

# **ANNUAL SYNAR REPORT**

**42 U.S.C. 300x-26**

**OMB № 0930-0222**

**FFY 2023**

**State: WY**

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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 2021 Compliance Progress) and future plans to ensure compliance with the Synar requirements to reduce youth tobacco access rates (FFY 2022 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, 2021 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:

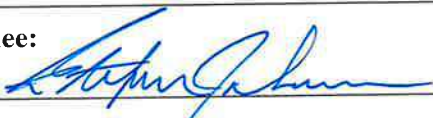
- FFY 2022 Synar Survey Results: States that use the Synar Survey Estimation System (SSES) must upload one copy of *SSES Tables 1–8* (in Excel) to WebBGAS. **Please note that, in the FFY 2022 ASR, SSES will generate Tables 6, 7, and 8, which are based on the optional microdata on product type, retail outlet type, and whether identification was requested. If your state does not submit these optional data, Tables 6, 7, and 8 will be blank. Tables 6, 7, and 8 are generated for the convenience of the state, and states are not required to submit completed versions of Tables 6, 7, or 8.** 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), as well as a database with the raw inspection data 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. This document should be different than the Appendix C attached to the Annual Synar Report.
- 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.



## FFY 2022: 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 2022 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 2022 is up-to-date and approved by the Center for Substance Abuse Prevention.	
<b>State: WYOMING</b>	
<b>Name of Chief Executive Officer or Designee: Stefan Johansson</b>	
<b>Signature of CEO or Designee:</b> 	
<b>Title:</b> Director, Wyoming Department of Health	<b>Date Signed:</b> 11/25/22
<b>If signed by a designee, a copy of the designation must be attached.</b>	

## SECTION I: FFY 2021 (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 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

Changed definition of tobacco products

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

Added product

categories to youth access law  Yes  No

2. Describe how the Annual Synar Report (see 45 C.F.R. 96.130(e)) was 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 2022 ASR was posted to this Web address.)

Web address:

<https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/synar-program/>

Date published: November 23, 2022

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:**

Wyoming Department of Health, Public Health Division

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

- Yes  No

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

Inspections are coordinated by the Wyoming Survey & Analysis Center (WYSAC) at the University of Wyoming in partnership with the Wyoming Association of Sheriffs and Chiefs of Police (WASCOP)

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):**

Local law enforcement

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).**

Wyoming Department of Health

- 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.)* \_\_\_\_\_
- No relationship

**d. Does a state agency contract with the Food and Drug Administration's Center for Tobacco Products (FDA/CTP) to enforce the youth access and advertising restrictions in the Family Smoking Prevention and Tobacco Control Act?**  
 Yes  No (if no, go to Question 5)

**e. If yes, 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)).**

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**f. Has the responsible agency changed since last year's Annual Synar Report?**  
 Yes  No

**g. 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.)* \_\_\_\_\_
- No relationship

**h. 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 2021 (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 local laws or 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>	3	62	74
Number of <u>finest assessed</u>	1	25	30
Number of <u>permits/licenses suspended</u>	UNK		UNK
Number of <u>permits/licenses revoked</u>	UNK		UNK
Other (Please describe.)			

- c. 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 5c, 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:

- d. 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.

- e. 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

- f. What additional activities are conducted in your state to support enforcement and compliance with state youth tobacco access law(s)? (Check all that apply and briefly describe each activity in the text boxes below each activity.)

Merchant education and/or training

Retail education materials created by WASCOP are disseminated to tobacco outlets prior to the citation-driven compliance inspections by law enforcement.

- 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

Community Prevention Specialists (CPSs) provide prevention services in 22 Wyoming counties and often collaborate to increase community awareness around tobacco prevention. They also help distribute educational information through their local law enforcement agencies and community coalitions.

- Media use to publicize compliance inspection results

WASCOP has created a news release template that is utilized for municipality-specific efforts after tobacco compliance checks have been conducted by local law enforcement agencies.

- Community mobilization to increase support for retailer compliance with youth access laws

CPSs in 22 Wyoming counties work to increase local support for the enforcement of youth access to tobacco laws. CPSs work with their local law enforcement agencies and community coalitions to increase support for compliance with youth access laws.

- Other activities (*Please list.*) \_\_\_\_\_



## 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 2021 (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.*

**a. If yes, describe how and when this change was communicated to SAMHSA**

**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, upload a copy of SSES tables 1–8 (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.

$$\text{RVR Estimate} \quad + \quad (1.645 \quad \times \quad \text{Standard Error} \quad ) \quad = \quad \text{Right Limit}$$

plus      (1.645      times      Standard Error      )      equals

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 Sampling frame coverage study: 2022

b. Percent coverage from the latest Sampling frame coverage study: 88%

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: 2025

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. If Yes, describe how and when this change was communicated to SAMHSA

b. Provide the inspection period: From 07/05/2022 to 07/28/2022  
MM/DD/YY MM/DD/YY

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

2

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.

d. 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 2022 (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 2022. 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 WDH will continue its contractual relationship with WASCOP to conduct on-site retail education and citation-driven compliance checks. The current contract requires WASCOP to collaborate with local law enforcement agencies to conduct a minimum of two (2) tobacco compliance checks per contract year for every establishment that sells tobacco products in the community. WASCOP is required to recruit and maintain at least a ninety percent (90%) participation in compliance check inspections among municipalities with a population of four thousand (4,000) or more to participate.

WASCOP will collaborate with local law enforcement agencies to conduct educational visits for the purpose of educating employees of retail establishments on preventing tobacco sales to minors. WASCOP will print educational materials and disseminate to all retail establishments in Wyoming.

Communities who receive funds through the community prevention grant may use their funds for additional compliance checks when deemed necessary through data analysis.

The WDH will also send follow up letters to merchants who were found to be in noncompliance of the tobacco law during the Synar inspections.

Wyoming does not anticipate any changes in youth tobacco access legislation or regulations at this time.

### 3. Describe any challenges the state faces in complying with the Synar regulation. (Check all that apply and describe each challenge in the text box below it.)

- 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

Wyoming is working on improving the accuracy of the tobacco outlet list by working with local prevention specialists to update the list as tobacco locations open and close.

- Limited expertise in survey methodology

- Laws/regulations limiting the use of minors in tobacco inspections

- Difficulties recruiting youth inspectors

The age increase has allowed us to hire two inspectors above age 18 to complete all of the inspections rather than finding inspectors local to each area. However, recruitment and hiring remain a challenge.

- Issues regarding the balance of inspections conducted by youth inspectors age 15 and under

- Issues regarding the balance of inspections conducted by one gender of youth inspectors

- Geographic, demographic, and logistical considerations in conducting inspections

Wyoming is one of the most rural states, which creates unavoidable logistical issues.

- Cultural factors (e.g., language barriers, young people purchasing for their elders)

- Issues regarding sources of tobacco under tribal jurisdiction

Other challenges (*Please list.*) \_\_\_\_\_

Small retailer list, small sample, and historically very low violation rate causes problems when we have an uncommon year.

## 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 2022). 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 2022).

- 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 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 2022).

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> 2022				
(1) Row #	(2) Stratum Name	(3) Number of PSUs Created	(4) Number of PSUs Selected	(5) Number of PSUs in the Final 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 2022).

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> 2022	
(1) INELIGIBLE		(2) ELIGIBLE	
Reason for Ineligibility	(a) Counts	Reason for Noncompletion	(a) Counts
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 2022).

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 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> 2022
	(1) Attempted Buys	(2) Successful Buys
<b>Male</b>		
15 years		
16 years		
17 years		
18 years		
19 years		
20 years		
<b>Male Subtotal</b>		
<b>Female</b>		
15 years		
16 years		
17 years		
18 years		
19 years		
20 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) and respond to Question #10 of Appendix B to provide the requested information about sample size calculations for the Synar survey conducted in FFY 2021.

## APPENDIX B: SYNAR SURVEY SAMPLING METHODOLOGY

State: Wyoming  
 FFY: 2023

**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
Commercially and Publicly Available Lists of Potential Retailers	1, 2	WYSAC used publicly available lists of retailers, such as the "station finder" feature on chain gas station websites and a commercially available list of potential tobacco retailers to improve the coverage and accuracy of the list frame.	The commercially available list was a one-time addition to the list in calendar year 2016. The other tools are being used annually to review the list for accurate addresses, especially to review possible duplicates.
WYSAC's Synar List Frame Recommended Changes	6	Each year, WYSAC updates the list frame based on inspections, and when available, the coverage study.	Based on the recommendations, WYSAC will update and maintain the master list. Prevention staff in each county also reviews the list annually to ensure accuracy.
FDA inspection list	6	WYSAC uses the publicly available FDA results.	Biannually, WYSAC downloads the FDA results, reviews, and compares the list of locations to our list to find any we may be missing.

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

n/a

**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

*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.) \_\_\_\_\_

*If Yes, please indicate how likely it is that vending machines will be sampled.*

- Vending machines are sampled separately to ensure vending machines are included in the sample
- Vending machines are sampled together with over the counter outlets, so it is possible that no vending machines were sampled, however they are included in the sampling frame and have a non-zero probability of selection
- Other reasons (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.)**

n/a

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

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



WYSAC categorized each outlet into one of two strata. WYSAC defined the urban stratum as outlets being located in a town with a population of at least 3,000 and the rural stratum as outlets being located in a town with a population of fewer than 3,000. Wyoming used the stratum-level calculator in SSES using optimum allocation due to variation in sampling costs and, sometimes, in the violation rates in the two strata.

**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.**

Wyoming uses SSES for the calculations (see response to item 7 above), and uses three-year averages for all input values (violation rate, accuracy rate, and completion rate).

**10. Provide the following information about sample size calculations for the Synar survey conducted in FFY 2021.**

- 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:

Frame Size:

**Input for Target Sample Size:**

Design Effect:

**Inputs for Original Sample Size:**

Safety Margin:

Accuracy (Eligibility) Rate:

Completion Rate:

- 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:**

Inputs for Effective Sample Size:

RVR: For the rural stratum- 3.7%

For the urban stratum- 5.3%

Frame Size: For the rural stratum- 167

For the urban stratum- 333

Input for Target Sample Size:

Design Effect: For the rural stratum- 1

For the urban stratum- 1

Inputs for Original Sample Size:

Combined RVR: 4.7%

Safety Margin: 20%

Accuracy (Eligibility) Rate: 84.8%

Completion Rate: 96.8%

- 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.**

n/a

## APPENDIX C: SYNAR SURVEY INSPECTION PROTOCOL SUMMARY

State: WY  
FFY: 2022

*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: If the adult supervisor needs to check the location for additional information or feels they need to observe the inspection they are allowed to enter the location but remain distant from the inspector.)  
 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): Wyoming Survey and Analysis Center (WYSAC)

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  
 Electronic Cigarettes/Electronic Nicotine Delivery Systems (ENDS)  
 Other

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

During most cigarette inspections, youth inspectors attempt to purchase Marlboro Gold cigarettes. When unavailable, youth are instructed to then as for Camel Blues or Camels. One out of every three inspections is for smokeless tobacco (a 2:1 ratio of cigarette and smokeless tobacco inspections). During smokeless tobacco inspections, the youth inspectors ask for Skoal Wintergreen long cut or Copenhagen Wintergreen long cut (when Skoal Wintergreen is unavailable). Youth are trained to ask for the other tobacco product when a retailer doesn't sell the item initially requested. So, an inspection that starts as chewing tobacco would switch to cigarettes if chewing tobacco is unavailable (and vice versa). Inspectors are trained to recoup the smokeless tobacco inspections as needed during that inspection day to maintain an approximate 2:1 ratio of cigarette and smokeless tobacco inspections.

5a. Describe the methods used to recruit, select, and train adult supervisors.

WYSAC recruited adults in Wyoming to fill the adult supervisor role. With the approved change in protocol, these employees served as adult supervisors and youth inspectors. Prior to hiring, WYSAC conducted criminal background checks and reviewed driving records.

WYSAC trained the employees in Synar protocol. WYSAC emphasizes the need to frequently review the sample list and inspection records to ensure that no stores are missed. Training emphasizes that drivers should review their list before leaving a town, at the end of each workday, and before leaving an inspection region.

5b. Describe the methods used to recruit, select, and train youth inspectors.

With the change in protocol allowing 18-20 year olds, WYSAC hired two adults to serve as the adult supervisor and the inspectors. They alternated being the inspector and the supervisor. WYSAC provided a written script and allowed the employees to practice

roleplaying until they mastered the buying procedure. They were trained to look for certain elements while in the store.

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.)

b. Procedural

Yes  No

(If Yes, please describe.)

Youth inspectors are not permitted to have identification on them during the inspection, helping to maintain confidentiality. They are instructed to refrain from buy attempts if they know anyone at the location. Also, no purchase is ever consummated as the youth inspectors are not permitted to take more than \$1.00 with them on inspections.

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.)

b. Procedural

Yes  No

(If Yes, please describe.)

Close collaboration with local and regional law enforcement provides support in the instance of an angry clerk. Inspectors are instructed to not complete inspections at retail locations that feel unsafe.

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.)*

Employees are required to be trained by the project coordinator prior to participating in the inspections. Youth under 18 are not allowed to stay overnight away from home while traveling for inspections. Inspectors also request smokeless tobacco on every third inspection. Inspectors were instructed to ask for a specific flavor and cut (if asked about cut).

## APPENDIX D: LIST SAMPLING FRAME COVERAGE STUDY

(LIST FRAME ONLY)

State: WY

FFY: 2022

1. Calendar year of the coverage study: 2022

2. a. Unweighted percent coverage found: 88.0%  
b. Weighted percent coverage found: 87.4%  
c. Number of outlets found through canvassing: 117  
d. Number of outlets matched on the list frame: 103

3. a. Describe how areas were defined. (e.g., census tracts, counties, etc.)

WYSAC used census tracts, defined by the U.S. Census Bureau, to define coverage areas.

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

Yes  No

If Yes, please explain.

WYSAC excluded one census tract (the F.E. Warren Air Force Base) because it is federal land and completely inaccessible to the general public. WYSAC also excluded one census tract that completely overlapped the Cheyenne Regional Airport. Other census tracts (such as those that partially overlapped with the Wind River Indian Reservation and federal parks) contained some areas that are accessible to the public and subject to Wyoming State Law. Therefore, WYSAC included all other census tracts in our sampling.

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.**

WYSAC used the instructions and formulas presented in SAMHSA's Guide for a Synar Sampling Frame Coverage Study (2006, p. 13-14) and Scheaffer, Mendenhall, and Ott, 2006 (*Elementary Survey Sampling, Sixth Edition*), to allocate the sample to two strata and optimize costs:

$$n_{urban} = n \frac{N_{urban} * S_{urban}}{N_{urban} * S_{urban} + \frac{N_{rural} S_{rural}}{\sqrt{a^{-1}}}}$$

and

$$n_{rural} = n - n_{urban}$$

where

$$a^{-1} = \frac{cost_{rural}}{cost_{urban}}$$

In this equation,  $n$  is the target sample size,  $n_{urban}$  is the sample size for the urban strata,  $N_{urban}$  is the estimated population size for the urban stratum,  $S_{urban}$  is the standard deviation in the urban stratum,  $N_{rural}$  is the estimated population size for the rural stratum,  $S_{rural}$  is the standard deviation in the rural stratum, and  $a^{-1}$  is the cost ratio of canvassing a rural tract over the cost of canvassing an urban tract.

The standard deviations for each stratum are calculated by taking the square root of the product of the previous coverage rate ( $P$ ) and undercoverage rate ( $Q = 1-P$ ). WYSAC used data from the 2019 Coverage Study to estimate  $P$  and  $Q$  for each strata.

$$S_{urban} = \sqrt{.941(1 - .941)} = 0.236$$

Consistent with SAMHSA's guidance on total sample size (2006, p. 11), WYSAC set the target sample size at 120 stores. Substituting the estimated values for the 2022 Coverage Study (based on the list updated after the 2021 inspections), WYSAC found

$$n_{urban} = 120 \left( \frac{333 * .236}{333 * .236 + \frac{167 * .324}{\sqrt{3}}} \right) = 85.844$$



And

$$n_{rural} = 120 - 85.844 = 34.156$$

Using the 2021 Synar tobacco retailer list frame, WYSAC determined that Wyoming has an average of 3.125 tobacco retail stores per census tract (500 stores / 160 tracts). Extrapolating the above target sample sizes to target sample sizes in census tracts and rounding the number of tracts to whole numbers, WYSAC determined target sample sizes for each stratum: 27 urban tracts and 11 rural tracts.

WYSAC drew a stratified random sample.

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

WYSAC defined *urban* census tracts as having a population density greater than or equal to 100 people per square mile and *rural* census tracts as having a population density greater than 100 square miles or more.

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

WYSAC did not use clusters.

**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.

Once WYSAC drew the sample, WYSAC hired two qualified drivers to conduct the coverage study. WYSAC trained them on how to canvass each census tract, noting *all* stores that sold tobacco *and* were accessible to minors. WYSAC sent two drivers on all coverage study trips so that one could navigate and look for stores while the other drove. WYSAC instructed drivers *not* to canvass graded and earth roads (unless there were indications of businesses and the road would be passable to typical passenger vehicles) and any area that was inaccessible to the general public (e.g., state or national parks where one must pay an entrance fee). Per SAMHSA protocol, drivers did not use any lists to identify stores.

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.

If the outlet was open, field observers entered the outlet and looked for tobacco products. They also identified whether the outlet was accessible to minors. If they were unsure if the outlet sold tobacco and/or was accessible to minors, they asked a salesperson. When drivers were unable to determine eligibility, WYSAC called these outlets to determine their eligibility and, when appropriate, included them in the sample.

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.)

To determine the coverage rate, WYSAC carefully compared the list of outlets discovered during the coverage study to the outlets on the tobacco retailer list frame using business name, address, and city. If the outlet found during the coverage study was on the tobacco retailer list frame with matching or similar addresses, the outlet was considered covered by the tobacco retailer list frame. WYSAC then determined if the address on the tobacco retailer list frame was 100% accurate.

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

The coverage rate equation with weighting is (SAMHSA, 2006, p 15):

$$C = 100 \times \frac{\sum_{i=1}^k w_i b_i}{\sum_{i=1}^k w_i n_i}$$

In this equation,  $b_i$  is the number of stores from the tobacco retailer list frame found in each stratum,  $n_i$  is the number of stores found by the Coverage Study in each stratum, and  $w_i$  is the stratum weight, calculated by the following equation (SAMHSA, 2006, p 15):

$$w_i = \frac{K_i}{k_i}$$

In this equation,  $k_i$  is the number of areas selected for coverage in a stratum, and  $K_i$  is the number of areas in the stratum.

For the 2022 Coverage Study, the equation expanded as follows:

$$C = 100 \times \frac{w_{urban} b_{urban} + w_{rural} b_{rural}}{w_{urban} n_{urban} + w_{rural} n_{rural}}$$

or

$$C = 100 \times \frac{\frac{K_{urban}}{k_{urban}} \times b_{urban} + \frac{K_{rural}}{k_{rural}} \times b_{rural}}{\frac{K_{urban}}{k_{urban}} \times n_{urban} + \frac{K_{rural}}{k_{rural}} \times n_{rural}}$$

WYSAC calculated the 2022 weighted coverage rate:

$$C = 100 * \frac{\frac{90}{27} * 75 + \frac{68}{11} * 28}{\frac{90}{27} * 84 + \frac{68}{11} * 33} = 87.4\%$$

This equation gave a final weighted coverage rate of 87.4%, above the SAMHSA required threshold of 80.0% (SAMHSA, 2006).