

ANNUAL SYNAR REPORT

42 U.S.C. 300x-26

OMB № 0930-0222

FFY 2015

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 2014 Compliance Progress) and future plans to ensure compliance with the Synar requirements to reduce youth tobacco access rates (FFY 2015 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.

Getting assistance in completing the Synar report

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

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 2015: 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 2015 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 2015 is up-to-date and approved by the Center for Substance Abuse Prevention.

State: Pennsylvania

Name of Chief Executive Officer or Designee: Tom Corbett

Signature of CEO or Designee:

Title: Governor

Date Signed: December 31, 2014

If signed by a designee, a copy of the designation must be attached.

SECTION I: FFY 2014 (Compliance Progress)

YOUTH ACCESS LAWS, ACTIVITIES, AND ENFORCEMENT

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

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

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

Yes No

If Yes, current minimum age: 19 20 21

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

Yes No

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

Changed to require that law enforcement conduct inspections of tobacco outlets

Changed to make it illegal for youth to possess, purchase or receive tobacco

Changed to require ID to purchase tobacco

Other change(s) (Please describe.) _____

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

Licensing of tobacco vendors Yes No

Penalties for sales to minors Yes No

Vending machines Yes No

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

(Check all that apply.)

Placed on file for public review

Posted on a state agency Web site (Please provide exact Web address and the date when the FFY 2015 ASR was posted to this Web address.) **Posted 12/22/2014 at:**

<http://www.prtal.state.pa.us/portal/server.pt?open=512&objID=1186018&mode=2>

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.) Listserve announcing ASR availability on 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:**

The Pennsylvania Department of Health

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

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

- 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.*) _____

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

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

- e. **Has the responsible agency changed since last year’s Annual Synar Report?**
 Yes No

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

- Are the same
 Have a formal written memorandum of agreement
 Have an informal partnership
 Conduct joint planning activities
 Combine resources
 Have other collaborative arrangement(s) *(Please describe.)* _____

- g. **Does the state use data from the FDA enforcement inspections for Synar survey reporting?**
 Yes No

5. **Please answer the following questions regarding the state’s activities to enforce the state’s youth access to tobacco law(s) in FFY 2014 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130(e)).**

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

- Enforcement is conducted exclusively by local law enforcement agencies.
 Enforcement is conducted exclusively by state agency (ies).
 Enforcement is conducted by both local *and* state agencies.

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

PENALTY	OWNERS	CLERKS	TOTAL
Number of <u>citations issued</u>	524*	59	583
Number of <u>finest assessed</u>	56**	59	115
Number of <u>permits/licenses suspended</u>	0***		0
Number of <u>permits/licenses revoked</u>	0***		0
Other <i>(Please describe.)</i>	NA	NA	NA

Notes:

- * Philadelphia has its own laws pertaining youth access to tobacco products and only cites owners.
- ** Under Pennsylvania law, retailers get three (3) affirmative defenses during a 24 month period.
- ** Number of fines assessed is not available for Philadelphia.
- *** The Department of Health continues to work with the Department of Revenue to finalize criteria to suspend and revoke tobacco retailer licenses.

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

- Enforcement is conducted only at those outlets randomly selected for the Synar survey.
- Enforcement is conducted only at a subset of outlets not randomly selected for the Synar survey.
- Enforcement is conducted at a combination of outlets randomly selected for the Synar survey and outlets not randomly selected for the Synar survey.

d. Did every tobacco outlet in the state receive at least one compliance check that included enforcement of the state youth tobacco access law(s) in the last year?

- Yes No

e. What additional activities are conducted in your state to support enforcement and compliance with state youth tobacco access law(s)? (Check all that apply.)

- Merchant education and/or training
- Incentives for merchants who are in compliance (e.g., nonenforcement compliance checks in which compliant retailers are given positive reinforcement and noncompliant retailers are warned about youth access laws)
- Community education regarding youth access laws
- Media use to publicize compliance inspection results
- Community mobilization to increase support for retailer compliance with youth access laws
- Other activities *(Please list.)* Young Lungs at Play; Multi-unit Housing Initiative

Briefly describe all checked activities:

Merchant education remains on-going, along with community education and the publication of non-compliance offenders through media at the local level by the eight regional tobacco prevention and control primary contractors (RPCs). Community mobilization also occurs at the regional level through the RPCs, with support from the Division of Tobacco Prevention and Control (DTPC).

The DTPC, through the RPCs, maintains local youth coalitions. Participants of these coalitions work on initiatives that educate the public about tobacco prevention and cessation.

The DTPC partnered with the Pennsylvania Alliance to Control Tobacco (PACT), Pennsylvania's statewide advocacy partner, to revamp a statewide youth coalition called Tobacco Resistance Unit, or TRU. TRU is a statewide movement aimed at helping youth ages 12-18 stay tobacco and nicotine free and prevent and stop youth tobacco use through education.

The Food and Drug Administration's website for their Tobacco Compliance contracts with states lists 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.

DTPC has several initiatives that impact compliance with Pennsylvania's youth access law by implementing community based programs that change community norms through environmental approaches to promote healthy behaviors. Young Lungs at Play (YLAP) was adapted from successful initiatives in Rockland County, New York and Luzerne County, Pennsylvania. YLAP promotes establishment of tobacco-free parks and playgrounds. Participating communities and organizations receive signs in English and Spanish free of charge to display in tobacco-free areas. YLAP has reached disparate populations across Pennsylvania with considerable success rates in low income and African American areas as well as rural playgrounds and parks. Currently, there are over 536 YLAP programs in local boroughs, townships, municipalities, youth organizations and school districts including all recreational parks and playgrounds within the City of Pittsburgh. DTPC maintains an "Honor Roll" listing of YLAP sites on the Pennsylvania Department of Health (DOH) website and a Certificate of Recognition signed by the Secretary of Health is provided to all YLAP participants. Members of the DOH Executive staff have attended 10 local media events to recognize community-based efforts to create tobacco free outdoor parks and playgrounds. YLAP became the catalyst to expand the smoke free multi-unit housing initiative. YLAP is present in all 67 Pennsylvania counties, and minimal fiscal effort is required to recruit additional participants.

Smoke Free Multi-Unit Housing is another key initiative identified by DTPC. The DTPC developed and implemented a standardized statewide smoke free multi-unit housing policy initiative. The DTPC identified public housing as the initial focus of the initiative and at the county and regional levels to maximize impact through the eight RPCs. Strategies include: 1) identifying, educating and mobilizing key stakeholders, specifically those at city and county housing authorities; 2) conducting community education and raising public awareness around the dangers

of secondhand smoke in multi-unit housing settings; and 3) providing tobacco cessation resources and referrals to both staff and residents of multi-unit housing sites. To capture policy-focused activities and results, DTPC staff worked with the statewide external evaluator to develop standardized reporting tools. The primary tool is the Smoke Free Multi-Unit Housing Policy Initiative Tracking Sheet, which captures completed and ongoing policy work on a quarterly basis. Pennsylvania has 113 multi-unit housing sites in 45 counties that have implemented smoke free policies, and an estimated 113,000 youth and adults have increased protection from secondhand smoke by new smoke free multi-unit housing polices.

DTPC also implements programs to educate state leaders, decision-makers, and the public about the burden of tobacco use and evidence-based policy 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 at reaching kids and influencing them to smoke. To counteract this practice, the Division of Nutrition and Physical Activity collaborated with the DTPC to provide technical assistance, assess program progress and develop and provide trainings and training materials to implement the Healthy Corner Store Initiative with RPCs, coalition member stakeholders and DOH staff. DTPC is expanding this effort through a Pennsylvania POS initiative by conducting the following activities: 1) identifying point of sale coordination opportunities by leveraging resources and utilizing tobacco data collected from the current statewide PA HCSI focused on corner stores to increase access to healthy foods and beverages; 2) assess the retail environment through systematic data collection to inform POS activities and action focused on retailers selling tobacco products (Follow up surveys will be conducted for process/outcome evaluation); 3) educate local community decision-makers and the public by incorporating TRU youth activities and messages that are delivered by youth within communities; 4) encourage tobacco retail owners to sign memorandums of understanding (MOUs) committed to the reduction/elimination of tobacco product signage and sales, to sell nicotine replacement therapy products, and post PA Free Quitline materials in as a cost effective way to promote cessation services.

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

Yes No

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

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 2014 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130).

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

Yes No

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

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

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

Yes No

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

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

Unweighted RVR	<u>11.3</u>
Weighted RVR	<u>12.9</u>
Standard error (s.e.) of the (weighted) RVR	<u>1.2</u>

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

$$\begin{array}{ccccccc}
 12.9 & + & (1.645 & \times & 1.2) & = & 14.9 \\
 \text{RVR Estimate} & \text{plus} & (1.645 & \text{times} & \text{Standard Error}) & \text{equals} & \text{Right Limit}
 \end{array}$$

Accuracy rate 55.7

Completion rate 99.1

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 Attachements:

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 Table

Attachment 4: Survey Means Tables

Attachment 5: 2014 Results Table

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)	2,113
Eligible sample size (number of outlets found to be eligible in the sample)	1,177
Final sample size (number of eligible outlets in the sample for which an inspection was completed)	1,166

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

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

Yes No

If Yes, answer the following questions about its coverage.

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

b. Percent coverage from the latest frame coverage study: 99.1%

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

Yes No

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

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

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

Yes No

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

a. Provide the inspection period: From 07/01/14 to 09/06/14
MM/DD/YY MM/DD/YY

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

69

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.

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

SECTION II: FFY 2015 (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 2015. 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) on 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 with the Department of Health. Seventy percent of funds received through the Tobacco Settlement fund to the Department under Chapter 7 must be awarded to primary contractors to establish comprehensive tobacco control programs within their service areas.

Act 2002-112 amended the youth access to tobacco law, creating a fine structure for both store owners and clerks, as well as increased penalties and license revocation and/or 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 the Department of Health, County or Municipal Health Departments, Single County Authorities created pursuant to the Pennsylvania Drug and Alcohol Control Act, or Primary Contractors 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, contains 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 protocol; annual enforcement training; and effective statewide partnerships with the Department of Revenue, the Office of the Attorney General Enforcement Division, and the Pennsylvania Justice Systems; the rate of illegal tobacco sales continues to be sustained within the violation rate maximum allowance. The Department of Health 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.)

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

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

Limitations relative to funding continue to challenge the ability to support effective tobacco prevention strategies and hamper the ability to conduct annual enforcement checks. This negatively impacts the ability to sustain the lower retailer violation rates attained several years ago.

The Single State Authority (SSA) for Substance Abuse, the Pennsylvania Department of Drug and Alcohol Programs, is working collaboratively with the Pennsylvania Department of Health, 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.

While addressing the diminished capacity to maintain adequate enforcement checks specific to the state law prohibiting the sale of tobacco products to minors under the age of eighteen, Pennsylvania, as a contract recipient of the Food and Drug Administration (FDA), has been able to conduct compliance checks on retailers through funding received through its agreement with the FDA. The addition of these funds and ability to conduct compliance checks under this initiative enhances the state's ability in enforcement activities and sustaining a more reasonable retailer violation rate, absent sufficient funding available through other sources.

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 and is 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>2015</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	1,576		1,576	1,012		1,012	79		79	16		16
2	NE	3,938		3,938	2,067		2,067	156		156	13		13
3	NW	1,463		1,463	871		871	78		78	4		4
4	SC	3,021		3,021	1,577		1,577	130		130	10		10
5	SE	5,051		5,051	2,747		2,747	208		208	16		16
6	SW	3,150		3,150	1,854		1,854	145		145	6		6
7	AL	2,640		2,640	1,259		1,259	61		61	9		9
8	DE	1,079		1,079	602		602	79		79	15		15
9	ER	509		509	277		277	60		60	5		5
10	PH	7,507		7,507	4,494		4,494	170		170	38		38
11	TOTALS	29,934		29,934	16,760		16,760	1,166		1,166	132		132

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: 2015				
(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	2,640	130	61
8	DE	1,079	147	79
9	ER	509	112	60
10	PH	7,507	284	170
Total		11,902	734	431

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: 2015	
(1) INELIGIBLE		(2) ELIGIBLE	
Reason for Ineligibility	(a) Counts	Reason for Noncompletion	(a) Counts
Out of business	251	In operation but closed at time of visit	2
Does not sell tobacco products	405	Unsafe to access	3
Inaccessible by youth	95	Presence of police	0
Private club or private residence	91	Youth inspector knows salesperson	0
Temporary closure	17	Moved to new location	0
Unlocatable	38	Drive-thru only/youth inspector has no driver's license	0
Wholesale only/Carton sale only	0	Tobacco out of stock	3
Vending machine broken	0	Ran out of time	0
Duplicate	39	Other noncompletion reason(s) <i>(Describe.)</i> 2 outlets outside contractor jurisdiction 1 outlet inappropriate	3
Other ineligibility reason(s) <i>(Describe.)</i>	0		
Total	936	Total	11

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: Pennsylvania
		FFY: 2015
	(1) Attempted Buys	(2) Successful Buys
Male		
15 years	143	6
16 years	249	16
17 years	297	40
18 years		
Male Subtotal	689	62
Female		
15 years	90	5
16 years	337	57
17 years	50	8
18 years		
Female Subtotal	477	70
Other	0	0
Total	1,166	132

APPENDIXES B:
SYNAR SURVEY SAMPLING METHODOLOGY

APPENDIX B: SYNAR SURVEY SAMPLING METHODOLOGY

State: Pennsylvania
 FFY: 2015

1. What type of sampling frame is used?

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

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

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

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

Name of Frame Source	Type of Source	Description	Updating Method and Cycle
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	Current licenses are annually renewed by January 15th. New licenses can be applied for anytime.

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.) _____

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.) _____

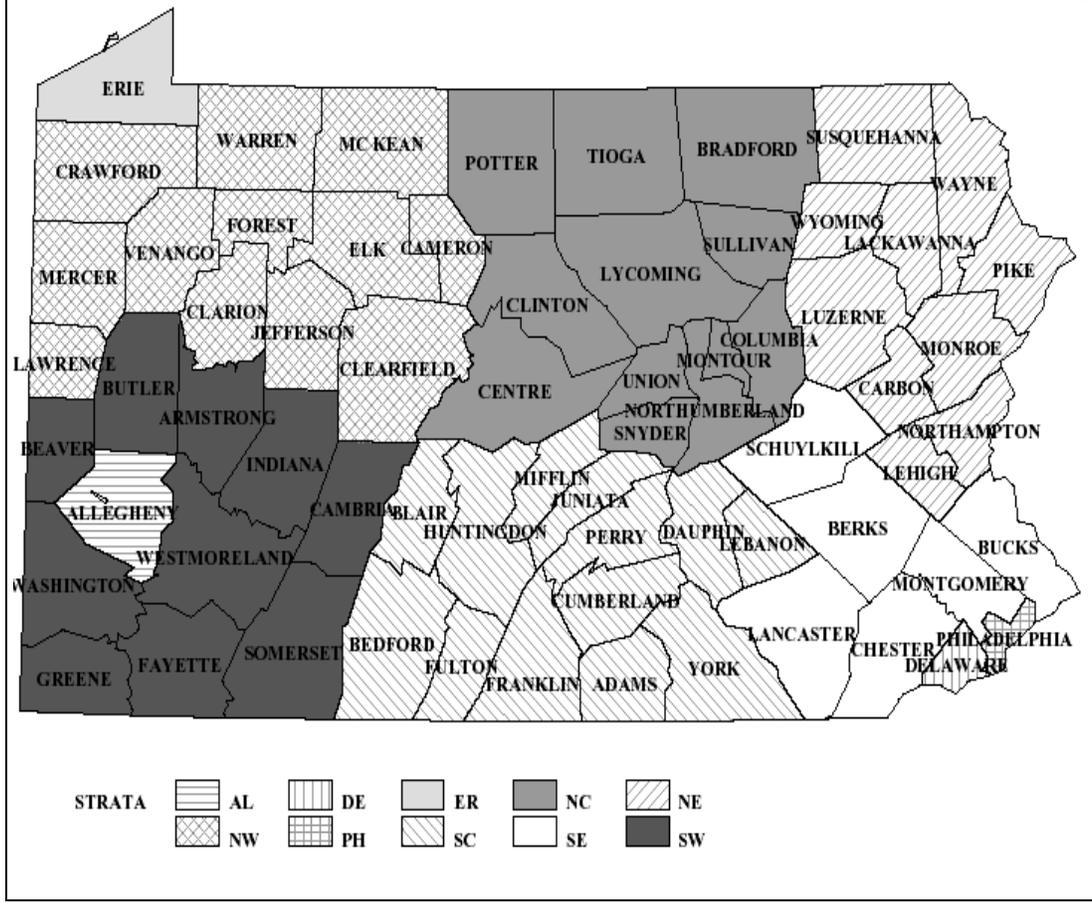
6. Describe the systematic sampling methods. (After completing Question 6, go to Question 7 if stratification is used. Otherwise go to Question 9.)

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 sign-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 thru 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 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) or too small (less than 40 outlets), it will be divided into two clusters or merged with another cluster. 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 2^{31} 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. Supplemental sample are not provided for these strata.

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 current FFY Synar survey.

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

Inputs for Effective Sample Size:

RVR:

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 2014 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 Design Variance	Srs Design Variance	Stderr (Complex)	Stderr (SRS)	Deff
2004	0.000084463	0.000065663	0.009190	0.008103	1.29
2005	0.000093154	0.000074792	0.009652	0.008648	1.25
2006	0.000070025	0.000061120	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	0.000112640	0.011500	0.010613	1.17
2012	0.000121755	0.000118312	0.011034	0.010877	1.03
2013	0.000133752	0.000125360	0.011565	0.011196	1.07

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

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

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	98.3802
2005	67.9590	98.7416
2006	68.3353	99.4037
2007	65.2002	99.5675
2008	63.3803	99.8291
2009	60.4425	99.6429
2010	54.5362	99.7212
2011	58.9648	99.6380
2012	55.7933	100.0000
2013	58.4312	99.7260

Eligibility Rate: 55%

Completion Rate: 80%

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

$$n_o = \frac{693}{(.55)(.80)} + 47 + 491 = 1575 + 47 + 491 = 2113$$

APPENDIXES C:
SYNAR SURVEY INSPECTION PROTOCOL

APPENDIX C: SYNAR SURVEY INSPECTION PROTOCOL

State: Pennsylvania
FFY: 2015

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): Department of Health and agencies under its jurisdiction.

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

Always Usually Sometimes Rarely Never

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

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

- Cigarettes
 Small Cigars/Cigarillos
 Smokeless Tobacco
 Other

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

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.

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

Youth inspectors and adult supervisors are recruited through Tobacco Prevention and Control Primary Contractors, local tobacco prevention coalitions, 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 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 an 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 includes role-modeling by youth.

ATTACHMENTS

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 Attachment2: Calculation of Weighted Retailer Violation SAS Programming Code.

Program Overview

- (1) Cluster level totals are calculated.
- (2) Stratum level totals are calculated.
- (3) The *eligible* population for each stratum is estimated. The estimated number of eligible outlets per stratum (S_EligPopSize) is determined with the following equation:

$$S_EligPopSize = (S_PopSize) \cdot \left[\frac{(S_SampSize - S_Inelig)}{S_SampSize} \right]$$

- (4) 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**)
- (5) 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 * (c_sampsize/c_sampob));  
*****
```

- (6) The weights are exported to be checked and verified.
- (7) A weight table is created.
- (8) The weight table and weight check table are exported.
- (9) The data is recoded and prepared for Proc Surveymeans.
- (10) 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.
- (11) An unweighted statewide mean is calculated.
- (12) The results are outputted.

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,

S_Clust = Number of clusters in the stratum,

CPS = Cluster population size,

S_EligPopSize = Eligible stratum population size,

C_SampSize = Sample size of the cluster,

Then,

$$ProbCl = (S_Clust) \cdot \left(\frac{CPS}{S_EligPopSize} \right)$$

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

$$ProbSt = (ProbCl) \times (ProbOut) = (S_Clust) \cdot \left(\frac{CPS}{S_EligPopSize} \right) \cdot \left(\frac{C_SampSize}{CPS} \right) =$$

$$ProbSt = (S_Clust) \cdot \left(\frac{C_SampSize}{S_EligPopSize} \right)$$

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

$$\text{Base Weight} = \frac{1}{\frac{(S_clust)(C_Sampsize)}{(S_EligPopSize)}} = \frac{(S_EligPopSize)}{(S_clust)(C_Sampsize)}$$

*****SAS Code*****

```
Weight = (1/((s_clust * c_Sampsize) / (s_EligPopSize)));
```

Input files used in the program

- (1) RawInput.sas7bdat – (Input) Permanent SAS dataset created from the raw 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 Cnum, Sampob, Inelig and Elig are created and added to the dataset.
- (2) DistFreq.sas7bdat – (Input) Permanent SAS dataset containing strata level data of stratum population size.

Output files:

- (1) CS_tot.sas7bdat – (Output) Permanent SAS dataset containing cluster and stratum level totals for eligibility, sample observations, violations, ineligibility and sample size.
- (2) PreWt.sas7bdat – (Output) Permanent SAS dataset containing cluster and stratum level totals and calculated eligible population size.
- (3) Weighted.sas7bdat - Permanent SAS dataset containing one record for each eligible outlet. The weights are contained in this dataset.
- (4) Wgt14.sas7bdat - Permanent SAS dataset used in trend analysis.
- (5) WtTab14.html (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. (Attachment3)
- (6) SurveyMeans14.html (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)

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. **Outlet** – Numeric variable used to classify the type of outlet
6. **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.
7. **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.
8. **BuyerSex** - Numeric variable that identifies the sex of the youth surveyor and codes them with a 1 if male and 2 if female.

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

B. Outlet level variables created

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. **C_Sampsize** – The total number of outlets sampled per cluster.
2. **C_Elig** – The total number of eligible (Elig) sampled outlets per cluster.
3. **C_Inelig** - The total number of ineligible (Inelig) sampled outlets per cluster.
4. **C_Sampob** – The total number of completed sample observations (Sampob) per cluster.
5. **Psu_id** – The cluster id used in analysis

D. Stratum level variables created within the program

1. **S_SampSize** – The total number of outlets sampled (Sampsize) per stratum.
2. **S_PopSize** – The total number of outlets per stratum
3. **S_Elig** – The total number of eligible sampled outlets (Eligs) per stratum.
4. **S_Inelig** – The total number of ineligible sampled outlets (Ineligs) per stratum.
5. **S_clust** – The total number of clusters per stratum.
6. **S_EligPopSize** – The estimated number of eligible outlets per stratum.
7. **Stratum** – The stratum identifier calculated as a substring from anum.
8. **Co_str** – The stratum id used in analysis

Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code

```
/* ***** */
/* Program Name: 3-Weight */
/* Date Created: 9/29/14 */
/* Author: Tark */
/* Purpose: This program will weight, calculate weighted RVR and
/*          standard error for the Synar */
/*          */
/*          */
/* Inputs: Rawinput.sas7bdat */
/*          DistFreq.sas7bdat */
/*          */
/* Outputs: CS_tot.sas7bdat */
/*          PreWt.sas7bdat */
/*          Weighted.sas7bdat */
/*          WgtYR.sas7bdat */
/*          WtTblYR.html */
/*          SurveyMeansYR.html */
/*-----*/
/* Macros: None */
/*          */
/*-----*/
/* Date Modified: */
/* Modified by: */
/* Reason for Modification: */
/* Modification Made: */
/*-----*/
/* ***** */

/* Last 2 digits of current year */
%let YR = 14;

libname licen&YR. "C:\Synar\Datasets\20&YR.\Licen\";
libname Synar&YR. "C:\Synar\Datasets\20&YR.\Final\";
libname SynarAll "C:\Synar\Datasets\RawStratWeight\";

filename WtTbl "S:\Tarkoff\Synar\20&YR.\Results\WtTbl&YR..html";
filename WTRES "S:\Tarkoff\Synar\20&yr.\Results\SurveyMeans&YR..html";

/* --- D.O.W. loop to create Cluster Level Totals --- */
data ctot ;
  do until (last.anum);
    set Synar&yr..Rawinput;
    by Anum ;

    c_inelig = sum(inelig, c_inelig);
    c_Sampob = sum(Sampob, c_Sampob);
    c_elig = sum(Elig, c_elig);
    c_Violate = sum(Violate, c_Violate);

  end;

  c_sampsize = snum;

  keep c_ : Anum clnum stratum ;

run;
```

Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code

```
/* --- D.O.W. loop to create Stratum level totals --- */
data stot ;
  do until (last.stratum);
    Set ctot;
    By stratum ;

    s_sampsize = sum(c_sampsize, s_sampsize);
    s_clust = sum(sum(stratum, 1), s_clust);
    s_inelig = sum(c_inelig, s_inelig);
    s_Sampob = sum(c_Sampob, s_Sampob);
    s_elig = sum(c_Elig, s_elig);
    s_Violate = sum(c_Violate, s_Violate);

  end;

  s_clust = clnum;

  keep s_ : stratum;

run;

/* --- SQL merge to combine cluster totals and stratum totals --- */
proc sql;

  create table Synar&YR..CS_tot as
  select *
  from ctot
  inner join stot
  on stot.stratum = ctot.stratum;

quit;

/* --- SQL merge to pull population size of each region and calculate
eligible population size */
proc sql;

  create table Synar&YR..prewt as
  select tot.*,
         dist.stsize as s_popsze,
         round(((S_popsze)*((S_sampsize - s_Inelig)/s_Sampsize)),1) as
s_EligPopSize
  from Synar&YR..CS_tot as tot
  inner join licen&YR..distfreq as Dist
  on Dist.stnum = tot.stratum;

quit;

/* --- Create base weight and final weight --- */
data wt;
  set Synar&YR..prewt;
  by Stratum;

  Weight = (1/((s_clust * c_Sampsize) / (s_EligPopSize)));
  Finalwt = (Weight * (c_Sampsize/C_Sampob));

run;
```

Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code

```
/* --- Add weights to every completed sample observation --- */
proc sql;

    create table Synar&YR..weighted (drop = NonComp) as
    select wt.finalwt,
           wt.weight,
           raw.*,
           case
               when raw.stratum < 7 then raw.anum+0
               else raw.anum+raw.snum
           end as psu_id,
           raw.stratum as co_str
    from synar&YR..rawinput as raw
    left join wt
    on raw.anum = wt.anum
    where raw.sampob = 1;

quit;

/* --- SQL code to perform Weight Check --- */

ods html file=Wtttbl;
proc sql;
    title "20&YR. Synar Weight Check";
    select sum(Weight*C_Sampsize) as checkb label = '# Base Weight # Check',
           sum(Finalwt*C_Sampob) as Checkf label= '# Final Weight # Check'
    from wt;

    title "20&YR. Synar Weights Table";
    select Anum, Stratum,
           Weight label = '# Outlet # BaseWt',
           Finalwt label = '# Outlet # FinalWt',
           s_clust label = '# Cluster # Total',
           c_sampsize label = '#Cluster # Sample size',
           c_elig label = '#Cluster # Elig',
           c_sampob label = '#Cluster # Completed',
           s_sampsize label = '#Stratum # Sample size',
           s_EligPopSize label = '#Stratum # Elig',
           sum(Finalwt*C_Sampob) as totelign label = '#State # Eligible'

    from wt;

quit;

Ods Html Close;

/* --- Create dataset for the comprehensive Synar data library --- */
Data SynarALL.Wgt&yr.;
    Set Synar&yr..Weighted;

Run;
```

Attachment 2: Calculation of Weighted Retailer Violation SAS Programming Code

```
/* Calculation of weighted RVR and its standard error */
ods noproctitle;
ods html file=wtres;
title1 "Weighted Domain Results 20&yr (by Stratum)";
  Proc Surveymeans Data=synarall.wgt&YR. ;

    domain stratum;
    Strata Co_Str ;
    Cluster Psu_Id;
    class outcome;
    var Outcome ;
    Weight Finalwt;
    format stratum region. outcome result.;

run;

title1 "Unweighted Domain Results 20&yr (by Stratum)";
Proc Surveymeans Data=synarall.wgt&YR NOBS MEAN ;

    domain stratum;
    Strata co_str ;
    Cluster Psu_Id;
    class outcome;
    var Outcome ;
    format stratum region. outcome result.;

run;

ods html close;
```

Attachment 3: Weight Check & Weights Table

2014 Synar Weight Check

Base Weight Check	Final Weight Check
16760	16760

2014 Synar Weights Table

Anum	stratum	Outlet BaseWt	Outlet FinalWt	Cluster Total	Cluster Sample size	Cluster Elig	Cluster Completed	Stratum Sample size	Stratum Elig	State Eligible
101	1	8.433333	12.97436	6	20	13	13	123	1012	16760
102	1	7.666667	12.97436	6	22	13	13	123	1012	16760
103	1	8.433333	12.97436	6	20	13	13	123	1012	16760
104	1	7.333333	12.97436	6	23	13	13	123	1012	16760
105	1	8.031746	12.97436	6	21	13	13	123	1012	16760
106	1	9.921569	12.04762	6	17	14	14	123	1012	16760
201	2	6.625	13.25	12	26	14	13	301	2067	16760
202	2	6.89	13.25	12	25	14	13	301	2067	16760
203	2	5.219697	13.25	12	33	13	13	301	2067	16760
204	2	9.065789	13.25	12	19	13	13	301	2067	16760
205	2	6.89	13.25	12	25	13	13	301	2067	16760
206	2	7.177083	13.25	12	24	13	13	301	2067	16760
207	2	7.829545	13.25	12	22	13	13	301	2067	16760
208	2	6.625	13.25	12	26	13	13	301	2067	16760
209	2	7.829545	13.25	12	22	13	13	301	2067	16760
210	2	4.655405	13.25	12	37	13	13	301	2067	16760
211	2	7.48913	13.25	12	23	13	13	301	2067	16760
212	2	9.065789	13.25	12	19	13	13	301	2067	16760
301	3	5.583333	11.16667	6	26	13	13	131	871	16760
302	3	7.258333	11.16667	6	20	13	13	131	871	16760
303	3	7.640351	11.16667	6	19	13	13	131	871	16760
304	3	5.184524	11.16667	6	28	13	13	131	871	16760
305	3	8.064815	11.16667	6	18	13	13	131	871	16760
306	3	7.258333	11.16667	6	20	13	13	131	871	16760
401	4	6.308	12.13077	10	25	13	13	249	1577	16760
402	4	4.505714	12.13077	10	35	13	13	249	1577	16760
403	4	9.276471	12.13077	10	17	13	13	249	1577	16760
404	4	6.856522	12.13077	10	23	13	13	249	1577	16760
405	4	6.570833	12.13077	10	24	13	13	249	1577	16760
406	4	6.856522	12.13077	10	23	13	13	249	1577	16760
407	4	6.856522	12.13077	10	23	13	13	249	1577	16760
408	4	5.632143	12.13077	10	28	13	13	249	1577	16760
409	4	5.632143	12.13077	10	28	13	13	249	1577	16760

Attachment 3: Weight Check & Weights Table

Anum	stratum	Outlet BaseWt	Outlet FinalWt	Cluster Total	Cluster Sample size	Cluster Elig	Cluster Completed	Stratum Sample size	Stratum Elig	State Eligible
410	4	6.856522	12.13077	10	23	13	13	249	1577	16760
501	5	9.036184	13.20673	16	19	13	13	388	2747	16760
502	5	10.09926	13.20673	16	17	13	13	388	2747	16760
503	5	6.131696	13.20673	16	28	13	13	388	2747	16760
504	5	7.153646	13.20673	16	24	13	13	388	2747	16760
505	5	8.175595	13.20673	16	21	13	13	388	2747	16760
506	5	5.049632	13.20673	16	34	14	13	388	2747	16760
507	5	6.603365	13.20673	16	26	13	13	388	2747	16760
508	5	6.8675	13.20673	16	25	13	13	388	2747	16760
509	5	7.153646	13.20673	16	24	13	13	388	2747	16760
510	5	8.584375	13.20673	16	20	13	13	388	2747	16760
511	5	7.153646	13.20673	16	24	14	13	388	2747	16760
512	5	9.538194	13.20673	16	18	13	13	388	2747	16760
513	5	6.603365	13.20673	16	26	13	13	388	2747	16760
514	5	5.722917	13.20673	16	30	13	13	388	2747	16760
515	5	5.920259	13.20673	16	29	14	13	388	2747	16760
516	5	7.464674	13.20673	16	23	13	13	388	2747	16760
601	6	6.741818	12.96503	11	25	13	13	248	1854	16760
602	6	7.661157	12.96503	11	22	13	13	248	1854	16760
603	6	7.022727	12.03896	11	24	15	14	248	1854	16760
604	6	4.815584	12.96503	11	35	13	13	248	1854	16760
605	6	9.363636	12.96503	11	18	13	13	248	1854	16760
606	6	6.242424	12.96503	11	27	13	13	248	1854	16760
607	6	7.661157	12.96503	11	22	13	13	248	1854	16760
608	6	9.363636	12.96503	11	18	13	13	248	1854	16760
609	6	7.661157	12.96503	11	22	13	13	248	1854	16760
610	6	9.914439	12.03896	11	17	14	14	248	1854	16760
611	6	9.363636	12.96503	11	18	13	13	248	1854	16760
700	7	9.684615	20.63934	1	130	62	61	130	1259	16760
800	8	4.095238	7.620253	1	147	82	79	147	602	16760
900	9	2.473214	4.616667	1	112	61	60	112	277	16760
1000	10	15.82394	26.43529	1	284	170	170	284	4494	16760

Attachment 4: Survey Means Table

Weighted Domain Results 2014 (by Stratum)

Data Summary	
Number of Strata	10
Number of Clusters	431
Number of Observations	1166
Sum of Weights	16760

Class Level Information		
Class Variable	Label	Levels Values
Outcome	Outcome	2 Sale Refusal

Statistics							
Variable	Level	Label	N	Mean	Std Error of Mean	95% CL for Mean	
Outcome	Sale	Outcome	132	0.129033	0.011576	0.10627871	0.15178744
	Refusal	Outcome	1034	0.870967	0.011576	0.84821256	0.89372129

Domain Analysis: stratum							
stratum	Variable	Level	Label	N	Mean	Std Error of Mean	95% CL for Mean
Northcentral	Outcome	Sale	Outcome	16	0.205128	0.054994	0.09703143 0.31322498
		Refusal	Outcome	63	0.794872	0.054994	0.68677502 0.90296857
Northeast	Outcome	Sale	Outcome	13	0.083333	0.027538	0.02920490 0.13746177
		Refusal	Outcome	143	0.916667	0.027538	0.86253823 0.97079510
Northwest	Outcome	Sale	Outcome	4	0.051282	0.016217	0.01940605 0.08315805
		Refusal	Outcome	74	0.948718	0.016217	0.91684195 0.98059395
Southcentral	Outcome	Sale	Outcome	10	0.076923	0.025641	0.02652270 0.12732346
		Refusal	Outcome	120	0.923077	0.025641	0.87267654 0.97347730
Southeast	Outcome	Sale	Outcome	16	0.076923	0.021066	0.03551494 0.11833121
		Refusal	Outcome	192	0.923077	0.021066	0.88166879 0.96448506
Southwest	Outcome	Sale	Outcome	6	0.041958	0.019023	0.00456608 0.07935000
		Refusal	Outcome	139	0.958042	0.019023	0.92065000 0.99543392
Allegheny	Outcome	Sale	Outcome	9	0.147541	0.045784	0.05754650 0.23753546
		Refusal	Outcome	52	0.852459	0.045784	0.76246454 0.94245350
Delaware	Outcome	Sale	Outcome	15	0.189873	0.044408	0.10258439 0.27716244
		Refusal	Outcome	64	0.810127	0.044408	0.72283756 0.89741561
Erie	Outcome	Sale	Outcome	5	0.083333	0.035982	0.01260596 0.15406070
		Refusal	Outcome	55	0.916667	0.035982	0.84593930 0.98739404
Philadelphia	Outcome	Sale	Outcome	38	0.223529	0.032047	0.16053748 0.28652134
		Refusal	Outcome	132	0.776471	0.032047	0.71347866 0.83946252

Attachment 4: Survey Means Table

Unweighted Domain Results 2014 (by Stratum)

Data Summary	
Number of Strata	10
Number of Clusters	431
Number of Observations	1166

Class Level Information		
Class Variable	Label	Levels Values
Outcome	Outcome	2 Sale Refusal

Statistics					
Variable	Level	Label	N	Mean	Std Error of Mean
Outcome	Sale	Outcome	132	0.113208	0.009840
	Refusal	Outcome	1034	0.886792	0.009840

Domain Analysis: stratum						
stratum	Variable	Level	Label	N	Mean	Std Error of Mean
Northcentral	Outcome	Sale	Outcome	16	0.202532	0.056236
		Refusal	Outcome	63	0.797468	0.056236
Northeast	Outcome	Sale	Outcome	13	0.083333	0.027538
		Refusal	Outcome	143	0.916667	0.027538
Northwest	Outcome	Sale	Outcome	4	0.051282	0.016217
		Refusal	Outcome	74	0.948718	0.016217
Southcentral	Outcome	Sale	Outcome	10	0.076923	0.025641
		Refusal	Outcome	120	0.923077	0.025641
Southeast	Outcome	Sale	Outcome	16	0.076923	0.021066
		Refusal	Outcome	192	0.923077	0.021066
Southwest	Outcome	Sale	Outcome	6	0.041379	0.018890
		Refusal	Outcome	139	0.958621	0.018890
Allegheny	Outcome	Sale	Outcome	9	0.147541	0.045784
		Refusal	Outcome	52	0.852459	0.045784
Delaware	Outcome	Sale	Outcome	15	0.189873	0.044408
		Refusal	Outcome	64	0.810127	0.044408
Erie	Outcome	Sale	Outcome	5	0.083333	0.035982
		Refusal	Outcome	55	0.916667	0.035982
Philadelphia	Outcome	Sale	Outcome	38	0.223529	0.032047
		Refusal	Outcome	132	0.776471	0.032047

Attachment 5: 2014 Results Table

Stratum	Outlets Selected	Outlets Completed	PSUs Sampled	Total Violations	Wgtd Rate (%)	Standard Error	Lower Limit (%)	Upper Limit (%)
Statewide	2113	1166	734	132	13	1	11	15
Northcentral	123	79	6	16	21	5	10	31
Northeast	301	156	12	13	8	3	3	14
Northwest	131	78	6	4	5	2	2	8
Southcentral	249	130	10	10	8	3	3	13
Southeast	388	208	16	16	8	2	4	12
Southwest	248	145	11	6	4	2	0	8
Allegheny	130	61	130	9	15	5	6	24
Delaware	147	79	147	15	19	4	10	28
Erie	112	60	112	5	8	4	1	15
Philadelphia	284	170	284	38	22	3	16	29

Note1: Confidence limits were calculated using the t-distribution with the degrees of freedom (df) determined by subtracting the total strata from the total clusters. For example, the df for Northcentral is five because there are six clusters and one stratum.

Note2: The weighted rate takes into account unequal probabilities of selection and non-completions. It is different than the unweighted rate, which is calculated by dividing total violations by outlets completed. The WEIGHTED rate should be used at all times.

Note3: When total violations = 0, the "Rule of Three (3/n)" is used to calculate upper limit.



SURVEY REPORT FORM (Synar 2014)

Pennsylvania Department of Health

Area	Sample	License	Date of visit
			/ /

Outlet Location

4. Gender of buyer

Male Female

5. Age of buyer

15 16 17

6. Is the buyer of Hispanic, Latino, or Spanish origin?

Yes No

1. What was the outcome?

Sale Refusal Non-completion

7. Race of buyer

White Asian

Black Other

2. Type of retail outlet (select one)

<input type="radio"/> Bar/tavern (1)	<input type="radio"/> News outlet (7)
<input type="radio"/> Beer distributor (2)	<input type="radio"/> Restaurant/deli (8)
<input type="radio"/> Convenience-gas (3)	<input type="radio"/> Supermarket (9)
<input type="radio"/> Convenience-grocery-no gas (4)	<input type="radio"/> Tobacco (10)
<input type="radio"/> Dollar Store (5)	<input type="radio"/> (EMP-LOT-PVR-UNL)
<input type="radio"/> Pharmacy/drug store (6)	<input type="radio"/> Other _____

8. Does the outlet serve alcohol for on-site consumption?

Yes No Unknown

9. Was adult supervisor in the outlet?

Yes No

10. Was buyer asked to show ID?

Yes No

11. Was buyer asked his/her age?

Yes No

3. Non-completion type (select one)

<input type="radio"/> (CBB) Cigarettes Behind Bar (1)	<input type="radio"/> (OCN) Outlet Closed/NotAccess. (8)
<input type="radio"/> (BNA) Bar Not Accessible (2)	<input type="radio"/> (ONA) Other/Not Accessible (9)
<input type="radio"/> (DNS) Does Not Sell (3)	<input type="radio"/> (PCL) Private Club (10)
<input type="radio"/> (DUP) Duplicate (4)	<input type="radio"/> (PVR) Private Residence (11)
<input type="radio"/> (EMP) Empty Building (5)	<input type="radio"/> (UNL) Unlocatable (12)
<input type="radio"/> (ITV) Itinerant Vendor (6)	<input type="radio"/> (ACC) Accessible-Other (13)
<input type="radio"/> (LOT) Empty Lot (7)	<input type="radio"/> (ODG) Outlet Dangerous (14)

12. Were warning signs visible?

Yes No

13. Gender of clerk

Male Female

14. Location fields are accurate

Yes No

15. Time of visit (military) | | | |

Notes: _____

Questions? Contact Division of Statistical Support (717-783-2548)

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.

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.

- 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 7: 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.