated meeting point to record your observations on the checklist.

### **REMEMBER**

If you feel unsafe entering this location or unsafe once inside this location, do not enter or exit immediately, and return to the designated meeting point.

Once you have completed your observations for the day/night, place all data collection forms in the envelope given to you for this day and return the envelope within 24 hours to the study coordinator.

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