

ANNUAL SYNAR REPORT

42 U.S.C. 300x-26

OMB № 0930-0222

FFY 2019

State: Pennsylvania

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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 2018 Compliance Progress) and future plans to ensure compliance with the Synar requirements to reduce youth tobacco access rates (FFY 2019 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 states¹ 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.

¹The 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).

FFY 2019: 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.

PUBLIC HEALTH SERVICES ACT AND SYNAR AMENDMENT
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.
SYNAR SURVEY SAMPLING METHODOLOGY
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 2019 is up-to-date and approved by the Center for Substance Abuse Prevention.
SYNAR SURVEY INSPECTION PROTOCOL
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 2019 is up-to-date and approved by the Center for Substance Abuse Prevention.
State: Pennsylvania
Name of Chief Executive Officer or Designee: Tom Wolf
Signature of CEO or Designee:
Title: Governor _____ Date Signed: December 31, 2018 _____
If signed by a designee, a copy of the designation must be attached.

SECTION I: FFY 2018 (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 2019 ASR was posted to this Web address.)*

Web address: <https://www.ddap.pa.gov/Pages/Publications.aspx>

Date published: December 17, 2018

- 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.)* Announcement Posted on Agency Website

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:**

The Pennsylvania Department of Health (DOH)

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

- Yes No

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

DOH Bureau of Health Promotion & Risk Reduction, Division of Tobacco Prevention & Control (DTPC)

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):**

DOH Bureau of Health Promotion & Risk Reduction, Division of Tobacco Prevention & Control (DTPC)

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).**

DOH Bureau of Health Promotion & Risk Reduction, Division of Tobacco Prevention & Control (DTPC)

- 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)).

DOH Bureau of Health Promotion & Risk Reduction, Division of Tobacco Prevention & Control

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 2018 (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	14	17
Number of <u>fin</u> es assessed	UNK	14	14
Number of <u>permits/licenses suspended</u>	UNK		UNK
Number of <u>permits/licenses revoked</u>	UNK		UNK
Other (Please describe.) Number of citations issued to <u>both</u> owners and clerks	UNK	UNK	23

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

Our regional primary contractors “RPC’s” distributed retailer education materials on “Understanding Pennsylvania Youth Access to Tobacco Laws” to each of the tobacco retailers in their respective regions. The document was accompanied by a letter to the retailer explaining our tobacco control efforts and the vital role they play in keeping youth smoking rates low. Additionally, merchant education and training remains on-going with a focus on face to face conversations with tobacco retail outlet owners in violation.

- 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)

Compliance letters are sent to merchants who have not sold to minors during undercover compliance checks. These letters congratulate merchants and encourage them to recognize clerks who obey the youth access law.

- Community education regarding youth access laws

RPCs partner with members of the statewide youth coalition, Tobacco Resistance Unit (TRU) to participate in initiatives that educate the public about tobacco prevention and cessation, including Point of Sale and conduction of tobacco retailer enforcement.

- Media use to publicize compliance inspection results

RPCs produce media at the local level to publicize non-compliance offenders. Additionally, the Food and Drug Administration's (FDA's) website for their Tobacco Compliance contracts with states list all outlets in which both Undercover Buy and Advertising and Labeling checks have been conducted. It also lists both successful check results, as well as those found to be in violation of the law. This website serves as a resource to the DTPC, RPCs, and the public.

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

The DTPC implements programs to educate state leaders, decision makers, and the public about the burden of tobacco use and evidence-based policies and other strategies to reduce this burden. Over 90% of tobacco company expenditures are spent on point-of-sale (POS) marketing in convenience stores, gas stations, pharmacies, and other retail outlets. This POS marketing is very effective in reaching youth and influencing them to smoke. To counteract this practice, the Division of Nutrition and Physical Activity collaborates with the DTPC to provide technical assistance, assess program progress, and provide trainings and training materials to implement the Health Corner Store Initiative (HCSI) with the RPCs, coalition members, stakeholders, and DOH staff. The DTPC continues to expand this effort through a Pennsylvania POS initiative by conducting the following activities: 1) identifying POS coordination opportunities by leveraging resources and utilizing tobacco data collected from the current statewide PA HCSI focused on corner stores to increase access to health foods and beverages, 2) assessing the retail environment through systematic data collection to inform POS activities and action focused on retailers selling tobacco products, 3) educating local community decision makers and the public by incorporating TRU youth activities and messages that are delivered by youth within communities, and 4) encouraging tobacco retail owners to sign memorandums of understanding committed to the reduction and/or elimination of tobacco product signage and sales, and to sell nicotine replacement therapy products and post PA Free Quitline materials in their establishments as cost effective ways to promote cessation services.

- Other activities (*Please list.*) Point of Sale Initiative

The DTPC implements programs to educate state leaders, decision makers, and the public about the burden of tobacco use and evidence-based policies and other strategies to reduce this burden. Over 90% of tobacco company expenditures are spent on point-of-sale (POS) marketing in convenience stores, gas stations, pharmacies, and other retail outlets. This POS marketing is very effective in reaching youth and influencing them to smoke. To counteract this practice, DTPC has implemented the Pennsylvania POS initiative by conducting the following activities: 1) identifying retailers to survey, usually those within close proximity to schools. 2) assessing the retail environment through systematic data collection to inform POS activities and action focused on retailers selling tobacco products, 3) educating local community decision makers and the public by incorporating TRU youth activities and messages that are delivered by youth within communities, and 4) encouraging tobacco retail owners to sign memorandums of understanding to commit to the reduction and/or elimination of tobacco product signage and sales, and to sell nicotine replacement therapy products and post PA Free Quitline materials in their establishments as cost effective ways to promote cessation services.

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 2018 (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 7.5

Weighted RVR 9.1

Standard error (s.e.) of the (weighted) RVR 1.0

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

$$\begin{array}{ccccccc}
 9.1 & + & (1.645 & \times & 1.0) & = & 10.7 \\
 \text{RVR Estimate} & \text{plus} & (1.645 & \text{times} & \text{Standard Error}) & \text{equals} & \text{Right Limit}
 \end{array}$$

Accuracy rate 67.0

Completion rate 99.6

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.)*

See Attachments:
 Attachment 1: Calculation of Weighted Retailer Violation Rate Explanation
 Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code
 Attachment 3: Weight Check and Weights Tables
 Attachment 4: Survey Means Tables

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
Effective sample size (sample size needed to meet the SAMHSA precision requirement assuming simple random sampling)	533
Target sample size (the product of the effective sample size and the design effect)	693
Original sample size (inflated sample size of the target sample to counter the sample attrition due to ineligibility and noncompletion)	1,790
Eligible sample size (number of outlets found to be eligible in the sample)	1,199
Final sample size (number of eligible outlets in the sample for which an inspection was completed)	1,194

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: 2018

b. Percent coverage from the latest Sampling frame coverage study: 98.4

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: 2023

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 07/01/18 to 08/23/18
MM/DD/YY MM/DD/YY

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

54

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 2019 (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 2019. 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.

Pennsylvania enacted the Tobacco Settlement Act (Act 2001-77) June 26, 2001. Chapter 7 of that legislation outlined requirements relative to prevention and cessation activities. The Act established a tobacco use prevention and cessation program within the Pennsylvania Department of Health (DOH). Seventy percent of funds received through the Tobacco Settlement fund by DOH must be awarded to their primary contractors to establish comprehensive tobacco control programs within their service areas.

Act 2002-112 amended the youth access to tobacco law by creating a fine structure for both store owners and clerks, as well as increased penalties and license revocation and/or license suspension for owners. This Act also restricted placement of vending machines and provided a penalty structure for youth attempting to purchase tobacco. In addition, enforcement authority was expanded to include DOH, County or Municipal Health Departments, Single County Authorities created pursuant to the Pennsylvania Drug and Alcohol Control Act, or Primary Contractors established pursuant to Chapter 7 of the Tobacco Settlement Act. The contracts with the eight Regional Primary Contractors (RPCs), who provide services to all sixty-seven counties of the Commonwealth, contain language requiring them to conduct compliance checks on all tobacco retail outlets within their service area. However, with more recent limitations associated with funding, it has been necessary to waive this requirement and instead implement a more strategic and limited approach in conducting enforcement checks within the confines of available resources.

With on-going enforcement, standardization of the compliance check protocols, annual enforcement training, and effective statewide partnerships with the Department of Revenue, the Office of the Attorney General's Enforcement Division, and the Pennsylvania Justice Systems, the rate of illegal tobacco sales continues to be sustained within the violation rate maximum allowance identified under 42 U.S.C. 300x-26. DOH continues to collaborate with the RPCs to integrate statewide media retailer education campaigns with initiatives that engage local communities through customized retailer and community-specific youth access education.

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

Limited funding impacts the commonwealth's ability to implement effective tobacco prevention strategies and conduct annual enforcement checks. This negatively impacts the ability to sustain the lower retailer violation rates attained previously.

The Single State Authority (SSA) for Substance Abuse, the Pennsylvania Department of Drug and Alcohol Programs (DDAP), is working collaboratively with DOH, the agency responsible for tobacco prevention and control, to strategize and gauge the most effective measures to be utilized to meet federal and state requirements while adequately addressing tobacco prevention and enforcement activities within the resources available.

Pennsylvania has been able to offset the impact of these limited resources by drawing down FDA funds to conduct compliance checks on retailers. This has enabled the commonwealth to continue its enforcement efforts and sustain a reasonable retailer violation rate.

- 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

Pennsylvania recognizes the need to clean the list received from the Department of Revenue (DOR) as much as possible prior to creating a sampling frame. It is necessary to accomplish this without compromising the quality of the frame by erroneously removing outlets that may be eligible and potentially biasing the survey results. In part, this is achieved by identifying and removing out-of-state licenses, duplicate license numbers, private club, and itinerant vendor licenses, as well as licenses with duplicate addresses where only one license per address is kept. In recent years these efforts have been challenged by the completeness and accuracy of the list received from DOR. In the future, additional mechanisms to improve the accuracy rate will be explored, such as supplementing the list through outcomes of enforcement checks. Through such measures, the focus will remain to ensure coverage, as well as accuracy, without compromising the integrity of the survey or biasing the results.

Limited expertise in survey methodology

Laws/regulations limiting the use of minors in tobacco inspections

Difficulties recruiting youth inspectors

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

An analysis of the Annual Synar Reports dating back to Federal Fiscal Year 2002 indicates that representation of males and females has vacillated between the genders. However, as was indicated in prior responses to questions about the recruitment of youth to balance age or gender, such an exercise can prove challenging, although efforts are made to ensure the survey is as unbiased as possible. As such, a greater effort is concentrated towards creating a cadre of youth that align with the cultural representation of the areas being surveyed, that is, youth that align with the race and ethnic populations of the areas where retailers are located. As indicated above, Pennsylvania believes that the survey practice overall is statistically pristine and continues to put forth a concerted effort to assure an unbiased result through the methodologies executed to conduct the survey.

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.*)

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.)

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

Summary of Synar Inspection Results by Stratum													
State: <u>Pennsylvania</u>													
FFY: <u>2019</u>													
(1)		(2)			(3)			(4)			(5)		
STRATUM		NUMBER OF OUTLETS IN SAMPLING FRAME			ESTIMATED NUMBER OF ELIGIBLE OUTLETS IN POPULATION			NUMBER OF OUTLETS INSPECTED			NO. OF OUTLETS FOUND IN VIOLATION DURING INSPECTIONS		
(a) Row #	(b) Stratum Name	(a) Over-the-Counter (OTC)	(b) Vending Machines (VM)	(c) Total Outlets (2a+2b)	(a) Over-the-Counter (OTC)	(b) Vending Machines (VM)	(c) Total Outlets (3a+3b)	(a) Over-the-Counter (OTC)	(b) Vending Machines (VM)	(c) Total Outlets (4a+4b)	(a) Over-the-Counter (OTC)	(b) Vending Machines (VM)	(c) Total Outlets (5a+5b)
1	NC	1,042	0	1,042	709	0	709	81	0	81	5	0	5
2	NE	2,804	0	2,804	1,889	0	1,889	158	0	158	11	0	11
3	NW	1,020	0	1,020	712	0	712	80	0	80	0	0	0
4	SC	2,250	0	2,250	1,672	0	1,672	137	0	137	8	0	8
5	SE	3,512	0	3,512	2,349	0	2,349	204	0	204	12	0	12
6	SW	2,162	0	2,162	1,412	0	1,412	144	0	144	7	0	7
7	AL	1,820	0	1,820	1,036	0	1,036	74	0	74	0	0	0
8	DE	768	0	768	545	0	545	78	0	78	3	0	3
9	ER	383	0	383	260	0	260	68	0	68	4	0	4
10	PH	5,032	0	5,032	3,228	0	3,228	170	0	170	39	0	39
	State	20,793	0	20,793	13,812	0	13,812	1,194	0	1,194	89	0	89

RECORD COLUMN TOTALS ON LAST LINE (LAST PAGE ONLY IF MULTIPLE PAGES ARE NEEDED).

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.)

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

Summary of Clusters Created and Sampled				
State: Pennsylvania				
FFY: 2019				
(1) Row #	(2) Stratum Name	(3) Number of PSUs Created	(4) Number of PSUs Selected	(5) Number of PSUs in the Final Sample
1	NC	16	6	6
2	NE	31	12	12
3	NW	14	6	6
4	SC	29	10	10
5	SE	45	16	16
6	SW	32	11	11
7	AL	1820	130	74
8	DE	768	110	78
9	ER	383	100	68
10	PH	5032	245	170
Total		8170	646	451

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

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

Inspection Tallies by Reason of Ineligibility or Noncompletion			
		State: Pennsylvania	
		FFY: 2019	
(1) INELIGIBLE		(2) ELIGIBLE	
Reason for Ineligibility	(a) Counts	Reason for Noncompletion	(a) Counts
Out of business	180	In operation but closed at time of visit	3
Does not sell tobacco products	258	Unsafe to access	1
Inaccessible by youth	47	Presence of police	0
Private club or private residence	59	Youth inspector knows salesperson	0
Temporary closure	13	Moved to new location	0
Unlocatable	16	Drive-thru only/youth inspector has no driver's license	0
Wholesale only/Carton sale only	0	Tobacco out of stock	0
Vending machine broken	0	Ran out of time	1
Duplicate	18	Other noncompletion reason(s) <i>(Describe.)</i>	0
Other ineligibility reason(s) <i>(Describe.)</i>	0		
Total	591	Total	5

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

Form 5 shows the distribution of outlet inspection results by age and gender of the youth inspectors.

Synar Survey Inspector Characteristics		
		State: <u>Pennsylvania</u>
		FFY: <u>2019</u>
	(1) Attempted Buys	(2) Successful Buys
Male		
15 years	148	2
16 years	497	26
17 years	0	0
18 years	0	0
19 years	0	0
20 years	0	0
Male Subtotal	645	28
Female		
15 years	132	5
16 years	411	56
17 years	6	0
18 years	0	0
19 years	0	0
20 years	0	0
Female Subtotal	549	61
Other	0	0
Total	1,194	89

APPENDIX B:
SYNAR SURVEY SAMPLING METHODOLOGY

APPENDIX B: SYNAR SURVEY SAMPLING METHODOLOGY

State: Pennsylvania
 FFY: 2019

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

Name of Frame Source	Type of Source	Description	Updating Method and Cycle
Electronic Cigarette Licensing System (ECLS)	3	Pennsylvania requires a license to sell cigarettes. The ECLS contains a complete list of all locations licensed to sell cigarettes. The database is maintained by the Department of Revenue.	Existing licenses are annually renewed by January 15 th . New licenses can be applied for at any time.

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

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.) _____

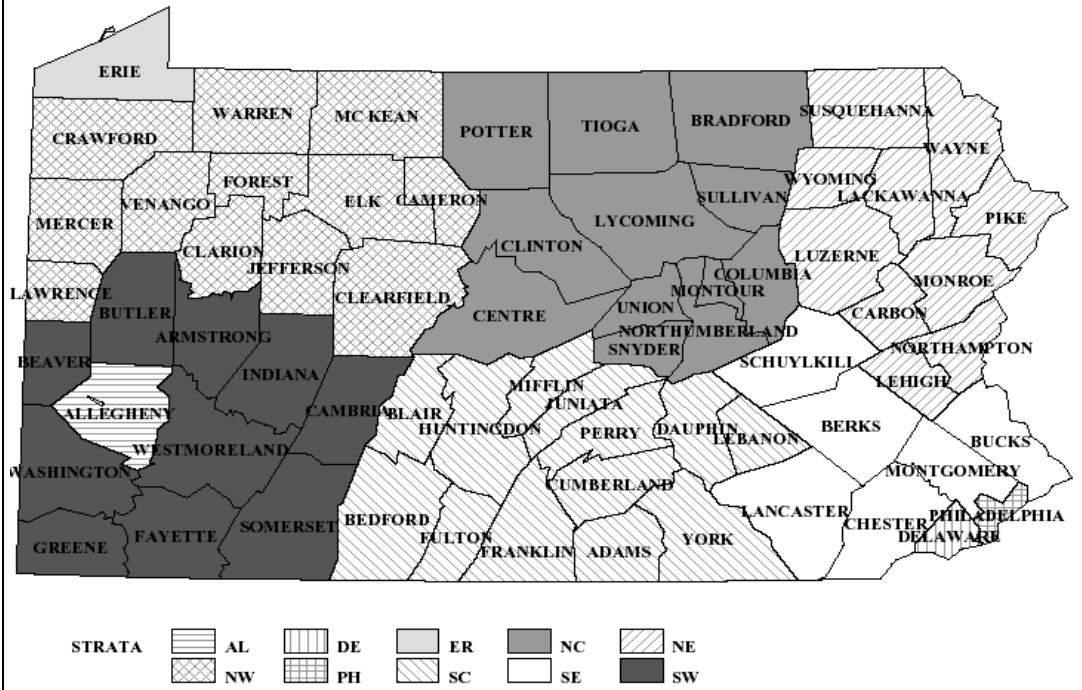
6. Describe the systematic sampling methods. (After completing Question 6, go to Question 7 if stratification is used. Otherwise go to Question 9.)

7. Provide the following information about stratification.

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

Pennsylvania is divided into ten (10) geographic strata. Six of the strata are groups of counties located in specific geographic areas, while the remaining strata are single-county strata.

Stratum	Geographical Area	Counties
1	North Central (NC)	Bradford, Centre, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga, Union
2	Northeast (NE)	Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Susquehanna, Wayne, Wyoming
3	Northwest (NW)	Cameron, Clarion, Clearfield, Crawford, Elk, Forest, Jefferson, Lawrence, Mckean, Mercer, Venango, Warren
4	South Central (SC)	Adams, Bedford, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lebanon, Mifflin, Perry, York
5	Southeast (SE)	Berks, Bucks, Chester, Lancaster, Montgomery, Schuylkill
6	Southwest (SW)	Armstrong, Beaver, Butler, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland
7	Allegheny (AL)	Allegheny
8	Delaware (DE)	Delaware
9	Erie (ER)	Erie
10	Philadelphia (PH)	Philadelphia



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.)*

The outlets within the six “District” strata numbered 1 through 6 (NC, NE, NW, SC, SE and SW) are grouped into geographic clusters of adjacent zip codes. Using the sampling frame and a zip code map, the clusters were created by combining outlets with the same zip code to geographically adjacent zip codes. The sampling frame is a list of all outlet zip codes and cluster IDs. Every year, a list of cigarette outlets with zip codes is obtained from the Department of Revenue and it is used to populate the sampling frame with outlet addresses by matching zip codes. If a new zip code is found on the outlet list, a zip code map is used to update the frame and add that zip to the appropriate cluster. Although the size (number of outlets) of the cluster varies from cluster to cluster, pre-determined limits have been placed on the cluster size. If it is discovered that a cluster has become too large (greater than the sampling interval) it will be divided into two. The clusters are mutually exclusive and exhaustive, covering the entire area of strata 1-6. Strata 7-10 are not clustered. Outlets are randomly selected within those strata.

- 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.**

Pennsylvania uses a mix of cluster and random sampling. The entire state is divided into mutually exclusive and exhaustive strata. A two-stage cluster sampling method is used in 6 of the strata while a simple random method is used in the remaining 4 strata. Within the random 4 strata, each outlet is given a unique random number using the SAS Ranuni function.

The Ranuni function returns a number that is generated from the uniform distribution on the interval (0,1) using a prime modulus multiplicative generator with modulus 231 and multiplier 397204094. The outlets within each stratum are sorted by their random number and a pre-determined number of outlets are selected, starting with the first record. Alternatively, a two-stage cluster sampling method is used in the remaining strata.

During stage 1 of the sampling process, clusters are selected with probability proportional to size (number of outlets in the cluster). SAS is used to select both stages of sample. The following describes the method and how it is implemented.

- a. The sampling frame is used to draw the sample. The sampling frame is a file containing cluster level records. Among the variables included are PSU_ID (cluster identification number), PSUsize (Number of outlets within the cluster), bzip (zip code of the outlet) and zipcount (Number of outlets with the same zip code).
- b. A sampling interval is calculated for each stratum (Stratum size/number of clusters to be selected).

c. A random start is calculated using the SAS Ranuni function. The random start is calculated by multiplying the random number created by Ranuni by the sampling interval. The result is a number between 1 and the sampling interval (note: Only non-zero random starts are accepted. If the random start is 0, a new random number is used).

d. The sampling frame file is expanded so each record represents one outlet. This enables the use of probability proportional to size sampling. Since larger clusters will have more records on the file and therefore will have a greater chance of being selected. Conversely, smaller clusters will have fewer records and a lesser chance of being selected.

e. The file is sorted by PSU_ID and each record is given a record number according to the new order. The PSU_ID of that record will identify which cluster must be sampled first. To find the second cluster to sample, add the sampling interval to the record number of the first record selected and the PSU_ID of that record tells you the 2nd cluster to sample. Continue adding the sampling interval until the max number of clusters for that stratum is reached. Repeat the process for the remaining clustered strata. Each stratum is done separately and has a different random start.

Example of Stage1 sampling from 2008 survey: The random Start for stratum1, also known as the NC (North Central) Stratum was 33. The sampling interval was 197. It was calculated by dividing the stratum size (number of outlets in stratum1) by the number of clusters we want to sample in stratum1.

$$\text{Sampint} = \text{Stratsize}/\text{Clustnum} = 1182 / 6 = 197.000$$

(1) Count to record number 33. The Psu_Id of that record is 65, therefore the first cluster to sample is cluster 65.

(2) Add the sampling interval (197) to the previously selected record number (33) to obtain the current record number (230). Count to record 230. The Psu_Id of that record is 76, therefore the second cluster to sample is cluster 76.

(3) Add the sampling interval (197) to the previously selected record number (230) to obtain the current record number (427). Count to record 427. The Psu_Id of that record is 143, therefore the Third cluster to sample is cluster 143.

(4) Add the sampling interval (197) to the previously selected record number (427) to obtain the current record number (624). Count to record 624. The Psu_Id of that record is 169, therefore the fourth cluster to sample is cluster 169.

(5) Add the sampling interval (197) to the previously selected record number (624) to obtain the current record number (821). Count to record 821. The Psu_Id of that record is 207, therefore the fifth cluster to sample is cluster 207.

(6) Add the sampling interval (197) to the previously selected record number (821) to obtain the current record number (1018). Count to record 1018. The Psu_Id of that record is 220, therefore the sixth cluster to sample is cluster 220.

Record Number	Strata	Psu_Id	Psusize	Selected cluster
1	NC	65	57	.
2	NC	65	57	.
3	NC	65	57	.
.
.
.
33	NC	65	57	1
.
.
.
230	NC	76	81	2
.
.
.
427	NC	143	80	3
.
.
.
624	NC	169	100	4
.
.
.
821	NC	207	59	5
.
.
.
1018	NC	220	58	6
.
.
.

The results for the North Central can be seen below. “Dist” is the stratum name, “Psu_Id” is the cluster ID, “Area” is the cluster description, “Psusize” is the number of outlets in the cluster and “Hit” means that the cluster was selected for the sample. The NC strata had 6 clusters chosen with probability proportional to size.

Dist	Psu_Id	Area	Psusize	Hit
NC	65	Centre	57	1
NC	66	Centre	70	0
NC	75	Clinton	97	0
NC	76	Columb/Montour	81	1
NC	77	Columb/Montour	81	0
NC	143	Lycom/Sullivan	80	1
NC	144	Lycom/Sullivan	67	0
NC	145	Lycom/Sullivan	80	0
NC	169	Northumberland	100	1
NC	170	Northumberland	85	0
NC	207	Potter	59	1
NC	214	Snyder	59	0
NC	218	Tioga	94	0
NC	220	Union	58	1
NC	243	Bradford	59	0

In stage 2, each outlet within the selected cluster is given a unique random number using the SAS Ranuni function. The number of outlets to be selected is pre-determined and the same number is selected from each cluster. The outlets are sorted by their random number and the pre-determined number of outlets is selected beginning with the first record. If supplemental sample is needed, the next available outlet on the list is issued.

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.

(1) **Effective Sample Size.** According to CSAP requirements, the width (w) of the upper limit of the confidence interval must be less than or equal to 3 %. Using the equation for the upper limit of a 95% confidence interval of the sample mean \bar{x} gives

$$\bar{x} + w \quad (S1)$$

Applying the CSAP requirement for w gives

$$w \leq 3 \quad (S2)$$

Where w is defined as

$$w = z(s.e.) \quad (S3)$$

Substituting S3 into S2

$$z(s.e.) \leq 3 \quad (S4)$$

Where z is the critical value of the standard normal distribution for a one sided 95% confidence interval and $s.e.$ is the standard error or standard deviation estimated from the sample data. Substituting 1.645 for z and solving equation S4 for $s.e.$ gives

$$s.e. \leq \frac{3}{1.645} \leq 1.82$$

Therefore the $s.e.$ must be less than or equal to 1.82 to maintain a width of 3% or less for a right-sided 95% confidence interval.

Ignoring the finite population correction, the $s.e.$ is defined as,

$$s.e. = \frac{\sqrt{p(1-p)}}{\sqrt{n_e}} \quad (S5)$$

Substituting S5 into S3 gives

$$w = z \left(\frac{\sqrt{p(1-p)}}{\sqrt{n_e}} \right)$$

Solving for n_e gives the equation for the effective sample size

$$n_e = \left(\frac{z}{w} \right)^2 p(1-p),$$

Where $z = 1.645$, $w = 0.03$ (both z & w are based on 95% one-sided CI with tolerance of 3%) and $p = 3\%$ over the target rate ($20\% + 3\% = 23\%$).

(2) Target Sample Size. The equation is:

$$n_t = \text{Deff}_h \times n_e,$$

Deff_h is the highest design effect from historical Synar surveys of a similar design.

(3) Original Sample Size. The equation is:

$$n_o = \frac{n_t}{r_l r_c} + n_A + n_S;$$

r_l = lowest eligibility rate of historical Synar surveys of similar design.

r_c = lowest completion rate of historical Synar surveys of similar design or 80% (whichever is lower).

n_A = sample added or subtracted needed to fit the clustered sample design.

n_S = supplemental sample.

n_A is the number of sample added or subtracted to guarantee that our precision goals are met, and the sample size fits the design. The size of n_A is estimated after reviewing output created by a SAS program designed to simulate survey outcomes with varying designs. n_S is the number of supplemental sample allocated to the clustered areas due to sample attrition. Supplemental sample is issued if a cluster does not obtain the minimum number of completions allowed per cluster.

10. Provide the following information about sample size calculations for the Synar survey conducted in FFY 2018.

- 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:**

--

- 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.**

Although the methodology and formula used in calculating the Original Sample Size remains constant, the values associated with the referenced variables changes on a yearly basis, based on the most current available data. The effective, target and original sample size formulas were constructed as described in question 9 but the specific inputs and calculations for the Federal Fiscal Year 2018 are described below:

Effective Sample Size calculations:

$$n_e = \left(\frac{z}{w}\right)^2 p(1-p)$$

Where $z = 1.645$, $w = 0.03$ (both z & w are based on 95% one-sided CI with tolerance of 3%) and $p = 3\%$ over the target rate ($20\% + 3\% = 23\%$). Solving,

$$n_e = \left(\frac{1.645}{0.03}\right)^2 .23(1-.23) = 532.5 \approx 533$$

Target Sample Size calculations:

The highest design effect was used.

Year	Complex Variance	Srs Variance	Stderr (Complex)	Stderr (SRS)	Deff
2004	0.000084463	0.000065663	0.00919	0.008103	1.29
2005	0.000093154	0.000074792	0.009652	0.008648	1.25
2006	0.000070025	0.00006112	0.008368	0.007818	1.15
2007	0.000087331	0.000067288	0.009345	0.008203	1.30
2008	0.000069768	0.000056163	0.008353	0.007494	1.24
2009	0.000074242	0.000073052	0.008616	0.008547	1.02
2010	0.000092791	0.000080016	0.009633	0.008945	1.16
2011	0.000132254	0.00011264	0.0115	0.010613	1.17
2012	0.000121755	0.000118312	0.011034	0.010877	1.03
2013	0.000133752	0.00012536	0.011565	0.011196	1.07
2014	0.000134009	0.000127929	0.011576	0.011311	1.05
2015	0.000121925	0.000102821	0.011042	0.01014	1.19
2016	0.000107769	0.000083784	0.010381	0.009153	1.29
2017	0.000088448	0.000069658	0.009405	0.008346	1.27

$$n_t = \text{Deff}_h \times n_e$$

$$n_t = 1.30 \times 533 = 693$$

Original Sample Size calculations:

The lowest eligibility rate occurred in 2010 and it was used for the calculations. The lowest completion rate of past surveys was 98%. Since this is extremely high, it was decided to use a completion rate of 80% instead.

Year	Eligibility Rate	Completion Rate
2004	71.0048	98.380
2005	67.959	98.742
2006	68.3353	99.404
2007	65.2002	99.568
2008	63.3803	99.829
2009	60.4425	99.643
2010	54.5362	99.721
2011	58.9648	99.638
2012	55.8624	100.000
2013	58.4312	99.726
2014	55.7028	99.065
2015	70.7359	99.758
2016	73.433	99.060
2017	67.5962	99.752

Eligibility Rate: 55%

Completion Rate: 80%

$$n_o = \frac{n_t}{r_l r_c} + n_A + n_S$$

$$n_o = \frac{693}{(.55)(.80)} + 47 + 171 = 1793$$

APPENDIX C:

SYNAR SURVEY INSPECTION PROTOCOL SUMMARY

APPENDIX C: SYNAR SURVEY INSPECTION PROTOCOL SUMMARY

State: Pennsylvania
FFY: 2019

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: Safety of outlet determination)
 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): American Lung Association, Tobacco Free Allegheny, Adagio Health, and Health Promotion Council

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.

Inspectors are permitted to attempt to purchase smokeless tobacco when visiting retail outlets that frequently sell such a product, such as in rural areas of the state.

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

Adult supervisors are recruited through regional primary contractors (RPCs), community-based coalitions, schools and other community organizations (i.e. scouts, YMCA, YWCA, after school programs).

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

Youth inspectors are recruited through the Tobacco Resistance Unit (TRU) Coalition, schools, and other community organizations (i.e. scouts, YMCA, YWCA, after school programs).

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.)

Pennsylvania's Act 2002-112 provides minors immunity when conducting Synar survey inspections or participating in tobacco enforcement compliance checks.

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.)

b. Procedural

Yes No

(If Yes, please describe.)

Youth safety is addressed in the comprehensive training protocol.

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.)

The Pennsylvania Department of Health conducts annual training with field staff on the conduction of the Synar Survey. This training covers safety of youth inspectors, age of youth inspectors, time of inspections, completion of survey forms, and training of youth inspectors. Recruitment and training of youth inspectors is completed by Regional Primary Contractors and include role-modeling by youth.

APPENDIX D:
LIST SAMPLING FRAME COVERAGE STUDY

APPENDIX D: LIST SAMPLING FRAME COVERAGE STUDY

(LIST FRAME ONLY)

State: Pennsylvania
FFY: 2019

1. Calendar year of the coverage study: 2018
2.
 - a. Unweighted percent coverage found: 98.2%
 - b. Weighted percent coverage found: 98.4%
 - c. Number of outlets found through canvassing: 162
 - d. Number of outlets matched on the list frame: 159
3.
 - a. Describe how areas were defined. (e.g., census tracts, counties, etc.)

The state was divided into three mutually exclusive geographical strata; Allegheny county, Philadelphia county and the rest of the state (state stratum). The state stratum was divided into mutually exclusive clusters consisting of geographically adjacent zip codes or groups of zip codes. These clusters were the primary sampling units (PSU) for the survey and it was estimated that each PSU contained roughly 50 to 200 outlets. Allegheny and Philadelphia were not clustered.

- 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.

A two-stage sampling method was used in the state stratum. During the first stage, 14 PSUs were randomly selected using probability proportional to size sampling where the size of the PSU referred to the estimated number of outlets within that PSU.

During stage two, a zip code was randomly selected from each selected PSU and one starting address was randomly selected from within that zip code. The starting address was determined by randomly selecting an address from the Census Bureau's Tiger file and then entering that address into Google Maps to find the nearest convenience store to that address within the sampled PSU. If Google Maps didn't recognize the typed-in address, then Google Maps used the zip code centroid and the nearest convenience store to the centroid was used as the starting address. The convenience store address found using Google Maps served as the starting address for each PSU. We used Google Maps to keep survey costs down.

The methodology for the Allegheny and Philadelphia strata was slightly different than the state stratum. Allegheny and Philadelphia only had one stage of sampling. One starting point was randomly selected from Allegheny and two starting points were randomly selected from Philadelphia using the Tiger file. The addresses were entered into Google Maps and 10 outlets were found for each starting address.

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

The state was divided into three mutually exclusive geographical strata: Allegheny county, Philadelphia county and the rest of the state (state stratum).

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

The state stratum was divided into mutually exclusive clusters consisting of geographically adjacent zip codes or groups of zip codes. These clusters were the primary sampling units (PSU) for the survey and it was estimated that each PSU contains roughly 50 to 200 outlets. Allegheny and Philadelphia were not clustered but designed as a random sample design.

5. Were borders of the x 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.

9. If a full canvassing was not conducted:

- a. How many predetermined outlets were to be observed in each area? 20 in Philadelphia, 10 in Allegheny and 10 in each of the 14 clustered areas.
- b. What were the starting points for each area? The nearest convenience store to a randomly selected address.
- c. Were these starting points randomly chosen?
 Yes No
- d. Describe the selection of the starting points.

The starting address was determined by randomly selecting an address from the Census Bureau's Tiger file and entering that address into the Google Maps database to find the nearest convenience store to the randomly selected address within the sampled PSU. The nearest convenience store served as the starting point.

e. Please describe the canvassing instructions given to the field observers, including predetermined routes.

Every surveyor was provided with a list of starting addresses, instructions, worksheets, a list of valid zip codes for the area and surveying routes and were instructed to go to the starting address. If the starting address sold cigarettes over-the-counter, they recorded the location information onto the survey worksheet. If the outlet didn't sell cigarettes over-the-counter or there wasn't a building at the location, they did not record any information. Next, the surveyor canvassed the first survey route from the starting address to the first randomly ordered post office, recording all outlets along the way. The next outlet could be 20 feet or 20 miles away. They walked or drove according to the provided directions until 10 total outlets were found that sold cigarettes over-the-counter. They entered, recorded the location information and verified the zip code for every outlet that sold cigarettes along the route, on both sides of the street, until all 10 total outlets for the area were found. Since the starting points were randomly selected and the post offices were randomly ordered, these were random routes. The protocol for reaching the last post office of the last zip code with less than 10 outlets recorded was to make a right turn from the main entrance of the post office and canvassing in that direction. When an outlet was found, the information was recorded, and another right turn was made, and so on until 10 total outlets were found.

Definition of Canvass:

All sampled areas were grouped into geographic clusters of adjacent zip codes and most zip codes had a post office. Every zip code in the cluster was randomly ordered. Using an online mapping system, a route from the random starting point to the post office of the first randomly ordered zip code in the cluster was mapped. A route from the post office of the first randomly ordered zip code to the post office of the second zip code was mapped. Routes were mapped from the second to the third, the third to the fourth and so on. If a zip code didn't have post office, the zip code centroid was used.

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

Surveyors entered the outlet and asked the clerk if they sold cigarettes.

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.)

Completions:

Exact Match – Exactly matched an address on the sampling frame.

Close Match – Closely matched an address on the sampling frame but had a small insignificant difference. Such as, one address was spelled slightly different than the other. For example, 32 4th street is considered a close match to 32 Fourth Street.

No Match – There wasn’t an address match on the sampling frame.

Non-completions:

Not Enough Info – There wasn’t enough information to make a determination.

Out of the Area – The outlet information was recorded by the surveyor, but the outlet was outside of the cluster area. Therefore, it could not be used for the survey.

Other Non-completion – The outlet was not completed for a reason not listed above.

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

Proc Surveymeans was used and the rate was calculated using the formula:

$$PercentCoverage = \frac{(ExactMatch) + (CloseMatch)}{(ExactMatch) + (CloseMatch) + (NoMatch)}$$

A weight was given to each outlet. The base (design) weight is the inverse of the probability of selection. The probability of selecting an outlet is calculated from the probability of selecting the nearest address. For the random strata, the probability of selecting any address is simply the total sample size of the stratum divided by the total population of the stratum.

The probability of selecting an address in the state stratum (clustered) is a little more complex. The state stratum employs a cluster design where the clusters are selected using PPS (Probability Proportionate to Size) sampling. The overall probability of selecting an outlet is the product of the probabilities of each stage of sampling (the probability of selecting a cluster in the first stage times the probability of selecting an address in the second stage).

Let,

PROBCL = Probability of selecting a cluster

PROBADD = Probability of selecting an address within the cluster

PROBST = Probability of selecting the address in the stratum

NCLUST = Number of clusters in the stratum

CPS = Cluster population size (cancels out in PPS sampling)

ELIGN = Eligible stratum population size

SAMPSIZE = Sample size of the cluster

$$(i) \quad \text{PROBCL} = (\text{NCLUST}) \times \left(\frac{\text{CPS}}{\text{ELIGN}} \right)$$

$$(ii) \quad \text{PROBADD} = \left(\frac{\text{SAMPSIZE}}{\text{CPS}} \right)$$

$$(iii) \quad \text{PROBST} = (\text{PROBCL}) \times (\text{PROBADD})$$

$$(iv) \quad \text{PROBST} = (\text{NCLUST}) \times \left(\frac{\text{CPS}}{\text{ELIGN}} \right) \times \left(\frac{\text{SAMPSIZE}}{\text{CPS}} \right)$$

$$(v) \quad \text{PROBST} = (\text{NCLUST}) \times \left(\frac{\text{SAMPSIZE}}{\text{ELIGN}} \right)$$

$$(vi) \quad \text{Base (design) Weight} = \left(\frac{(\text{ELIGN})}{(\text{NCLUST})(\text{SAMPSIZE})} \right)$$

The final weight adjusts for non-completion. Let, FINALWT = Final Weight and SAMPOBS = the number of completed and eligible sample per cluster.

$$\text{Final Weight} = \text{Base Weight} \times \left(\frac{\text{SAMPSIZE}}{\text{SAMPOBS}} \right)$$

SAS Proc Surveymeans was used to calculate the percent coverage.

ATTACHMENTS

Attachment 1: Calculation of Weighted Retailer Violation Rate Explanation

The following is an explanation of the program code used to obtain the RVR estimate and its standard error. The actual code is contained in Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code.

Program Overview

- (1) Survey data is imported.
- (2) Variable types are standardized (i.e., character or numeric).
- (3) Record level variables are created. Each record is coded as complete, incomplete, eligible and/or ineligible.
- (4) Cluster level totals are calculated.
- (5) Stratum level totals are calculated.
- (6) The *eligible* population for each stratum is estimated. The estimated number of eligible outlets per stratum (Elign) is determined with the following equation:

$$Elign = (Stsize) \cdot \left[\frac{(Sampst - Ineligst)}{Sampst} \right]$$

- (7) A base weight for each observation is calculated. The base weight is the inverse of the probability of selection. Determining the base weight requires the calculation of the probability of selection where each outlet has a quantifiable probability of selection. The survey uses a stratified cluster design with the clusters being selected using PPS (Probability Proportionate to Size) sampling. In a complex design, the overall probability of selecting an outlet is the product of each stage's probability of selection. Therefore, the survey's probability of selection is the probability of selecting a cluster multiplied by the probability of selecting an outlet within the cluster. (See **NOTE: Probability of selection**)
- (8) A final weight is calculated for each observation. The final weight is an adjustment of the base weight to account for non-completions.

```
*****SAS Code*****  
Finalwt = (Weight * (Sampsize/Sampobs));  
*****
```

- (9) The weights are exported to be checked and verified.
- (10) A weight table is created.
- (11) The weight table and weight check table are exported.
- (12) The data is recoded and prepared for Proc Surveymeans.
- (13) The weighted statewide mean, standard error and confidence bounds are calculated using Proc Surveymeans which uses the Taylor expansion method to estimate sampling errors that take into account both the between cluster and the within cluster variances.
- (14) An unweighted statewide mean is calculated.
- (15) The results are outputted.
- (16) Data is prepared for Excel.
- (17) Data is exported to Excel.

Attachment 1: Calculation of Weighted Retailer Violation Rate Explanation

NOTE: Probability of Selection

Let,

- ProbCl* = Probability of selecting a cluster,
- ProbOut* = Probability of selecting an outlet within the cluster,
- ProbSt* = Probability of selection for each outlet in the stratum,
- Nclust* = Number of clusters in the stratum,
- CPS* = Cluster population size,
- Elign* = Eligible stratum population size,
- Sampsize* = Sample size of the cluster,

Then,

$$ProbCl = (Nclust) \bullet \left(\frac{CPS}{Elign} \right)$$

$$ProbOut = \left(\frac{Sampsize}{CPS} \right)$$

$$ProbSt = (ProbCl) \bullet (ProbOut) = (Nclust) \bullet \left(\frac{CPS}{Elign} \right) \bullet \left(\frac{Sampsize}{CPS} \right) =$$

$$ProbSt = (Nclust) \bullet \left(\frac{Sampsize}{Elign} \right)$$

The Base Weight is the inverse of the probability of selection for each outlet divided by the total eligible outlets in the stratum (ELIGN). The base weight gives each sampled outlet a weight such that it sums to the number of eligible outlets in the state.

$$\text{Base Weight} = \frac{1}{(Nclust)(Sampsize)} = \frac{(Elign)}{(Nclust)(Sampsize)}$$

```
*****SAS Code*****  
Weight = (1/((Nclust * Sampsize) / (Elign)));  
*****
```

Attachment 1: Calculation of Weighted Retailer Violation Rate Explanation

Input and Output files used in the program

- (1) SynarXX.rrcode (Input) – Permanent SAS dataset contains one record for every outlet sampled. The dataset is created from the data collected from the survey forms.
- (2) WeightsXX.htm (Output) – Table that lists all sampled clusters, outlet weights, cluster sample size, eligible sample and completed sample. Also includes a table that verifies that the weights add up correctly and shows the unweighted RVR. (Attachment 3)
- (3) SurveyMeansXX.htm (Output) – table showing the statewide weighted RVR estimate, statewide standard error, statewide unweighted RVR, statewide frequencies, strata weighted RVR estimates, strata standard error and strata frequencies calculated using the SAS Surveymeans procedure. (Attachment4)
- (4) ResultTablesXX.xls (Output) – Excel tables created with the outputted data from the Surveymeans procedure. The tables contain the statewide weighted RVR estimate, statewide standard error, statewide frequencies, strata weighted RVR estimates, strata standard error and strata frequencies. (Attachment 5)

Permanent SAS datasets created

- (1) SynarXX.Rawinput – Permanent SAS dataset created from the survey data for additional analysis and comparisons to previous surveys. The dataset is used to create Form4, Form5 and to check the other forms of the Synar report. The dataset contains all records whether they are eligible, ineligible, completed or not completed. The variables are standardized so the variable types (i.e., character or numeric) are compatible with past variables. The variables Clnum, Sampob, Inelig and Elig are created and added to the dataset.
- (2) SynarXX.Weighted – Permanent SAS dataset containing one record for each eligible outlet. The weights are contained in this dataset.
- (3) SynarXX.Stratadat – Permanent SAS dataset containing strata level data. Used for additional analysis including Form1 of the Synar report.
- (4) SynarAll.RawXX – Permanent SAS dataset used in trend analysis.
- (5) SynarAll.StratXX – Permanent SAS dataset used in trend analysis.
- (6) SynarAll.WgtXX – Permanent SAS dataset used in trend analysis.

Explanation of Variables

A. Variables inputted from the survey database

1. **Anum** – Numeric cluster identifier.
2. **Snum** – Numeric outlet identifier within cluster. Snum combined with Anum uniquely identifies each outlet.
3. **Outcome** – Compliance check result. Variable is coded 1 for a sale, 2 for a refusal and 3 for a non-completion.
4. **Noncomp** – Numeric variable used to classify the non-completed compliance checks.
5. **Alcohol** – Numeric variable that identifies outlets that serve alcohol by the glass and codes them with a 1 if they serve alcohol, 2 if they don't and 3 if it cannot be determined.

Attachment 1: Calculation of Weighted Retailer Violation Rate Explanation

6. **BuyerAge** – Numeric variable that identifies the age of the youth surveyor and code them with a 1 if 15 years old, 2 if 16 years old and 3 if 17 years old.
7. **BuyerSex** - Numeric variable that identifies the sex of the youth surveyor and codes them with a 1 if male and 2 if female.
8. **BuyerHisp** – Numeric variable that identifies if the youth surveyor is of Hispanic origin and codes them with a 1 if yes and 2 if no.
9. **BuyerRace** - Numeric variable that identifies the race of the youth surveyor and codes them with a 1 if white, 2 if black, 3 if Asian and 4 if other.
10. **Adult** – Numeric variable that identifies whether the adult supervisor was in the outlet and codes them with a 1 if yes and 2 if no.
11. **AskAge** – Numeric variable that identifies whether the youth surveyor was asked their age and codes them with a 1 if yes and 2 if no.
12. **AskId** – Numeric variable that identifies if the youth surveyor was asked for identification and codes them with a 1 if yes and 2 if no.
13. **Warn** – Numeric variable that identifies if there were signs indicating selling to youth under the age of 18 is illegal and codes them with a 1 if yes and 2 if no.
14. **Clerksex** – Numeric variable that identifies the sex of the clerk and codes them with a 1 if male and 2 if female.
15. **Verifyloc** – Numeric variable that identifies if the adult supervisor verified the location fields provided on the survey form are accurate and codes them with a 1 if yes and 2 if no.

B. Outlet level variables created in the program

1. **Elig** – Variable that identifies eligible outlets by coding each observation with either a 1 or a 0 depending on its eligibility.
2. **Inelig** - Variable that identifies ineligible outlets by coding each observation with either a 1 or a 0 depending on its eligibility.
3. **Sampob** – Variable that identifies completed observations by coding each record with either a 1 or a 0.

C. Cluster level variables created within the program

1. **Sampsize** – The total number of outlets sampled per cluster.
2. **Eligs** – The total number of eligible (Elig) sampled outlets per cluster.
3. **Ineligs** - The total number of ineligible (Inelig) sampled outlets per cluster.
4. **Sampobs** – The total number of completed sample observations (Sampob) per cluster.

D. Stratum level variables created within the program

1. **Sampst** – The total number of outlets sampled (Sampsize) per stratum.
2. **Eligst** – The total number of eligible sampled outlets (Eligs) per stratum.
3. **Ineligst** – The total number of ineligible sampled outlets (Ineligs) per stratum.
4. **Nclust** – The total number of clusters per stratum.
5. **Elign** – The estimated number of eligible outlets per stratum.

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
/*-----*
|   NAME: Weight18.SAS
|  AUTHOR: Nathanael Tinik
|  TITLE: Synar 2018 weighting program
|
| DATASETS(Perm.): Synar18.RAWinput
|                  Synar18.Weighted
|                  Synar18.Stratadat
|                  SynarAll.Raw18
|                  SynarAll.Strat18
|                  SynarAll.Wgt18
|
| DATASETS(Out): ResultTables18.xls
|
|   PROC OUTPUT: SurveyMeans18.htm
|                Weights18.htm
|
| FUNCTION: See notes at the bottom of the program
| NOTES: (See notes at the bottom of the program)
|
|
|           *Check "Synar&yr..Rawinput" to make sure it
|           matches the eligible rules decided on.
|           *Update "Given2". Eventually rewrite program
|           to read in strata data from SynarALL
|
*-----*/

*Last 2 digits of current year;
%let yr=18;

Libname Synar&yr.
"\\dhpacwicpapp901\usershare\Shared\StatServe\SASlibs\SYNAR\Synar&yr."
;
Libname SynarALL
"\\dhpacwicpapp901\usershare\Shared\StatServe\SASlibs\SYNAR\SynarALL";
Libname Licen&yr.
"\\dhpacwicpapp901\usershare\Shared\StatServe\SASlibs\SYNAR\Licen&yr."
;

Filename Tables
"\\dhpacwicpapp901\usershare\Shared\StatServe\SYNAR20&yr.\Results\FINAL-Weighted-Results\Weights&yr..htm";
Filename WTRES
"\\dhpacwicpapp901\usershare\Shared\StatServe\SYNAR20&yr.\Results\FINAL-Weighted-Results\SurveyMeans&yr..htm";

Proc Catalog Catalog=Synar&yr..Formats&yr.; Copy Out=Work.Formats;Run;

/*rrecode is the raw recode of Survey123 export created in Ck1-
S123_Recode in DataChecks folder. New for 2017, replaces import of
Access database*/
Data Steelers(Drop=Anum);
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Set Synar&yr..rrecode;
Anum2=Put (Anum,$4.);
Run;

Data Preraw(Drop=Anum2 Snum Stratum2 Clnum2 Outlet);
Set Steelers;
Stratum2=Substr(Anum2,1,2);
Clnum2=Substr(Anum2,3,2);
Anum3=Anum2+0;
Snum2=Snum+0;
Stratum=Stratum2+0;
Clnum=Clnum2+0;
Outtemp=Outlet+0;
Run;

Data Rawin(Drop=Anum3 Snum2 Non_Completion Warnsign Outtemp);
Set Preraw;
Anum=Anum3;
Snum=Snum2;
Noncomp=Non_Completion+0;
Warn=Warnsign;
Outlet=Outtemp;
Run;

Proc Sort Data=Rawin; By Stratum Anum Snum; Run;

*----- Code data -----*;
Data Synar&yr..Rawinput;
Set Rawin;
By Stratum Anum Snum;
Options Missing=0;
Inelig=0;
Sampob=0;
Elig=0;
If (Clnum Eq 0) Then Clnum=1;
If ((Outcome Eq 1) Or (Outcome Eq 2)) Then Sampob=1;
If Noncomp In(1 2 3 4 5 6 7 8 9 10 11 12) Then Inelig=1;
If (Noncomp In(13 14)) Or (Outcome In(1 2)) Then Elig=1;
If (Outcome Eq 1) Then Violate=1;
Run;
Proc Sort; By Stratum Anum Snum; Run;
Data SynarAll.Raw&yr.;
Retain Year Stratum Anum Snum Clnum Sampob Elig Inelig Violate
Outcome
Outlet Noncomp Alcohol Buyersex Buyerage Adult Askid Askage
Warn
Clerksex;
Set Synar&yr..Rawinput;
Year=20&yr.;
Run;

*----- Cluster Level Totals -----*;
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Data Given1 (Keep=Anum Stratum Sampsize Ineligs Sampobs Eligs Clnum
Violates);
  Set Synar&yr..Rawinput;
  By Anum Snum;
  Options Missing=0;

If First.Anum Then Do; Sampsize=0; Ineligs=0; Sampobs=0; Eligs=0;
                          Violates=0; End;

  Sampsize+1;
  Ineligs+Inelig;
  Sampobs+Sampob;
  Eligs+Elig;
  Violates+Violate;
If Last.Anum;
Run;
Proc Sort; By Stratum Anum; Run;

*----- Strata Level Totals -----*;
Data Sumit (Keep=Stratum Sampst Ineligst Nclust Eligst Sampobst
Violatst);
  Set Given1;
  By Stratum Anum;

If First.Stratum Then Do; Sampst=0; Ineligst=0; Nclust=0; Eligst=0;
                          Violatst=0; Sampobst=0; End;

  Sampst+Sampsize;
  Sampobst+Sampobs;
  Ineligst+Ineligs;
  Eligst+Eligs;
  Violatst+Violates;
  Nclust=Clnum;
If Last.Stratum Then Output;
Run;

Data Sumall;
  Merge Given1 Sumit;
  By Stratum;
Run;

Proc Sort; By Stratum Anum; Run;

Data Given2;
  Set Sumall;
  By Stratum Anum;
  Elign=0;
  Temp=1;

*Stsize updated for 2018;
/* -----
-----*
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
*
\\dhpacwicpapp901\usershare\Shared\StatServe\SYNAR20&yr.\SAMPLE\Output
\Prestage1.Htm *
*-----*
-----*/

If (Stratum Eq 1) Then Do;                               /*North
Central*/
    Stsize = 1042;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 2) Then Do;                               /*Northeast*/
    Stsize = 2804;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 3) Then Do;                               /*Northwest*/
ER)*/
    Stsize = 1020;                                       /* (Minus
ER)*/
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 4) Then Do;                               /*South
Central*/
    Stsize = 2250;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 5) Then Do;                               /*Southeast*/
DE,PH)*/
    Stsize = 3512;                                       /* (Minus
DE,PH)*/
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 6) Then Do;                               /*Southwest*/
AL)*/
    Stsize = 2162;                                       /* (Minus
AL)*/
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 7) Then Do;                               /*Allegheny*/
    Stsize = 1820;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
If (Stratum Eq 8) Then Do;
/*Delaware*/
    Stsize = 768;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 9) Then Do;                                /*Erie*/
    Stsize = 383;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

If (Stratum Eq 10) Then Do;
/*Philadelphia*/
    Stsize = 5032;
    Elign = ((Stsize)*((Sampst-Ineligst)/Sampst));
    Elign = Round(Elign,1); End;

Run;

Proc Sort; By Stratum Anum; Run;

*****
* Base Weight: Since clusters were selected with probability          *
* proportionate to size, the size of the cluster cancels out and    *
* the base weight is the inverse of the number of opportunities an  *
* observation had to be selected (Nclust * Sampsize) divided by the *
* estimated number of eligible outlets in the stratum (Elign).      *
* .....*
* Final Weight: Final Wgt adjusts for original sample elements      *
* for which data was not collected for any reason.                  *
*****;

Data Weights;
Set Given2;
  By Stratum;
  *Temp Is Only Needed For Printing The Weights Table;
Temp=1;
Weight = (1/((Nclust * Sampsize) / (Elign)));
Finalwt = (Weight * (Sampsize/Sampobs));
Run;

*Stratum level data. Can be used for Form1;
Data prestr(Drop=Stnum);
  Set Licen&yr..Distfreq;
  Stratum=Stnum;
Run;
Proc sort; By Stratum; run;

Data prStrat(Keep=Stratum Stsize Elign Nclust Sampst Eligst
  Ineligst Sampobst Violatst);
  Set Weights;
  By Stratum;
  If first.Stratum;
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Run;
Proc sort; By Stratum; run;

Data Synar&yr..Stratadat(drop=nclust);
  Attrib Sname length=$5;
  Merge prStrat prestr;
  By Stratum;
  If stratum in(1 2 3 4 5 6) Then PSUfinal=PSUsamp;
  If stratum in(7 8 9 10) Then PSUfinal=SAMPOBST;
Run;
*Add state totals;
Data stated(keep=stratum sampst Ineligst Eligst Violatst Sampobst
  Elign Stsize
    Sname PSUtot PSUsamp PSUfinal);
  Attrib Sname length=$5;
  set synar&yr..stratadat end=a;
  tSampst + sampst;
  tIneligst + Ineligst;
  tEligst + Eligst;
  tViolatst + Violatst;
  tSampobst + Sampobst;
  tElign + Elign;
  tStsize + Stsize;
  tPSUtot + PSUtot;
  tPSUsamp + PSUsamp;
  tPSUfinal + PSUfinal;
  If a then do;
    Stratum=0;
    Sampst=tSampst;
    Ineligst=tIneligst;
    Eligst=tEligst;
    Violatst=tViolatst;
    Sampobst=tSampobst;
    Elign=tElign;
    Stsize=tStsize;
    Sname="State";
    PSUtot=tPSUtot;
    PSUsamp=tPSUsamp;
    PSUfinal=tPSUfinal;
  Output;
End;
run;
Data Synar&yr..Stratadat; set stated Synar&yr..Stratadat; Run;
Data SynarALL.Strat&yr.; set Synar&yr..Stratadat; Run;
Proc sort; by Stratum; run;

Data A;
  Set Given2;
  By Stratum;
*Temp Is Only Needed For Printing The Weights Table;
Temp=1;
If First.Stratum;
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Output;
Run;

Proc Means Data=A Sum Noprint;
  Var Elign;
  Id Temp;
Output Out=Elignsum Sum=Totelign;
Run;

Data Printit;
  Merge Weights Elignsum;
  By Temp;
Run;

* Weight Check;
Data Chk;
Set Weights;
*Base weight: The sum should equal the total eligible population;
Checkb=Weight*Sampsize;
*Final weight: The sum should equal the total eligible population;
Checkf=Finalwt*Sampobs;
Run;

Ods Html Body=Tables
  Rs=None;
Proc Means Sum;
  Var Checkb Checkf;
  Label Checkb="Base Weight Check" Checkf="Final Weight Check";
  Title "20&yr. Synar Weight Check";
Run;

Proc Print Data = Printit label split="$";
  Id Anum;
  Var Stratum Weight Finalwt Nclust Sampsize Eligs Sampobs Sampst
  Elign Totelign;
  Label Weight="Outlet$BaseWt" Finalwt="Outlet$Finalwt"
  Nclust="Cluster$Total"
  Sampsize="Cluster$Samplesize" Eligs="Cluster$Elig"
  Sampobs="Cluster$Completed"
  Sampst="Stratum$Samplesize" Elign="Stratum$Elig"
  Totelign="State$Eligible";
  Format Stratum Stra2fmt.;
  Title "20&yr. Synar Weights Table";
Run;
Ods Html Close;
Quit;

/* preobs is needed to assure that all sampobs will be recognized even
if the
  last record of the stratum is an inelligible non sample observation
like
  stratum 9 in 2006.*/
```

Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Data preobs;
  Set Synar&yr..Rawinput;
  If (Sampob Eq 1);
Run;

Data Observ (Drop=A B);
  Merge preobs Weights;
  By Stratum Anum;
  Psu_Id=0;
  Co_Str=0;
  Rec_Num=0;
  If Last.Stratum Then LStrat=1;

  If Stratum In(1,2,3,4,5,6) Then Do;
    A+1; Rec_Num=A; Co_Str=Stratum; Psu_Id=Anum+0;
    If Lstrat=1 Then A=0;
  End;

  If Stratum In(7 8 9 10) Then Do;
    *Multiply by 10 so numbers dont overlap if cluster bigger than
    100;
    B+1; Rec_Num=B; Co_Str=Stratum; Psu_Id=(Anum*10)+B;
    If Lstrat=1 Then B=0;
  End;

Run;

Proc Sort Data=Observ; By Stratum Anum; Run;
Proc Sort Data=Weights; By Stratum Anum; Run;

Data Synar&yr..Weighted;
  Merge Observ Weights;
  By Stratum Anum;
Run;
Proc Sort Data=Synar&yr..Weighted; By Stratum Anum; Run;
Data SynarALL.Wgt&yr.(drop=temp lstrat);
  Retain Stratum Co_Str Clnum PSU_ID Anum Snum Rec_num Weight
Finalwt Stsize
  Elign Sampobst Violatst Eligst Nclust Ineligst Sampst Violates
Eligs
  Sampobs Ineligs Sampsize Inelig Sampob Elig Violate Outcome
Outlet
  Noncomp Alcohol Buyersex Buyerage Buyerhisp Buyerrace Adult
Askid
  Askage Warn Clerksex Verifyloc;
  Set Synar&yr..Weighted;
  Year=20&yr.;
Run;

Options Nodate;
Ods Html Body=Wtres;
```


Attachment 2: Calculation of Weighted Retailer Violation Rate SAS Programming Code

```
Proc Surveymeans Data=Synar&yr..Weighted;
  Class Outcome;
  Strata Co_Str;
  Cluster Psu_Id;
  Var Outcome;
  Weight Finalwt;
  Format Stratum Stra2fmt.;
  Title "Final Weighted Results 20&yr.";
  ODS Output Statistics=Xstat
             Summary=Xsum;
Run;

Proc Freq Data=Synar&yr..Weighted;
  Tables Outcome;
  Format Outcome Q1fmt.;
  Title "Unweighted Results";
Run;

Proc Surveymeans Data=Synar&yr..Weighted;
  Domain Stratum;
  Class Outcome;
  Strata Co_Str;
  Cluster Psu_Id;
  Var Outcome;
  Weight Finalwt;
  Format Stratum Stra2fmt.;
  Title "Final Weighted Results 20&yr. (By Stratum)";
  ODS Output Domain=Ystat
             Summary=Ysum;
Run;
Ods Html Close;
Quit;
```

Attachment 3: Weight Check and Weights Table

2018 Synar Weight Check

The MEANS Procedure

Variable	Label	Sum
Checkb	Base Weight Check	13812.00
Checkf	Final Weight Check	13812.00

2018 Synar Weights Table

Anum	Stratum	Outlet BaseWt	Outlet Finalwt	Cluster Total	Cluster Samplesize	Cluster Elig	Cluster Completed	Stratum Samplesize	Stratum Elig	State Eligible
101	NC	6.9510	8.4405	6	17	14	14	119	709	13812
102	NC	6.9510	9.0897	6	17	13	13	119	709	13812
103	NC	4.5449	9.0897	6	26	13	13	119	709	13812
104	NC	6.9510	9.0897	6	17	13	13	119	709	13812
105	NC	6.9510	7.8778	6	17	15	15	119	709	13812
106	NC	4.7267	9.0897	6	25	13	13	119	709	13812
201	NE	9.2598	11.2440	12	17	15	14	236	1889	13812
202	NE	6.2967	12.1090	12	25	13	13	236	1889	13812
203	NE	8.2851	12.1090	12	19	13	13	236	1889	13812
204	NE	7.1553	12.1090	12	22	13	13	236	1889	13812
205	NE	7.4960	12.1090	12	21	13	13	236	1889	13812
206	NE	8.2851	12.1090	12	19	13	13	236	1889	13812
207	NE	9.2598	11.2440	12	17	14	14	236	1889	13812
208	NE	7.8708	12.1090	12	20	13	13	236	1889	13812
209	NE	8.7454	12.1090	12	18	13	13	236	1889	13812
210	NE	7.1553	12.1090	12	22	13	13	236	1889	13812
211	NE	8.2851	12.1090	12	19	13	13	236	1889	13812
212	NE	9.2598	12.1090	12	17	13	13	236	1889	13812
301	NW	6.2456	9.1282	6	19	13	13	116	712	13812
302	NW	6.2456	9.1282	6	19	13	13	116	712	13812
303	NW	5.9333	9.1282	6	20	13	13	116	712	13812
304	NW	6.9804	9.1282	6	17	14	13	116	712	13812
305	NW	6.9804	7.9111	6	17	15	15	116	712	13812
306	NW	4.9444	9.1282	6	24	13	13	116	712	13812
401	SC	9.8353	13.9333	10	17	12	12	187	1672	13812
402	SC	9.2889	12.8615	10	18	13	13	187	1672	13812
403	SC	9.8353	11.9429	10	17	15	14	187	1672	13812
404	SC	8.8000	12.8615	10	19	13	13	187	1672	13812

Attachment 3: Weight Check and Weights Table

405	SC	9.8353	12.8615	10	17	13	13	187	1672	13812
406	SC	9.8353	9.8353	10	17	17	17	187	1672	13812
407	SC	8.3600	12.8615	10	20	13	13	187	1672	13812
408	SC	9.8353	10.4500	10	17	16	16	187	1672	13812
409	SC	5.9714	12.8615	10	28	14	13	187	1672	13812
410	SC	9.8353	12.8615	10	17	13	13	187	1672	13812
501	SE	8.1563	13.3466	16	18	11	11	305	2349	13812
502	SE	8.6360	12.2344	16	17	12	12	305	2349	13812
503	SE	8.6360	12.2344	16	17	12	12	305	2349	13812
504	SE	7.3406	11.2933	16	20	13	13	305	2349	13812
505	SE	6.3832	11.2933	16	23	13	13	305	2349	13812
506	SE	7.7270	11.2933	16	19	13	13	305	2349	13812
507	SE	8.6360	11.2933	16	17	13	13	305	2349	13812
508	SE	6.1172	11.2933	16	24	13	13	305	2349	13812
509	SE	7.7270	11.2933	16	19	13	13	305	2349	13812
510	SE	8.6360	11.2933	16	17	13	13	305	2349	13812
511	SE	8.6360	11.2933	16	17	13	13	305	2349	13812
512	SE	8.6360	11.2933	16	17	13	13	305	2349	13812
513	SE	6.6733	11.2933	16	22	13	13	305	2349	13812
514	SE	7.3406	11.2933	16	20	13	13	305	2349	13812
515	SE	7.7270	11.2933	16	19	13	13	305	2349	13812
516	SE	7.7270	11.2933	16	19	13	13	305	2349	13812
601	SW	6.7560	9.8741	11	19	13	13	222	1412	13812
602	SW	7.5508	9.8741	11	17	13	13	222	1412	13812
603	SW	6.4182	9.8741	11	20	13	13	222	1412	13812
604	SW	4.9371	9.8741	11	26	14	13	222	1412	13812
605	SW	6.1126	9.8741	11	21	13	13	222	1412	13812
606	SW	6.7560	9.8741	11	19	13	13	222	1412	13812
607	SW	7.5508	9.1688	11	17	14	14	222	1412	13812
608	SW	5.8347	9.8741	11	22	13	13	222	1412	13812
609	SW	7.1313	9.8741	11	18	13	13	222	1412	13812
610	SW	5.8347	9.8741	11	22	13	13	222	1412	13812
611	SW	6.1126	9.8741	11	21	13	13	222	1412	13812
700	AL	7.9692	14.0000	1	130	74	74	130	1036	13812
800	DE	4.9545	6.9872	1	110	78	78	110	545	13812
900	ER	2.6000	3.8235	1	100	68	68	100	260	13812
1000	PH	12.1811	18.9882	1	265	170	170	265	3228	13812

Attachment 4: Survey Means Table

Final Weighted Results 2018

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	10
Number of Clusters	451
Number of Observations	1194
Sum of Weights	13812

Class Level Information		
Variable	Levels	Values
Outcome	2	1 2

Statistics						
Variable	Level	N	Mean	Std Error of Mean	95% CL for Mean	
Outcome	1	89	0.091301	0.009588	0.07245777	0.11014428
	2	1105	0.908699	0.009588	0.88985572	0.92754223

Unweighted Results

The FREQ Procedure

Outcome	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Sale	89	7.45	89	7.45
Refusal	1105	92.55	1194	100.00

Final Weighted Results 2018 (By Stratum)

The SURVEYMEANS Procedure

Data Summary	
Number of Strata	10
Number of Clusters	451
Number of Observations	1194
Sum of Weights	13812

Attachment 4: Survey Means Table

Class Level Information		
Variable	Levels	Values
Outcome	2	1 2

Statistics						
Variable	Level	N	Mean	Std Error of Mean	95% CL for Mean	
Outcome	1	89	0.091301	0.009588	0.07245777	0.11014428
	2	1105	0.908699	0.009588	0.88985572	0.92754223

Final Weighted Results 2018 (By Stratum)

The SURVEYMEANS Procedure

Statistics for Stratum Domains							
Stratum	Variable	Level	N	Mean	Std Error of Mean	95% CL for Mean	
NC	Outcome	1	5	0.060684	0.029022	0.00364495	0.11772257
		2	76	0.939316	0.029022	0.88227743	0.99635505
NE	Outcome	1	11	0.069597	0.017589	0.03502872	0.10416542
		2	147	0.930403	0.017589	0.89583458	0.96497128
NW	Outcome	1	0	0	0	0.00000000	0.00000000
		2	80	1.000000	0	1.00000000	1.00000000
SC	Outcome	1	8	0.061081	0.021934	0.01797261	0.10418856
		2	129	0.938919	0.021934	0.89581144	0.98202739
SE	Outcome	1	12	0.058967	0.018018	0.02355465	0.09437949
		2	192	0.941033	0.018018	0.90562051	0.97644535
SW	Outcome	1	7	0.048951	0.029833	0.00000000	0.10758394
		2	137	0.951049	0.029833	0.89241606	1.00000000
AL	Outcome	1	0	0	0	0.00000000	0.00000000
		2	74	1.000000	0	1.00000000	1.00000000
DE	Outcome	1	3	0.038462	0.021915	0.00000000	0.08153333
		2	75	0.961538	0.021915	0.91846667	1.00000000
ER	Outcome	1	4	0.058824	0.028746	0.00232784	0.11531922
		2	64	0.941176	0.028746	0.88468078	0.99767216
PH	Outcome	1	39	0.229412	0.032343	0.16584687	0.29297666
		2	131	0.770588	0.032343	0.70702334	0.83415313

Attachment 5: 2018 Synar Inspection Form – Completion Screenshots

The following table summarizes the content of each screenshot in the grid:

Screenshot	Content
1 (Top Left)	License Number: * Area Number: Sample Number: Business Name: Business Name 2: Business Address: Business Address 2: City: Zip: County:
2 (Top Middle)	Date and time of visit: y, October 24, 2018 4:10 PM What was the outcome? * Your response to this question will cause other relevant questions to appear below. <input checked="" type="radio"/> Sale <input type="radio"/> Refusal <input type="radio"/> Non-completion Type of retail outlet (select one): * <input type="radio"/> Bar/tavern <input type="radio"/> Beer distributor <input type="radio"/> Convenience/gas <input type="radio"/> Convenience/grocery/no gas <input type="radio"/> Dollar store <input type="radio"/> Pharmacy/drug store <input type="radio"/> News outlet <input type="radio"/> Restaurant/deli <input type="radio"/> Supermarket
3 (Top Right)	<input type="radio"/> Tobacco <input type="radio"/> EMP-LOT-PVR-UNL <input type="radio"/> Other Sex of buyer: * <input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other Age of buyer: * <input type="radio"/> 15 <input type="radio"/> 16 <input type="radio"/> 17 Is the buyer of Hispanic, Latino or Spanish origin? * <input type="radio"/> Yes <input type="radio"/> No Race of buyer: *
4 (Bottom Left)	<input type="radio"/> White <input type="radio"/> Black <input type="radio"/> Asian <input type="radio"/> Other Does the outlet serve alcohol for on-site consumption? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown Was adult supervisor in the outlet? <input type="radio"/> Yes <input type="radio"/> No Was buyer asked to show ID? <input type="radio"/> Yes <input type="radio"/> No Was buyer asked his/her age?
5 (Bottom Middle)	<input type="radio"/> Yes <input type="radio"/> No Were warning signs visible? <input type="radio"/> Yes <input type="radio"/> No Sex of clerk: <input type="radio"/> Male <input type="radio"/> Female <input type="radio"/> Other Were location fields accurate? <input type="radio"/> Yes <input type="radio"/> No Notes:
6 (Bottom Right)	<input type="radio"/> No Notes: Questions? Contact Nathanael Tinik at the Division of Health Informatics (717-547-3646) or ntinik@pa.gov .

Attachment 5: 2018 Synar Inspection Form – Non-completion Screenshots

Survey123 for ArcGIS

Synar Electronic Collection Form 2018

License Number: *

Area Number:

Sample Number:

Business Name:

Business Name 2:

Business Address:

Business Address 2:

City:

Zip:

County:

Survey123 for ArcGIS

Synar Electronic Collection Form 2018

Date and time of visit:

y, October 24, 2018 4:10 PM

What was the outcome? *

Your response to this question will cause other relevant questions to appear below.

Sale

Refusal

Non-completion

Type of retail outlet (select one): *

Bar/tavern

Beer distributor

Convenience/gas

Convenience/grocery/no gas

Dollar store

Pharmacy/drug store

News outlet

Restaurant/deli

Supermarket

Survey123 for ArcGIS

Synar Electronic Collection Form 2018

Tobacco

EMP-LOT-PVR-UNL

Other

Non-completion type (select one): *

(CBB) Cigarettes Behind Bar

(BNA) Bar Not Accessible

(DNS) Does Not Sell

(DUP) Duplicate

(EMP) Empty Building

(ITV) Itinerant Vendor

(LOT) Empty Lot

(OCN) Outlet Closed/Not Access.

(ONA) Other/Not Accessible

(PCL) Private Club

(PVR) Private Residence

(UNL) Unlocatable

(ACC) Accessible - Other

(ODG) Outlet Dangerous

Survey123 for ArcGIS

Synar Electronic Collection Form 2018

Were location fields accurate?

Yes

No

Notes:

Questions? Contact Nathanael Tinik at the Division of Health Informatics (717-547-3646) or ntinik@pa.gov.

III. Survey Procedures

Conducting a Valid Survey

Probability theory allows the use of well-defined segments (sample) of a population to estimate characteristics describing that population. Pennsylvania's Synar survey uses probability theory and a small sample of cigarette outlets to estimate the proportion of cigarette outlets which sell cigarettes to youth under the age of 18. Since a small sample is used to make inferences about the entire population, any errors or biases are magnified many times. To prevent inaccurate results and ensure the integrity and validity of the survey, surveyors must employ the following characteristics or follow the "SCRIPT".

Secret **C**onsistent **R**igorous **I**mpartial **P**atient **T**enacious

Secret. Keep the survey a secret. The survey is "unannounced" and cannot be mentioned to the public for the entire survey period. Participants should not initiate conversations about their participation in this survey with persons outside the survey team, except for their parents. If asked about the survey, it is acceptable to explain that a yearly survey is conducted to estimate the rate that retailers sell cigarettes to minors, but do not give specifics of the sampled outlets or the timeframe of the survey.

Consistent. The same survey procedures must be followed throughout the state. Any variation in procedures will bias the survey results. Every store must be attempted in exactly the same manner. Strictly comply with the survey rules and procedures. An approximately equal number of inspections must be conducted by male and females throughout the state and a consistent distribution of male and female inspectors must be maintained from year to year to make valid year to year comparison.

Rigorous. Rigorously complete the Survey Report Form and all accompanying forms. The Survey Report form is the primary tool for the Synar survey. Properly complete all forms. The survey results are meaningless if the data on the form is inaccurate. Consult the manual or contact DSS (*see Figure 1*). Give detailed explanations, when they are required. The more information given, the easier it is to identify and correct problems.

Impartial. Remain impartial to the inspection outcome. Do not bias the outcome with your actions. A successful inspection is NOT achieved by enticing a sale or a refusal. A successful inspection is defined as one where the surveyor follows survey procedures and documents exactly what happened. Even though a high "Refusal" rate is desired, as surveyors it is your responsibility to be indifferent to the outcome of the inspection. Any actions taken to lower the violation rate are done before or after the entire survey period, not during the survey.

Attachment 6: Inspection Protocol

Patient. Remain patient throughout the entire survey process. Surveys rely on many different people with many different personalities. Unexpected delays should be expected.

Tenacious. Don't quit until all eligible outlets on the list are inspected. If the outlet is eligible and safe, complete the inspection. The completion rate or the percent of completed eligible outlets is very important to survey validity. A low completion rate negatively affects the validity of the survey.

Procedures for Attempting to Purchase Tobacco

Checklist before Departure

- A list of outlets, directions and maps
- A Letter of Verification
- Cash for purchases
- Forms for recording the results of each compliance check
- Black ink pens (*no markers or pencils*)
- A plastic bag to hold the cigarettes purchased
- Parental permission slips for the youth participants

Prior to Inspection (before entering the outlet)

Adult supervisor:

- Ensure the vehicle is parked out of site of outlet personnel.
- Evaluate the outlet for safety from the outside.
- Evaluate the outlet for eligibility. Although the outlet may be included on the sample list, locations inaccessible to the public (e.g., private clubs, prisons, and private homes) are not part of the survey, but must be accounted for on the Report Form and accounting forms. If there is a sign on the entrance stating that no one under the age of 21 or 18 is permitted, do not allow the minor to enter that outlet.

Youth Participant:

- Decide which brand of cigarettes will be attempted before entering the outlet.
- Decide on a similar back-up brand in the event that the first choice is not in stock.
- Carry more than enough money to cover the cost of the cigarettes.

During Inspection

Adult supervisor:

- Enter the outlet before the youth.
- Evaluate the outlet for safety from the inside. If it is deemed unsafe, leave immediately and stop the youth from entering.
- Locate where cigarettes are located and look for warning signs.
- Observe the gender of the clerk.
- Determine whether the outlet sells alcohol for on-site consumption.

Attachment 6: Inspection Protocol

- If the outlet sells alcohol, determine whether the cigarettes are sold from behind the bar.
- If the outlet is a non-completion, gather enough information to satisfy the collection forms.
- If budgeted, the adult can purchase a small item to appear inconspicuous.
- In some cases, the outlet may be too small for the adult to enter without tipping off the clerk. If the supervisor does not enter the outlet, an explanation is given on the Survey Report Form and Compliance Sheet.

Youth Participant:

- Enter the outlet after the adult supervisor had enough time to establish that the inside of the outlet is safe.
- Attempt to purchase cigarettes.

Both the adult supervisor and the youth participant should appear as inconspicuous as possible in the outlet and not wear or carry anything that will make them stand out. Do not take the data collection forms or note pads into the outlet.

Post Inspection (After leaving the outlet)

Adult supervisor:

- Immediately after exiting the outlet, complete the Survey Report Form with the youth. Instructions for completing the form are located in Appendix 1 of this manual.
- After each sale, attach a label to the cigarettes purchased, with the name and address of the outlet and the date on it. Place the purchase in a plastic bag.
- Discuss the experience with the youth.

Youth Participant:

- Assist the adult with the Survey Report Form.
- Discuss your experience with the adult and voice any concerns.

General Survey Procedures

- ◆ Synar survey uses “**Address Based Sampling**.” When an address is visited and the business name is different than what is listed on the sample list, inspect the outlet at the address, regardless of the name.
- ◆ If the youth participant enters a sampled outlet that is accessible to minors and finds that it only sells cigarettes through a **vending machine**, the youth participant **must** attempt to buy cigarettes from the vending machine.
- ◆ Make only **one attempt** to purchase per outlet.
- ◆ Adult supervisors will not wear **uniforms** or visible forms of **identification**.

Attachment 6: Inspection Protocol

- ◆ Youth participants will not wear clothing that could be perceived as "gang related".
- ◆ Youth participants will *not* take their **IDs** into the outlets.
- ◆ Serving **alcohol** is NOT a valid non-completion reason. An outlet is NOT inaccessible just because it serves alcohol.
- ◆ Youth participants will *not* attempt to purchase cigarettes if someone in the outlet **knows them**. The outlet must be revisited at another time.
- ◆ **Survey procedures** must be the same for every outlet. A **script** should be followed when attempting to purchase cigarettes to avoid biasing survey results.
- ◆ Youth participants will **answer all questions honestly**. If the clerk asks for whom the cigarettes are being purchased, the youth is to respond "me".
- ◆ The youth participant will give his/her **age** accurately, if asked by the clerk. It is against the law to knowingly and falsely represent oneself to be 18 years of age or older to purchase cigarettes.
- ◆ **Do not argue with the clerk**. If the clerk refuses to sell to the youth participant, leave the outlet quietly and do not argue or try to persuade the clerk to sell.
- ◆ **Complete the entire sample list**. It is very important to attempt every outlet on the sample list. The completion rate is an important aspect of any survey.
- ◆ **NEVER use youth under the age of 15**.
- ◆ The definition of a "**Sale**" is when money changes hands and the youth leaves the counter with cigarettes OR the youth obtains cigarettes from a vending machine, the transaction is considered a "sale", even if the employee follows the youth outside and demands that they return the cigarettes.
- ◆ A **refusal** is when the youth asks for cigarettes and is refused by the clerk.
- ◆ A **non-completion** is when the youth does not have the chance to attempt to buy cigarettes because of one of the non-completion reasons described in Appendix 2.