

# ANNUAL SYNAR REPORT

42 U.S.C. 300x-26

OMB № 0930-0222

FFY 2016

State: **Maryland**

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## INTRODUCTION

The Annual Synar Report (ASR) format provides the means for states to comply with the reporting provisions of the Public Health Service Act (42 U.S.C. 300x-26) and the Tobacco Regulation for the Substance Abuse Prevention and Treatment Block Grant (SABG) (45 C.F.R. 96.130 (e)).

### **How the Synar report helps the Center for Substance Abuse Prevention**

In accordance with the tobacco regulations, states are required to provide detailed information on progress made in enforcing youth tobacco access laws (FFY 2015 Compliance Progress) and future plans to ensure compliance with the Synar requirements to reduce youth tobacco access rates (FFY 2016 Intended Use Plan). These data are required by 42 U.S.C. 300x-26 and will be used by the Secretary to evaluate state compliance with the statute. Part of the mission of the Center for Substance Abuse Prevention (CSAP) is to assist states<sup>1</sup> by supporting Synar activities and providing technical assistance helpful in determining the type of enforcement measures and control strategies that are most effective. This information is helpful to CSAP in improving technical assistance resources and expertise on enforcement efforts and tobacco control program support activities, including state Synar program support services, through an enhanced technical assistance program involving conferences and workshops, development of training materials and guidance documents, and onsite technical assistance consultation.

### **How the Synar report can help states**

The information gathered for the Synar report can help states describe and analyze substate needs for program enhancements. These data can also be used to report to the state legislature and other state and local organizations on progress made to date in enforcing youth tobacco access laws when aggregated statistical data from state Synar reports can demonstrate to the Secretary the national progress in reducing youth tobacco access problems. This information will also provide Congress with a better understanding of state progress in implementing Synar, including state difficulties and successes in enforcing retailer compliance with youth tobacco access laws.

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<sup>1</sup>The term “state” is used to refer to all the states and territories required to comply with Synar as part of the Substance Abuse Prevention and Treatment Block Grant Program requirements (42 U.S.C. 300x-64 and 45 C.F.R. 96.121).

## **Getting assistance in completing the Synar report**

If you have questions about programmatic issues, you may call CSAP's Division of State Programs at (240) 276-2550 and ask for your respective State Project Officer, or contact your State Project Officer directly by telephone or email. If you have questions about fiscal or grants management issues, you may call the Grants Management Officer, Office of Financial Resources, Division of Grants Management, at (240) 276-1422.

## **Where and when to submit the Synar report**

The ASR must be received by SAMHSA no later than December 31, 2015 and must be submitted in the format specified by these instructions. Use of the approved format will avoid delays in the review and approval process. The chief executive officer (or an authorized designee) of the applicant organization must sign page one of the ASR certifying that the state has complied with all reporting requirements.

The state must upload one copy of the ASR using the online WebBGAS (Block Grant Application System). In addition, the following items must be uploaded to WebBGAS:

- FFY 2016 Synar Survey Results: States that use the Synar Survey Estimation System (SSES) must upload one copy of SSES Tables 1–5 (in Excel) to WebBGAS. States that do not use SSES must upload one copy of ASR Forms 1, 4, and 5, and Forms 2 and 3, if applicable, (in Excel) to WebBGAS.
- Synar Inspection Form: States must upload one blank copy of the inspection form used to record the result of each Synar inspection.
- Synar Inspection Protocol: States must upload a copy of the protocol used to train inspection teams on conducting and reporting the results of the Synar inspections.
- A scanned copy of the signed Funding Agreements/Certifications

Each state SSA Director has been emailed a login ID and password to log onto the Synar section of the WebBGAS site.

Additionally, the state must submit one signed original of the report (including the signed Funding Agreements/Certifications), as well as one additional copy of the signed Funding Agreements/Certifications, to the Grants Management Officer at the address below:

Grants Management Officer  
Division of Grants Management  
Office of Financial Resources  
Substance Abuse and Mental Health Services Administration

### **Regular Mail:**

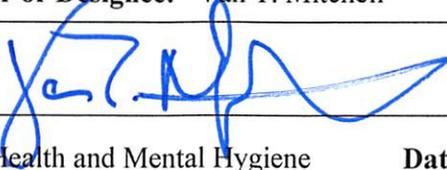
1 Choke Cherry Road, Rm.7-1091  
Rockville, Maryland 20857

### **Overnight Mail:**

1 Choke Cherry Road, Rm.7-1091  
Rockville, Maryland 20850

## FFY 2016: FUNDING AGREEMENTS/CERTIFICATIONS

The following form must be signed by the Chief Executive Officer or an authorized designee and submitted with this application. Documentation authorizing a designee must be attached to the application.

|  |                             |
|--|-----------------------------|
| <b>PUBLIC HEALTH SERVICES ACT AND SYNAR AMENDMENT</b>  |                             |
| 42 U.S.C. 300x-26 requires each state to submit an annual report of its progress in meeting the requirements of the Synar Amendment and its implementing regulation (45 C.F.R. 96.130) to the Secretary of the Department of Health and Human Services. By signing below, the chief executive officer (or an authorized designee) of the applicant organization certifies that the state has complied with these reporting requirements and the certifications as set forth below. |                             |
| <b>SYNAR SURVEY SAMPLING METHODOLOGY</b>   |                             |
| The state certifies that the Synar survey sampling methodology on file with the Center for Substance Abuse Prevention and submitted with the Annual Synar Report for FFY 2016 is up-to-date and approved by the Center for Substance Abuse Prevention.   |                             |
| <b>SYNAR SURVEY INSPECTION PROTOCOL</b>  |                             |
| The state certifies that the Synar Survey Inspection Protocol on file with the Center for Substance Abuse Prevention and submitted with the Annual Synar Report for FFY 2016 is up-to-date and approved by the Center for Substance Abuse Prevention.  |                             |
| <b>State:</b> Maryland   |                             |
| <b>Name of Chief Executive Officer or Designee:</b> Van T. Mitchell  |                             |
| <b>Signature of CEO or Designee:</b>   |                             |
| <b>Title:</b> Secretary, Department of Health and Mental Hygiene   | <b>Date Signed:</b> 12-1-15 |
| <b>If signed by a designee, a copy of the designation must be attached.</b>  |                             |

**SECTION I: FFY 2015 (Compliance Progress)**

**YOUTH ACCESS LAWS, ACTIVITIES, AND ENFORCEMENT**

42 U.S.C. 300x-26 requires the states to report information regarding the sale/distribution of tobacco products to individuals under age 18.

**1. Please indicate any changes or additions to the state tobacco statute(s) relating to youth access since the last reporting year. If any changes were made to the state law(s) since the last reporting year, please attach a photocopy of the law to the hard copy of the ASR and also upload a copy of the state law to WebBGAS. (see 42 U.S.C. 300x-26).**

**a. Has there been a change in the minimum sale age for tobacco products?**

Yes  No

*If Yes, current minimum age:*  19  20  21

**b. Have there been any changes in state law that impact the state's protocol for conducting Synar inspections?**

Yes  No

*If Yes, indicate change. (Check all that apply.)*

- Changed to require that law enforcement conduct inspections of tobacco outlets
- Changed to make it illegal for youth to possess, purchase or receive tobacco
- Changed to require ID to purchase tobacco
- Other change(s) *(Please describe.)* \_\_\_\_\_

**c. Have there been any changes in state law that impact the following?**

Licensing of tobacco vendors  Yes  No

Penalties for sales to minors  Yes  No

Vending machines  Yes  No

**2. Describe how the Annual Synar Report (see 45 C.F.R. 96.130(e)) and the state Plan (see 42 U.S.C. 300x-51) were made public within the state prior to submission of the ASR. (Check all that apply.)**

Placed on file for public review

Posted on a state agency Web site *(Please provide exact Web address and the date when the FFY 2016 ASR was posted to this Web address.)*

<http://bha.dhmh.maryland.gov/Pages/Maryland-Synar-Reports.aspx>

Notice published in a newspaper or newsletter

Public hearing

Announced in a news release, a press conference, or discussed in a media interview

Distributed for review as part of the SABG application process

Distributed through the public library system

Published in an annual register

Other (Please describe.) \_\_\_\_\_

**3. Identify the following agency or agencies (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130).**

- a. The state agency (ies) designated by the Governor for oversight of the Synar requirements:**

Maryland Behavioral Health Administration, DHMH

Has this changed since last year's Annual Synar Report?

Yes  No

- b. The state agency(ies) responsible for conducting random, unannounced Synar inspections:**

Maryland Behavioral Health Administration, DHMH

Has this changed since last year's Annual Synar Report?

Yes  No

- c. The state agency(ies) responsible for enforcing youth tobacco access law(s):**

Maryland's 24 jurisdictional local law enforcement agencies and in some of the smaller jurisdictions support is provided by the State Police

Has this changed since last year's Annual Synar Report?

Yes  No

**4. Identify the following agencies and describe their relationship with the agency responsible for the oversight of the Synar requirements.**

- a. Identify the state agency responsible for tobacco prevention activities (the agency that receives the Centers for Disease Control and Prevention's National Tobacco Control Program funding).**

PHPA - The Center for Tobacco Prevention and Control

- b. Has the responsible agency changed since last year's Annual Synar Report?**

Yes  No

- c. Describe the coordination and collaboration that occur between the agency responsible for tobacco prevention and the agency responsible for oversight of the Synar requirements. (Check all that apply.) The two agencies**

Are the same

Have a formal written memorandum of agreement

Have an informal partnership

Conduct joint planning activities

Combine resources

Have other collaborative arrangement(s) *(Please describe.)* The Behavioral Health Administration and the Prevention and Health Promotion Administration are sister agencies, under the same Department - i.e., Department of Health and Mental Hygiene.

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**d. Identify the state agency responsible for enforcing the youth access and advertising restrictions in the Family Smoking Prevention and Tobacco Control Act (the agency that is under contract to the Food and Drug Administration's Center for Tobacco Products (FDA/CTP)).**

Maryland Behavioral Health Administration, DHMH

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**e. Has the responsible agency changed since last year's Annual Synar Report?**

Yes  No

**f. Describe the coordination and collaboration that occur between the agency contracted with the FDA to enforce federal youth tobacco access laws and the agency responsible for oversight of the Synar requirements. (Check all that apply.) The two agencies:**

Are the same

Have a formal written memorandum of agreement

Have an informal partnership

Conduct joint planning activities

Combine resources

Have other collaborative arrangement(s) *(Please describe.)* \_\_\_\_\_

**g. Does the state use data from the FDA enforcement inspections for Synar survey reporting?**

Yes  No

**5. Please answer the following questions regarding the state's activities to enforce the state's youth access to tobacco law(s) in FFY 2015 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130(e)).**

**a. Which one of the following describes the enforcement of state youth access to tobacco laws carried out in your state? (Check one category only.)**

Enforcement is conducted exclusively by local law enforcement agencies.

Enforcement is conducted exclusively by state agency (ies).

Enforcement is conducted by both local *and* state agencies.

- b. The following items concern penalties imposed for all violations of state youth access to tobacco laws by LOCAL AND/OR STATE LAW ENFORCEMENT AGENCIES (this does not include enforcement of federal youth tobacco access laws). Please fill in the number requested. If state law does not allow for an item, please mark “NA” (not applicable). If a response for an item is unknown, please mark “UNK.” The chart must be filled in completely.

| PENALTY                                     | OWNERS | CLERKS | TOTAL |
|---|--------|--------|-------|
| Number of <u>citations issued</u>           | UNK    | UNK    | 545   |
| Number of <u>finest assessed</u>            | UNK    | UNK    | UNK   |
| Number of <u>permits/licenses suspended</u> | UNK    |        | UNK   |
| Number of <u>permits/licenses revoked</u>   | UNK    |        | UNK   |
| Other (Please describe.)                    |        |        |       |
| Youth Access Compliance Checks              | 3798   | UNK    | 3798  |
| Vendor Education Visits to Tobacco Outlets  | 3899   |        | 3899  |

- c. Which one of the following best describes the level of enforcement of state youth access to tobacco laws carried out in your state? (Check one category only.)
- Enforcement is conducted only at those outlets randomly selected for the Synar survey.
- Enforcement is conducted only at a subset of outlets not randomly selected for the Synar survey.
- Enforcement is conducted at a combination of outlets randomly selected for the Synar survey and outlets not randomly selected for the Synar survey.
- d. Did every tobacco outlet in the state receive at least one compliance check that included enforcement of the state youth tobacco access law(s) in the last year?
- Yes  No
- e. What additional activities are conducted in your state to support enforcement and compliance with state youth tobacco access law(s)? (Check all that apply.)
- Merchant education and/or training
- Incentives for merchants who are in compliance (e.g., nonenforcement compliance checks in which compliant retailers are given positive reinforcement and noncompliant retailers are warned about youth access laws)
- Community education regarding youth access laws
- Media use to publicize compliance inspection results
- Community mobilization to increase support for retailer compliance with youth access laws
- Other activities (Please list.) \_\_\_\_\_

Briefly describe all checked activities:

The Center for Tobacco Prevention and Control, within the Prevention and Health Promotions Administration, provides grants to local health departments for tobacco

enforcement. In SFY15, local health departments were funded to conduct tobacco retailer compliance checks, vendor education visits, local marketing and media campaigns, retailer trainings, develop educational programs for youth cited for possession of tobacco products and engage non-governmental organizations (NGO's) as partners to provide vendor and community education.

Minority Outreach and Technical Assistance (MOTA) organizations from the Office of Minority Health and Health Disparities were also funded to support local health department enforcement initiatives, conduct store-to-store education campaigns and community education on youth access to tobacco and nicotine products. These organizations were very important to the launch of the community and store campaigns since they were embedded in high risk communities, had public health and tobacco control expertise, and were respected leaders in their jurisdictions, and could rapidly deploy.

Statewide media efforts provided direct mailings of retailer guides to storeowners, radio, transit and billboard education ads. Messaging stresses responsible retailing and reinforces the law to not sell to youth under the age of 18.

Local health department staff provides merchants with training tools for store staff and basic (merchant education) education on the state youth access law. In some jurisdictions, merchants are rewarded with a window cling for store/public display and media announcements (description and incentives for merchants) for compliance with the state youth access laws. Local health coalitions support the state youth access law by encouraging citizens to report merchants who they believe are violating the state youth access law.

Several jurisdictions list the enforcement results by business name and address in the local newspaper, thus informing the community of the businesses who sold as well as the ones who refuse to sell tobacco products to minors.

Some local jurisdictions also have product placement ordinances that are enforceable. In these cases, local health departments fund the education and compliance activities associated with the ordinance.

The Behavioral Health Administration's contract with the FDA requires that inspection results are posted on the FDA's Web site for public viewing.

**f. Are citations or warnings issued to retailers or clerks who sell tobacco to minors for inspections that are part of the Synar survey?**

Yes    No

*If “Yes” to 5f, please describe the state’s procedure for minimizing risk of bias to the survey results from retailers alerting each other to the presence of the survey teams:*

No citations or warning letters are issued at the time of inspections to ensure that there is no risk of bias to the survey results. Regarding inspections performed under the FDA contract, once the collected inspection data is reviewed by the FDA, and a final determination is made, appropriate documentation is mailed to the retailers. For the Synar inspections performed outside the FDA contract, a letter of compliance or non-compliance is sent to the retailers along with educational materials.

## SYNAR SURVEY METHODS AND RESULTS

The following questions pertain to the survey methodology and results of the Synar survey used by the state to meet the requirements of the Synar Regulation in FFY 2015 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130).

**6. Has the sampling methodology changed from the previous year?**

Yes  No

*The state is required to have an approved up-to-date description of the Synar sampling methodology on file with CSAP. Please submit a copy of your Synar Survey Sampling Methodology (Appendix B). If the sampling methodology changed from the previous reporting year, these changes must be reflected in the methodology submitted.*

**7. Please answer the following questions regarding the state’s annual random, unannounced inspections of tobacco outlets (see 45 C.F.R. 96.130(d)(2)).**

**a. Did the state use the optional Synar Survey Estimation System (SSES) to analyze the Synar survey data?**

Yes  No

*If Yes, attach SSES summary tables 1, 2, 3, and 4 to the hard copy of the ASR and upload a copy of SSES tables 1–5 (in Excel) to WebBGAS. Then go to Question 8. If No, continue to Question 7b.*

**b. Report the weighted and unweighted Retailer Violation Rate (RVR) estimates, the standard error, accuracy rate (number of eligible outlets divided by the total number of sampled outlets), and completion rate (number of eligible outlets inspected divided by the total number of eligible outlets).**

**Unweighted RVR** \_\_\_\_\_

**Weighted RVR** \_\_\_\_\_

**Standard error (s.e.) of the (weighted) RVR** \_\_\_\_\_

**Fill in the blanks to calculate the right limit of the right-sided 95% confidence interval.**

\_\_\_\_\_ + (1.645 × \_\_\_\_\_) = \_\_\_\_\_  
**RVR Estimate**    plus    (1.645 times **Standard Error**)    equals    **Right Limit**

**Accuracy rate** \_\_\_\_\_

**Completion rate** \_\_\_\_\_

c. **Fill out Form 1 in Appendix A (Forms 1–5).** *(Required regardless of the sample design.)*

d. **How were the (weighted) RVR estimate and its standard error obtained?**  
*(Check the one that applies.)*

- Form 2 (Optional) in Appendix A (Forms 1–5) *(Attach completed Form 2.)*  
 Other *(Please specify. Provide formulas and calculations or attach and explain the program code and output with description of all variable names.)*

e. **If stratification was used, did any strata in the sample contain only one outlet or cluster this year?**

- Yes  No  No stratification

*If Yes, explain how this situation was dealt with in variance estimation.*

f. **Was a cluster sample design used?**

- Yes  No

*If Yes, fill out and attach Form 3 in Appendix A (Forms 1–5), and answer the following question.*

*If No, go to Question 7g.*

**Were any certainty primary sampling units selected this year?**

- Yes  No

*If Yes, explain how the certainty clusters were dealt with in variance estimation.*

g. **Report the following outlet sample sizes for the Synar survey.**

|  | Sample Size |
|--|-------------|
| <b>Effective sample size</b> (sample size needed to meet the SAMHSA precision requirement assuming simple random sampling)                     |             |
| <b>Target sample size</b> (the product of the effective sample size and the design effect)   |             |
| <b>Original sample size</b> (inflated sample size of the target sample to counter the sample attrition due to ineligibility and noncompletion) |             |
| <b>Eligible sample size</b> (number of outlets found to be eligible in the sample)   |             |
| <b>Final sample size</b> (number of eligible outlets in the sample for which an inspection was completed)                                      |             |

h. **Fill out Form 4 in Appendix A (Forms 1–5).**

**8. Did the state's Synar survey use a list frame?**

Yes  No

*If Yes, answer the following questions about its coverage.*

**a. The calendar year of the latest frame coverage study: 2013**

**b. Percent coverage from the latest frame coverage study: 92.64%**

**c. Was a new study conducted in this reporting period?**

Yes  No

*If Yes, please complete Appendix D (List Sampling Frame Coverage Study) and submit it with the Annual Synar Report.*

**d. The calendar year of the next coverage study planned: 2016**

**9. Has the Synar survey inspection protocol changed from the previous year?**

Yes  No

*The state is required to have an approved up-to-date description of the Synar inspection protocol on file with CSAP. Please submit a copy of your Synar Survey Inspection Protocol (Appendix C). If the inspection protocol changed from the previous year, these changes must be reflected in the protocol submitted.*

**a. Provide the inspection period: From 3/26/15 to 9/27/15**  
MM/DD/YY MM/DD/YY

**b. Provide the number of youth inspectors used in the current inspection year:**

11

NOTE: If the state uses SSES, please ensure that the number reported in 9b matches that reported in SSES Table 4, or explain any difference.

**b. Fill out and attach Form 5 in Appendix A (Forms 1–5). (Not required if the state used SSES to analyze the Synar survey data.)**

## SECTION II: FFY 2016 (Intended Use):

Public law 42 U.S.C. 300x-26 of the Public Health Service Act and 45 C.F.R. 96.130 (e) (4, 5) require that the states provide information on future plans to ensure compliance with the Synar requirements to reduce youth tobacco access.

### 1. In the upcoming year, does the state anticipate any changes in:

Synar sampling methodology  Yes  No

Synar inspection protocol  Yes  No

*If changes are made in either the Synar sampling methodology or the Synar inspection protocol, the state is required to obtain approval from CSAP prior to implementation of the change and file an updated Synar Survey Sampling Methodology (Appendix B) or an updated Synar Survey Inspection Protocol (Appendix C), as appropriate.*

### 2. Please describe the state's plans to maintain and/or reduce the target rate for Synar inspections to be completed in FFY 2016. Include a brief description of plans for law enforcement efforts to enforce youth tobacco access laws, activities that support law enforcement efforts to enforce youth tobacco access laws, and any anticipated changes in youth tobacco access legislation or regulation in the state.

The Center for Tobacco Prevention and Control (CPTC) in the Prevention and Health Promotion Administration (PHPA), along with the Behavioral Health Administration (BHA) has launched an initiative to address high rates of tobacco sales to Maryland youth under the age of 18 through enforcement of existing tobacco sales laws and promotion of responsible retailing in tobacco sales outlets.

As a result of Maryland's past non-compliance with Synar regulation standards, Governor Hogan negotiated an alternative penalty to avoid the 40% reduction to the SAPT Block Grant by offering new state funds to directly improve tobacco sales compliance. This funding is being made available to local health departments (LHD) during SFY 16 to increase tobacco sales enforcement.

In SFY16, local health departments are funded to continue conducting tobacco retailer compliance checks, vendor education visits, local marketing and media campaigns, and retailer trainings, develop educational programs for youth cited for possession of tobacco products and engage non-governmental organizations (NGO's) as partners to provide vendor and community education. Local health departments were organized by clusters based on FFY14 Retailer Violation Rates (RVR), number of tobacco sales outlets, population size and intensity of performance measures. Cluster I had the highest concentration of outlets, largest jurisdiction population size, the most tobacco sales outlets, high RVR rates, greater performance expectations and largest awards. As you move up in Cluster (II, III, IV), population size and tobacco outlet decreases, and most RVR's drop.

Minority Outreach and Technical Assistance (MOTA) organizations from the Office of Minority Health and Health Disparities are also funded to support local health departments' enforcement initiatives, conduct store-to-store education campaigns and community meetings on youth access to tobacco and nicotine products. These organizations were very important to the launch of the community and store campaigns and will be equally important as we try

to maintain the lower RVR rate. The media and marketing campaign will be expanded to other media formats and outlets and the Tobacco Retailer Guide will be enhanced.

The Maryland Behavioral Health Administration has a contractual agreement with the Food and Drug Abuse Administration's Center for Tobacco Products. The contact has strengthened Maryland's Youth Access to Tobacco Program by providing consistent statewide enforcement activities.

**3. Describe any challenges the state faces in complying with the Synar regulation. (Check all that apply.)**

- Limited resources for law enforcement of youth access laws
- Limited resources for activities to support enforcement and compliance with youth tobacco access laws
- Limitations in the state youth tobacco access laws
- Limited public support for enforcement of youth tobacco access laws
- Limitations on completeness/accuracy of list of tobacco outlets
- Limited expertise in survey methodology
- Laws/regulations limiting the use of minors in tobacco inspections
- Difficulties recruiting youth inspectors
- Issues regarding the age balance of youth inspectors
- Issues regarding the gender balance of youth inspectors
- Geographic, demographic, and logistical considerations in conducting inspections
- Cultural factors (e.g., language barriers, young people purchasing for their elders)
- Issues regarding sources of tobacco under tribal jurisdiction
- Other challenges (*Please list.*)\_\_\_\_\_

*Briefly describe all checked challenges and propose a plan for each, or indicate the state's need for technical assistance related to each relevant challenge.*

Maryland often experiences difficulties recruiting minors in some areas of the State, which has an impact on the required age. Not being able to hire 15 year olds limits recruitment capabilities.

In some areas of the state, BHA is able to work with guidance counselors to assist with positing recruitment flyers. In other areas, some districts will not collaborate because they perceive it as a legal liability.

The Administration has had some success with respect to posting flyers at Star Bucks, Panera and Atlanta Bread stores throughout the state and will continue this process. Outreach efforts on social media outlets, face book, twitter, etc. will continue as well.

## APPENDIX A: FORMS 1–5

### FORM 1 (Required for all states not using the Synar Survey Estimation System (SSES) to analyze the Synar Survey data)

Complete Form 1 to report sampling frame and sample information and to calculate the unweighted retailer violation rate (RVR) using results from the current year’s Synar survey inspections.

**Instructions for Completing Form 1:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2016). Provide the remaining information by stratum if stratification was used. Make copies of the form if additional rows are needed to list all the strata.

Column 1: *If stratification was used:*

1(a) Sequentially number each row.

1(b) Write in the name of each stratum. All strata in the state must be listed.

*If no stratification was used:*

1(a) Leave blank.

1(b) Write “state” in the first row (indicates that the whole state is a single stratum).

*Note for unstratified samples: For Columns 2–5, wherever the instruction refers to “each stratum,” report the specified information for the state as a whole.*

Column 2: 2(a) Report the number of over-the-counter (OTC) outlets in the sampling frame in each stratum.

2(b) Report the number of vending machine (VM) outlets in the sampling frame in each stratum.

2(c) Report the combined total of OTC and VM outlets in the sampling frame in each stratum.

Column 3: 3(a) Report the estimated number of eligible OTC outlets in the OTC outlet population in each stratum.

3(b) Report the estimated number of eligible VM outlets in the VM outlet population in each stratum.

3(c) Report the combined total estimated number of eligible OTC and VM outlets in the total outlet population in each stratum.

*The estimates for Column 3 can be obtained from the Synar survey sample as the weighted sum of eligible outlets by outlet type.*

Column 4: 4(a) Report the number of eligible OTC outlets for which an inspection was completed, for each stratum.

4(b) Report the numbers of eligible VM outlets for which an inspection was completed, for each stratum.

4(c) Report the combined total of eligible OTC and VM outlets for which an inspection was completed, for each stratum.

Column 5: 5(a) Report the number of OTC outlets found in violation of the law as a result of completed inspections, for each stratum.

5(b) Report the number of VM outlets found in violation of the law as a result of completed inspections, for each stratum.

5(c) Report the combined total of OTC and VM outlets found in violation of the law as a result of completed inspections, for each stratum.

Totals: For each subcolumn (a–c) in Columns 2–5, provide totals for the state as a whole in the last row of the table. These numbers will be the sum of the numbers in each row for the respective column.



## FORM 2 (Optional)

### Appropriate for stratified simple or systematic random sampling designs.

Complete Form 2 to calculate the weighted RVR. This table (in Excel form) is designed to calculate the weighted RVR for stratified simple or systematic random sampling designs, accounting for ineligible outlets and noncomplete inspections encountered during the annual Synar survey.

**Instructions for Completing Form 2:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2016).

- Column 1: Write in the name of each stratum into which the sample was divided. These should match the strata reported in Column 1(b) of Form 1.
- Column 2: Report the number of outlets in the sampling frame in each stratum. These numbers should match the numbers reported for the respective strata in Column 2(c) of Form 1.
- Column 3: Report the original sample size (the number of outlets originally selected, *including* substitutes or replacements) for each stratum.
- Column 4: Report the number of sample outlets in each stratum that were found to be eligible during the inspections. Note that this number must be less than or equal to the number reported in Column 3 for the respective strata.
- Column 5: Report the number of eligible outlets in each stratum for which an inspection was completed. Note that this number must be less than or equal to the number reported in Column 4. These numbers should match the numbers reported in Column 4(c) of Form 1 for the respective strata.
- Column 6: Report the number of eligible outlets inspected in each stratum that were found in violation. These numbers should match the numbers reported in Column 5(c) of Form 1 for the stratum.
- Column 7: Form 2 (in Excel form) will automatically calculate the stratum RVR for each stratum in this column. This is calculated by dividing the number of inspected eligible outlets found in violation (Column 6) by the number of inspected eligible outlets (Column 5). The state unweighted RVR will be shown in the Total row of Column 7.
- Column 8: Form 2 (in Excel form) will automatically calculate the estimated number of eligible outlets in the population for each stratum. This calculation is made by multiplying the number of outlets in the sampling frame (Column 2) times the number of eligible outlets (Column 4) divided by the original sample size (Column 3). Note that these numbers will be less than or equal to the numbers in Column 2.
- Column 9: Form 2 (in Excel form) will automatically calculate the relative stratum weight by dividing the estimated number of eligible outlets in the population for each stratum in Column 8 by the Total of the values in Column 8.
- Column 10: Form 2 (in Excel form) will automatically calculate each stratum's contribution to the state weighted RVR by multiplying the stratum RVR (Column 7) by the relative stratum weight (Column 9). The weighted RVR for the state will be shown in the Total row of Column 10.
- Column 11: Form 2 (in Excel form) automatically calculates the standard error of each stratum's RVR (Column 7). The standard error for the state weighted RVR will be shown in the Total row of Column 11.
- TOTAL: For Columns 2–6, Form 2 (in Excel form) provides totals for the state as a whole in the last row of the table. For Columns 7–11, it calculates the respective statistic for the state as a whole.

**FORM 2 (Optional) Appropriate for stratified simple or systematic random sampling designs.**

| Calculation of Weighted Retailer Violation Rate |  |                                     |  |  |  |   |   |  |  |   |
|---|--|-------------------------------------|--|--|--|---|---|--|--|---|
|   |  |                                     |  |  |  |   |   |  |  | State: _____  |
|   |  |                                     |  |  |  |   |   |  |  | FFY: 2016   |
| (1)<br>Stratum<br>Name                          | (2)<br>N<br>Number of<br>Outlets<br>in Sampling<br>Frame | (3)<br>n<br>Original<br>Sample Size | (4)<br>n1<br>Number of<br>Sample<br>Outlets<br>Found<br>Eligible | (5)<br>n2<br>Number of<br>Outlets<br>Inspected | (6)<br>x<br>Number of<br>Outlets Found<br>in Violation | (7)<br>p=x/n2<br>Stratum<br>Retailer<br>Violation<br>Rate | (8)<br>N'=N(n1/n)<br>Estimated<br>Number of<br>Eligible<br>Outlets in<br>Population | (9)<br>w=N'/Total<br>Column 8<br>Relative<br>Stratum<br>Weight | (10)<br>pw<br>Stratum<br>Contribution<br>to State<br>Weighted<br>RVR | (11)<br>s.e.<br>Standard<br>Error of<br>Stratum RVR |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
|   |  |                                     |  |  |  |   |   |  |  |   |
| <b>Total</b>                                    |  |                                     |  |  |  |   |   |  |  |   |

- N - number of outlets in sampling frame
- n - original sample size (number of outlets in the original sample)
- n1 - number of sample outlets that were found to be eligible
- n2 - number of eligible outlets that were inspected
- x - number of inspected outlets that were found in violation
- p - stratum retailer violation rate (p=x/n2)
- N' - estimated number of eligible outlets in population (N'=N\*n1/n)
- w - relative stratum weight (w=N'/Total Column 8)
- pw - stratum contribution to the weighted RVR
- s.e. - standard error of the stratum RVR

**FORM 3 (Required when a cluster design is used for all states not using the Synar Survey Estimation System [SSES] to analyze the Synar survey data.)**

Complete Form 3 to report information about primary sampling units when a cluster design was used for the Synar survey.

**Instructions for Completing Form 3:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2016).

Provide information by stratum if stratification was used. Make copies of the form if additional rows are needed to list all the strata.

Column 1: Sequentially number each row.

Column 2: *If stratification was used:* Write in the name of stratum. All strata in the state must be listed.

*If no stratification was used:* Write “state” in the first row to indicate that the whole state constitutes a single stratum.

Column 3: Report the number of primary sampling units (PSUs) (i.e., first-stage clusters) created for each stratum.

Column 4: Report the number of PSUs selected in the original sample for each stratum.

Column 5: Report the number of PSUs in the final sample for each stratum.

TOTALS: For Columns 3–5, provide totals for the state as a whole in the last row of the table.

| <b>Summary of Clusters Created and Sampled</b> |                     |                                  |                                   |   |
|--|---------------------|----------------------------------|-----------------------------------|---|
| <b>State:</b> _____                            |                     |                                  |                                   |   |
| <b>FFY:</b> 2016 _____                         |                     |                                  |                                   |   |
| (1)<br>Row #                                   | (2)<br>Stratum Name | (3)<br>Number of PSUs<br>Created | (4)<br>Number of PSUs<br>Selected | (5)<br>Number of PSUs<br>in the Final<br>Sample |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
|  |                     |                                  |                                   |   |
| <b>Total</b>                                   |                     |                                  |                                   |   |

**FORM 4 (Required for all states not using the Synar Survey Estimation System [SSES] to analyze the Synar Survey data)**

Complete Form 4 to provide detailed tallies of ineligible sample outlets by reasons for ineligibility and detailed tallies of eligible sample outlets with noncomplete inspections by reasons for noncompletion.

**Instructions for Completing Form 4:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2016).

Column 1(a): Enter the number of sample outlets found ineligible for inspection by reason for ineligibility. Provide the total number of ineligible outlets in the row marked "Total."

Column 2(a): Enter the number of eligible sample outlets with noncomplete inspections by reason for noncompletion. Provide the total number of eligible outlets with noncomplete inspections in the row marked "Total."

| <b>Inspection Tallies by Reason of Ineligibility or Noncompletion</b> |                       |   |                       |
|---|-----------------------|---|-----------------------|
|   |                       | <b>State:</b> _____                                     |                       |
|   |                       | <b>FFY:</b> 2016  |                       |
| <b>(1)<br/>INELIGIBLE</b>   |                       | <b>(2)<br/>ELIGIBLE</b>                                 |                       |
| <b>Reason for Ineligibility</b>                                       | <b>(a)<br/>Counts</b> | <b>Reason for Noncompletion</b>                         | <b>(a)<br/>Counts</b> |
| Out of business   |                       | In operation but closed at time of visit                |                       |
| Does not sell tobacco products  |                       | Unsafe to access  |                       |
| Inaccessible by youth   |                       | Presence of police                                      |                       |
| Private club or private residence                                     |                       | Youth inspector knows salesperson                       |                       |
| Temporary closure   |                       | Moved to new location                                   |                       |
| Unlocatable   |                       | Drive-thru only/youth inspector has no driver's license |                       |
| Wholesale only/Carton sale only                                       |                       | Tobacco out of stock                                    |                       |
| Vending machine broken  |                       | Ran out of time   |                       |
| Duplicate   |                       | Other noncompletion reason(s) ( <i>Describe.</i> )      |                       |
| Other ineligibility reason(s) ( <i>Describe.</i> )                    |                       |   |                       |
| <b>Total</b>  |                       | <b>Total</b>  |                       |

**FORM 5 (Required for all states not using the Synar Survey Estimation System [SSES] to analyze the Synar survey data)**

Complete Form 5 to show the distribution of outlet inspection results by age and gender of the youth inspectors.

**Instructions for Completing Form 5:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2016).

Column 1: Enter the number of attempted buys by youth inspector age and gender.

Column 2: Enter the number of successful buys by youth inspector age and gender.

If the inspectors are age eligible but the gender of the inspector is unknown, include those inspections in the “Other” row. Calculate subtotals for males and females in rows marked “Male Subtotal” and “Female Subtotal.” Sum subtotals for Male, Female, and Other and record in the bottom row marked “Total.” Verify that the total of attempted buys and successful buys equals the total for Column 4(c) and Column 5(c), respectively, on Form 1. If the totals do not match, please explain any discrepancies.

| <b>Synar Survey Inspector Characteristics</b> |                       |                        |
|---|-----------------------|------------------------|
|   |                       | <b>State:</b> _____    |
|   |                       | <b>FFY:</b> 2016       |
|   | (1)<br>Attempted Buys | (2)<br>Successful Buys |
| <b>Male</b>                                   |                       |                        |
| 15 years                                      |                       |                        |
| 16 years                                      |                       |                        |
| 17 years                                      |                       |                        |
| 18 years                                      |                       |                        |
| <b>Male Subtotal</b>                          |                       |                        |
| <b>Female</b>                                 |                       |                        |
| 15 years                                      |                       |                        |
| 16 years                                      |                       |                        |
| 17 years                                      |                       |                        |
| 18 years                                      |                       |                        |
| <b>Female Subtotal</b>                        |                       |                        |
| <b>Other</b>                                  |                       |                        |
| <b>Total</b>                                  |                       |                        |

## **APPENDIXES B & C: FORMS**

### Instructions

Appendix B (Sampling Design) and Appendix C (Inspection Protocol) are to reflect the state's CSAP-approved sampling design and inspection protocol. These appendixes, therefore, should generally describe the design and protocol and, with the exception of Question #10 of Appendix B, are not to be modified with year-specific information. Please note that any changes to either appendix must receive CSAP's advance, written approval. To facilitate the state's completion of this section, simply cut and paste the previously approved sampling design (Appendix B) and inspection protocol (Appendix C).

## APPENDIX B: SYNAR SURVEY SAMPLING METHODOLOGY

State: Maryland  
 FFY: 2016

**1. What type of sampling frame is used?**

- List frame (*Go to Question 2.*)
- Area frame (*Go to Question 3.*)
- List-assisted area frame (*Go to Question 2.*)

**2. List all sources of the list frame. Indicate the type of source from the list below. Provide a brief description of the frame source. Explain how the lists are updated (method), including how new outlets are identified and added to the frame. In addition, explain how often the lists are updated (cycle). (*After completing this question, go to Question 4.*)**

*Use the corresponding number to indicate Type of Source in the table below.*

- |   |  |
|---|--|
| 1 – Statewide commercial business list    | 4 – Statewide retail license/permit list |
| 2 – Local commercial business list        | 5 – Statewide liquor license/permit list |
| 3 – Statewide tobacco license/permit list | 6 – Other                                |

| Name of Frame Source                               | Type of Source | Description   | Updating Method and Cycle   |
|--|----------------|---|---|
| Office of the Maryland Comptroller of the Treasury | 3              | Statewide list of licensed tobacco retail outlets with license numbers, trade names, addresses and corporate names. | Tobacco retail licenses are issued by jurisdictions as part of an ongoing joint registration process. The statewide list is updated whenever a new license is issued. |
|  |                |   |   |

**3. If an area frame is used, describe how area sampling units are defined and formed.**

**a. Is any area left out in the formation of the area frame?**

- Yes    No

*If Yes, what percentage of the state’s population is not covered by the area frame?*  
 \_\_\_\_\_%

**4. Federal regulation requires that vending machines be inspected as part of the Synar survey. Are vending machines included in the Synar survey?**

- Yes    No

**NOTE: While vending machines were included in the Synar Survey none of the randomly selected outlets had a vending machine. We have seen a decrease in vending machines as many retailers are removing them due to the new Federal Regulations.**

If **No**, please indicate the reason(s) they are not included in the Synar survey. Please check all that apply.

- State law bans vending machines.
- State law bans vending machines from locations accessible to youth.
- State has a contract with the FDA and is actively enforcing the vending machine requirements of the Family Smoking Prevention and Tobacco Control Act.
- Other (Please describe.) \_\_\_\_\_

**5. Which category below best describes the sample design? (Check only one.)**

- Census** (STOP HERE: Appendix B is complete.)

**Unstratified statewide sample:**

- Simple random sample (Go to Question 9.)
- Systematic random sample (Go to Question 6.)
- Single-stage cluster sample (Go to Question 8.)
- Multistage cluster sample (Go to Question 8.)

**Stratified sample:**

- Simple random sample (Go to Question 7.)
- Systematic random sample (Go to Question 6.)
- Single-stage cluster sample (Go to Question 7.)
- Multistage cluster sample (Go to Question 7.)
- Other** (Please describe and go to Question 9.) \_\_\_\_\_

**6. Describe the systematic sampling methods.** (After completing Question 6, go to Question 7 if stratification is used. Otherwise go to Question 9.)

**7. Provide the following information about stratification.**

**a. Provide a full description of the strata that are created.**

Twenty-four jurisdictions (23 counties and the City of Baltimore) are used in the strata. A random sample of 10% of the licensed tobacco retailers in each of the state's twenty-four subdivisions is used.

**b. Is clustering used within the stratified sample?**

- Yes** (Go to Question 8.)
- No** (Go to Question 9.)

**8. Provide the following information about clustering.**

**a. Provide a full description of how clusters are formed.** (If multistage clusters are used, give definitions of clusters at each stage.)

- b. Specify the sampling method (simple random, systematic, or probability proportional to size sampling) for each stage of sampling and describe how the method(s) is (are) implemented.

9. Provide the following information about determining the Synar Sample.

- a. Was the Synar Survey Estimation System (SSES) used to calculate the sample size?

Yes (Respond to part b.)

No (Respond to part c and Question 10c.)

- b. SSES Sample Size Calculator used?

State Level (Respond to Question 10a.)

Stratum Level (Respond to Question 10a and 10b.)

- c. Provide the formulas for determining the effective, target, and original outlet sample sizes.

Effective sample size:

$$n_e = \frac{1}{\left( \frac{(0.0182)^2}{P(1-P)} + \frac{1}{N} \right)},$$

where  $P$  is the retailer violation rate; 0.0182 is the standard error of the retailer violation rate estimate to meet the SAMHSA precision requirement; and  $N$  is the number of outlets in the population.

The target sample size is the effective sample size multiplied by the design effect from the previous year's survey.

Original sample size is determined simply by 10 percent of the sampling frame size, and it is proportionally allocated to the 24 strata. Therefore, 10 percent of outlets from each stratum are sampled.

10. Provide the following information about sample size calculations for the current FFY Synar survey.

- a. If the state uses the sample size formulas embedded in the SSES Sample Size Calculator to calculate the state level sample size, please provide the following information:

**Inputs for Effective Sample Size:**

RVR: 31.4%

Frame Size: 5,667

**Input for Target Sample Size:**

Design Effect: 0.9%

**Inputs for Original Sample Size:**

Safety Margin:

Accuracy (Eligibility) Rate:

Completion Rate:

Since Maryland does not use SSES sample size calculator, the calculated original sample size is further inflated to equal 10% of the sampling frame.

- b. If the state uses the sample size formulas embedded in the SSES Sample Size Calculator to calculate the stratum level sample sizes, please provide the stratum level information:**

|  |
|--|
|  |
|--|

- c. If the state does not use the sample size formulas embedded in the SSES Sample Size Calculator, please provide all inputs required to calculate the effective, target, and original sample sizes as indicated in Question 9.**

|  |
|--|
| Original sample size is determined simply by 10% of the sampling frame size, and it is proportionally allocated to the 24 strata. Therefore, 10% of outlets from each stratum are sampled. |
|--|

## APPENDIX C: SYNAR SURVEY INSPECTION PROTOCOL

State: Maryland

FFY: 2016

*Note: Upload to WebBGAS a copy of the Synar inspection form under the heading “Synar Inspection Form” and a copy of the protocol used to train inspection teams on conducting and reporting the results of the Synar inspections under the heading “Synar Inspection Protocol.”*

### 1. How does the state Synar survey protocol address the following?

#### a. Consummated buy attempts?

- Required  
 Permitted under specified circumstances (Describe:)  
 Not permitted

#### b. Youth inspectors to carry ID?

- Required  
 Permitted under specified circumstances (Describe:)  
 Not permitted

#### c. Adult inspectors to enter the outlet?

- Required  
 Permitted under specified circumstances (Describe:)  
 Not permitted

#### d. Youth inspectors to be compensated?

- Required  
 Permitted under specified circumstances (Describe:)  
 Not permitted

### 2. Identify the agency(ies) or entity(ies) that actually conduct the random, unannounced Synar inspections of tobacco outlets. (Check all that apply.)

- Law enforcement agency(ies)  
 State or local government agency(ies) other than law enforcement  
 Private contractor(s)  
 Other

List the agency name(s): Behaviorial Health Administration

### 3. Are Synar inspections combined with law enforcement efforts (i.e., do law enforcement representatives issue warnings or citations to retailers found in violation of the law at

the time of the inspection?)?

- Always    Usually    Sometimes    Rarely    Never

**4. Describe the type of tobacco products that are requested during Synar inspections.**

**a. What type of tobacco products are requested during the inspection?**

- Cigarettes  
 Small Cigars/Cigarillos  
 Smokeless Tobacco  
 Other

**b. Describe the protocol for identifying what types of products and what brands of products are requested during an inspection.**

The minors are instructed to ask for the brand of cigarettes that they are most comfortable requesting. Generally, the brand is the one that is most popular among their peers.

**5. Describe the methods used to recruit, select, and train youth inspectors and adult supervisors.**

Methods are described in the Training Documents uploaded into WebBGAS.

**6. Are there specific legal or procedural requirements instituted by the state to address the issue of youth inspectors' immunity when conducting inspections?**

**a. Legal**

- Yes    No

*(If Yes, please describe.)*

The youth inspectors are granted immunity for possession of tobacco products by Maryland Law Section 10-108. It states that anyone employed (minor acting solely as an agent) by the State for the purpose of attempting to purchase tobacco products is exempt from the statute prohibiting such actions.

**b. Procedural**

- Yes    No

*(If Yes, please describe.)*

**7. Are there specific legal or procedural requirements instituted by the state to address the issue of the safety of youth inspectors during all aspects of the Synar inspection process?**

**a. Legal**

- Yes    No

*(If Yes, please describe.)*

Maryland law requires that seat belts be worn at all times while in the vehicle.

**b. Procedural**

Yes  No

*(If Yes, please describe.)*

The youth inspector must wear a seat belt at all times while in the vehicle. The Adult Inspector will enforce the wearing of the seat belt. If an outlet appears to be unsafe, the student will not be permitted to enter. The adult inspectors must accompany the minors into the store unless the store is not large enough to accommodate them both or if it is a walk up situation. The youth inspector must be in the sight of the Adult Inspector at all times. The youth must not engage in any activities that would distract the adult from the ability to safely operate the vehicle. Each Youth Investigator (minor) is assigned a three digit Identification number. This number is used in lieu of their name to conceal their identity.

**8. Are there any other legal or procedural requirements the state has regarding how inspections are to be conducted (e.g., age of youth inspector, time of inspections, training that must occur)?**

**a. Legal**

Yes  No

*(If Yes, please describe.)*

**b. Procedural**

Yes  No

*(If Yes, please describe.)*

Commissioned Officers, adult investigators and youth inspectors will carry appropriate Maryland State and Federal identification. A portion of the Synar inspections will be performed by FDA Commissioned Officers using the FDA Inspection Protocol and Data for reporting. The remaining Synar inspections will be performed using the protocol below (all inspections will be consummated). The youth inspectors will be 16 to 17 years of age and will not be permitted to perform undercover buy inspections one month prior to turning 18 years of age. They will work an average of 20-32 hours per week. The youth inspectors are granted immunity for possession of tobacco products by Maryland Law Section 10-108. Each youth inspector is assigned a three digit identification number to conceal their identity.

The adult investigators will pick up the youth inspectors at home or with written parental consent from school and proceed to the first of several tobacco outlets to be

inspected for that day. The adult investigators will park in a safe inconspicuous space; and prior to entering the outlet, provide the youth inspector with money should the inspection result in a buy. If it has been determined that the outlet is safe, the youth inspector and the adult investigator will enter the outlet separately. If the adult investigator cannot accompany the minor into the outlet, the adult investigator must have the youth inspector in clear view at all times. If an outlet appears to be unsafe, the youth inspector will not be permitted to enter the outlet. The protection of the youth inspector is of the utmost importance; therefore, they are in sight of the adult investigator at all times. The youth inspector will enter and proceed to the counter and attempt to make a purchase. The adult investigator will enter right before or right after the youth inspector so as to be close enough to hear and observe the attempted buy. If the clerk asks for the youth inspector's identification, the youth inspector will provide their state (MVA) issued identification. If the clerk asks them their age, they will tell their real age. Once the inspection has been completed, they will return to the vehicle. If a purchase is made, the youth inspector will hand over all remaining money and tobacco to the adult investigator. The adult investigator will complete the inspection form as per BHA protocol. The youth inspector will complete a BHA attestation form to verify sale. Once the adult investigator has completed the inspection form, they will proceed to the next location until all inspections are completed for that day. When the inspections are completed, the adult investigators will drop the youth inspectors off at home. The youth are not permitted to be dropped off any place other than their home. The completed inspection forms are delivered to the BHA Synar Coordinator for analysis. The data will be entered into an excel spreadsheet and uploaded into Synar Survey Estimation System software (SSES).

## APPENDIX D: LIST SAMPLING FRAME COVERAGE STUDY

(LIST FRAME ONLY)

State: Maryland

FFY: 2016

1. Calendar year of the coverage study: 2013
2.
  - a. Unweighted percent coverage found: 83.1%
  - b. Weighted percent coverage found: 92.64%
  - c. Number of outlets found through canvassing: 160
  - d. Number of outlets matched on the list frame: 133
3.
  - a. Describe how areas were defined. (e.g., census tracts, counties, etc.)

The coverage study design utilized an area frame based on all of the 1,351 census tracts that divide the area of the State of Maryland into the sampling units. The existing list frame (Licensed Tobacco Retailers List) was used to estimate the number of outlets per census tracts by geo-coding the list frame addresses and identifying census tract number for each address.

- b. Were any areas of the state excluded from sampling?

Yes  No

If Yes, please explain.

4. Please answer the following questions about the selection of canvassing areas.
  - a. Which category below best describes the sample design? (Check only one.)  
 Census (Go to Question 6.)  
**Unstratified statewide sample:**  
 Simple random sample (Respond to Part b.)  
 Systematic random sample (Respond to Part b.)  
 Single-stage cluster sample (Respond to Parts b and d.)  
 Multistage cluster sample (Respond to Parts b and d.)  
**Stratified sample:**  
 Simple random sample (Respond to Parts b and c.)  
 Systematic random sample (Respond to Parts b and c.)  
 Single-stage cluster sample (Respond to Parts b, c, and d.)  
 Multistage cluster sample (Respond to Parts b, c, and d.)  
 Other (Please describe and respond to Part b.) \_\_\_\_\_

**b. Describe the sampling methods.**

The State can realistically canvass about 20-25 census tracts, and the new sampling design had to take this limitation into account. To achieve this number, the State was stratified by counties (23 counties + Baltimore City), and one census tract was selected within a county using PPS (Probability Proportional to Size) sampling using a size measure that is inversely proportional to the census tract square mileage. Census tract square mileage is readily available, and in this sampling design the preference is given to smaller tracts which are generally those with higher population density (census tracts are generally divided to represent about 4,000 persons), and hence higher retailer outlet density. A Sample was drawn from the area frame of 1,351 census tracts using SAS Version 9.2 SURVEY SELECT procedure with PPS method, and sampling weights were generated to be included in the weighted coverage rate calculations.

**c. Provide a full description of the strata that were created.**

The list frame consisting of Maryland tobacco licensed retailers was used to estimate the number of outlets in each area of the frame. The list contained physical addresses which were geo-coded into coordinates to obtain census tract information using SAS 9.2. The number of outlets per census tract was obtained based on the list frame. Census tract was considered the most sensible sampling unit for the coverage study. The entire State of Maryland is divided into census tracts, and thus all parts of the State are accounted for by a census tract. It means that as a sampling unit, each census tract (=any area in the State) has a non-zero probability of selection. The State census tract information came from the State of Maryland Department of Planning website which had Tiger shape files available for download for each census block, block group and tract. There were a total of 1,351 census tracts in the State of Maryland, with 0 to approximately 30 outlets per tract, depending on the county. This range is an underestimate because some addresses could not be successfully geo-coded. The census tracts were not combined to accumulate to the minimum of 7 outlets adhering to the principle of parsimony and to make the job of canvassers easier. For example, Caroline County had eight census tracts with 2-6 outlets per tract, and Somerset County with 4 census tracts containing 3-4 outlets per tract. If these census tracts were combined, canvassers would have to cover the entire county, which is labor-intensive.

Based on the above exercise, complete list of census tracts was used as an area frame with a census tract as a sampling unit. The square mileage for each census tract was obtained, and the inverse of the square mileage was used as a population size measure (the smaller the area, the higher population density). The area frame was stratified by county (total of 24 counties) and a sample of 1 tract was chosen per county using sampling proportional to size of population density (to select the tracts with smaller area to assist with canvassing efforts and conserve State resources). The State could realistically canvass about 20-25 areas, and achieving a target of 130-200 outlets would be difficult with simple random sampling.

**d. Provide a full description of how clusters were formed.**

**5. Were borders of the selected areas clearly identified at the time of canvassing?**

Yes  No

**6. Were all sampled areas visited by canvassing teams?**

Yes (*Go to Question 7.*)  No (*Respond to Parts a and b.*)

**a. Was the subset of areas randomly chosen?**

Yes  No

**b. Describe how the subsample of visited areas was drawn. Include the number of areas sampled and the number of areas canvassed.**

**7. Were field observers provided with a detailed map of the canvassing areas?**

Yes  No

*If No, describe the canvassing instructions given to the field observers.*

**8. Were field observers instructed to find all outlets in the assigned area?**

Yes  No

*If No, respond to Question 9.*

*If Yes, describe any instructions given to the field observers to ensure the entire area was canvassed, then go to Question 10.*

Canvassers had no information about the list of licensed tobacco retail outlets. The field study included the following activities: (1) canvassing businesses in the selected census tracts to identify those that sell tobacco products and are accessible to minors; (2) conducting interviews with personnel from the identified outlets to obtain the necessary information to complete the Coverage Study Inspection Form (Appendix B)

1. For each of the selected census tracts a map was obtained using 2010 Census Reference Maps by county for the State of Maryland  
[http://www.census.gov/geo/www/maps/pl10\\_map\\_suite/st24\\_tract.html](http://www.census.gov/geo/www/maps/pl10_map_suite/st24_tract.html).
  - a. Maps were “translated” into street maps for canvassers to print out and use in the field.
  - b. Travel routes were planned carefully for efficiency and thoroughness if a detailed street map was obtained.
  - c. Outlets located on either side of a street acting as a boundary to a census tract were inspected for inclusion the coverage study.
  - d. The addresses were later geo-coded and census tract information obtained to exclude any outlets that were sampled but were not part of a census tract.

2. All outlets that could possibly sell tobacco products and that are accessible to minors were physically inspected.
  - a) The Inspector entered the location to verify the availability of tobacco.
  - b) If tobacco products were sold, the Inspector initiated the interview. If tobacco products are not readily seen, the Inspector asked a clerk if tobacco products are sold. For example, “Do you sell cigarettes?” If the business did not sell, the Inspector left the establishment.
3. Inspectors had an ample supply of blank Coverage Study Inspection Forms. The form was used to conduct the interview once an outlet is identified as selling tobacco and accessible to minors.
  - a) All interviews began with the Inspector identifying him/herself as a Department of Health and Mental Hygiene, Alcohol and Drug Abuse Administration Employee (now the BHA) and announcing that a field study is being conducted relating to the sale of tobacco products. The interview included the presentation of the Inspector’s badge and State ID.
  - b) The Inspector indicated that as a tobacco retailer, they will be asked to participate in a brief interview pertaining to general business information. The Inspector spoke with the person best suited to respond.
  - c) The Inspector conducted the interview and recorded the information including other available resources such as licenses, signage, etc. that would provide additional information useful in the study.
  - d) Upon completion of the interview, the Inspector thanked the employee.
  - e) When the Inspector completed the canvassing of a census tract, he/she completed the Coverage Study Tracking Form (Attachment C).
  - f) As each census tract was completed, the Inspector made a final check that all routes and locations on the map had been covered by reviewing Attachment C and by verifying that all necessary information about the identified outlets had been gathered and recorded on the Coverage Study Inspection Forms. These forms were returned to the Tobacco Compliance Chief.

**9. If a full canvassing was not conducted:**

- a. **How many predetermined outlets were to be observed in each area?**
- b. **What were the starting points for each area? \_\_\_\_\_**
- c. **Were these starting points randomly chosen?**  
 Yes    No
- d. **Describe the selection of the starting points.**

- e. **Please describe the canvassing instructions given to the field observers,**

including predetermined routes.

**10. Describe the process field observers used to determine if an outlet sold tobacco.**

All outlets that could possibly sell tobacco products and that are accessible to minors were physically inspected.

**11. Please provide the state’s definition of “matches” or “mismatches” to the Synar sampling frame? (i.e., address, business name, business license number, etc).**

The addresses on the form will be compiled in a list and geo-coded using SAS 9.2 to obtain census tract information for each to exclude any outlets that were sampled but not part of the census tract. This is most relevant for those outlets on the boundaries of census tracts.

Using the information collected on the Coverage Study Interview Forms, the Tobacco Compliance Chief will cross-reference this information with the Licensed Tobacco Retailer list. When a match is found, the “License Number” assigned to the Licensed Tobacco Retailer listing will be recorded on the form. Obvious indicators qualifying as matches included trade name, address and phone number. When a match is not found, a more thorough investigation will occur to explore variations in street names, change in outlet name, misspellings, transposed numbers, etc. If necessary, the Chief will check back with the Inspector or contact the relevant outlet/s to clarify and confirm the situation. After the necessary thorough investigation is completed, and the outlet is not found in the list frame, it will be classified as missing from the list frame.

**12. Provide the calculation of the weighted percent coverage (if applicable).**

After all inspection forms have been analyzed for matches the following information will be recorded and calculated for each census tract.

the total number (*b*) of matched outlets.

the total number (*n*) of outlets found

Census Tract Coverage Rate = 100 x *b/n*.

The overall coverage rate will be calculated using the total of matched outlets (B) and found outlets (N), and also the weighted coverage rate will be calculated using the following formula:

Weighted coverage rate: 
$$\sum_{h=1}^{24} \frac{N_h}{N} * CR_h$$

Where CR = coverage rate, h=county (1-24), N<sub>h</sub> = number of census tracts in the county, N = total number of census tracts