

# **ANNUAL SYNAR REPORT**

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

**OMB № 0930-0222**

**FFY 2022**

**State: PR**

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## INTRODUCTION

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

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

In accordance with the tobacco regulations, states are required to provide detailed information on progress made in enforcing youth tobacco access laws (FFY 2021 Compliance Progress) and future plans to ensure compliance with the Synar requirements to reduce youth tobacco access rates (FFY 2022 Intended Use Plan). These data are required by 42 U.S.C. 300x-26 and will be used by the Secretary to evaluate state compliance with the statute. Part of the mission of the Center for Substance Abuse Prevention (CSAP) is to assist states<sup>1</sup> by supporting Synar activities and providing technical assistance helpful in determining the type of enforcement measures and control strategies that are most effective. This information is helpful to CSAP in improving technical assistance resources and expertise on enforcement efforts and tobacco control program support activities, including state Synar program support services, through an enhanced technical assistance program involving conferences and workshops, development of training materials and guidance documents, and onsite technical assistance consultation.

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

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

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

## Getting assistance in completing the Synar report

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

## Where and when to submit the Synar report

The ASR must be received by SAMHSA no later than December 31, 2021 and must be submitted in the format specified by these instructions. Use of the approved format will avoid delays in the review and approval process. The chief executive officer (or an authorized designee) of the applicant organization must sign page one of the ASR certifying that the state has complied with all reporting requirements.

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

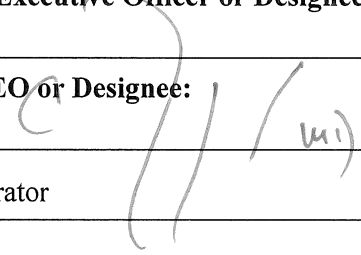
- FFY 2022 Synar Survey Results: States that use the Synar Survey Estimation System (SSES) must upload one copy of *SSES Tables 1–8* (in Excel) to WebBGAS. **Please note that, in the FFY 2022 ASR, SSES will generate Tables 6, 7, and 8, which are based on the optional microdata on product type, retail outlet type, and whether identification was requested. If your state does not submit these optional data, Tables 6, 7, and 8 will be blank. Tables 6, 7, and 8 are generated for the convenience of the state, and states are not required to submit completed versions of Tables 6, 7, or 8.** States that do not use SSES must upload one copy of ASR Forms 1, 4, and 5, and Forms 2 and 3, if applicable, (in Excel), as well as a database with the raw inspection data to WebBGAS.
- Synar Inspection Form: States must upload one blank copy of the inspection form used to record the result of each Synar inspection.
- Synar Inspection Protocol: States must upload a copy of the protocol used to train inspection teams on conducting and reporting the results of the Synar inspections. This document should be different than the Appendix C attached to the Annual Synar Report.
- A scanned copy of the signed Funding Agreements/Certifications

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



## FFY 2022: FUNDING AGREEMENTS/CERTIFICATIONS

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

<b>PUBLIC HEALTH SERVICES ACT AND SYNAR AMENDMENT</b>	
42 U.S.C. 300x-26 requires each state to submit an annual report of its progress in meeting the requirements of the Synar Amendment and its implementing regulation (45 C.F.R. 96.130) to the Secretary of the Department of Health and Human Services. By signing below, the chief executive officer (or an authorized designee) of the applicant organization certifies that the state has complied with these reporting requirements and the certifications as set forth below.	
<b>SYNAR SURVEY SAMPLING METHODOLOGY</b>	
The state certifies that the Synar survey sampling methodology on file with the Center for Substance Abuse Prevention and submitted with the Annual Synar Report for FFY 2022 is up-to-date and approved by the Center for Substance Abuse Prevention.	
<b>SYNAR SURVEY INSPECTION PROTOCOL</b>	
The state certifies that the Synar Survey Inspection Protocol on file with the Center for Substance Abuse Prevention and submitted with the Annual Synar Report for FFY 2022 is up-to-date and approved by the Center for Substance Abuse Prevention.	
<b>State: Puerto Rico</b>	
<b>Name of Chief Executive Officer or Designee: Carlos Rodríguez Mateo, MD, MPH</b>	
<b>Signature of CEO or Designee:</b> 	
<b>Title:</b> Administrator	<b>Date Signed:</b> 12/14/2021
<b>If signed by a designee, a copy of the designation must be attached.</b>	

## SECTION I: FFY 2021 (Compliance Progress)

### YOUTH ACCESS LAWS, ACTIVITIES, AND ENFORCEMENT

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

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

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

Yes  No

If Yes, current minimum age:  19  20  21

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

Yes  No

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

Changed to require that law enforcement conduct inspections of tobacco outlets

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

Changed to require ID to purchase tobacco

Changed definition of tobacco products

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

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

Licensing of tobacco vendors  Yes  No

Penalties for sales to minors  Yes  No

Vending machines  Yes  No

Added product

categories to youth access law  Yes  No

2. Describe how the Annual Synar Report (see 45 C.F.R. 96.130(e)) was made public within the state prior to submission of the ASR. (Check all that apply.)

Placed on file for public review

Posted on a state agency Web site (Please provide exact Web address and the date when the FFY 2022 ASR was posted to this Web address.)

Web address: [www.assmca.pr.gov](http://www.assmca.pr.gov)

Date published: 12/14/2021

Notice published in a newspaper or newsletter

Public hearing

- Announced in a news release, a press conference, or discussed in a media interview
- Distributed for review as part of the SABG application process
- Distributed through the public library system
- Published in an annual register
- Other *(Please describe.)* \_\_\_\_\_

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

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

*Mental Health and Anti-Addiction Services Administration*

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

- Yes  No

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

*Mental Health and Anti-Addiction Services Administration*

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):**

*Puerto Rico Treasury Department, Puerto Rico Police and the Consumers Affairs Department.*

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).**

*Puerto Rico Health Department*

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

- Yes  No

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

Are the same

Have a formal written memorandum of agreement

- Have an informal partnership
- Conduct joint planning activities
- Combine resources
- Have other collaborative arrangement(s) *(Please describe.)* The Department of Health is part of the Tobacco Prevention Advisory Committee lead by MHAASA.
- No relationship

**d. Does a state agency contract with the Food and Drug Administration’s Center for Tobacco Products (FDA/CTP) to enforce the youth access and advertising restrictions in the Family Smoking Prevention and Tobacco Control Act?**

- Yes  No (if no, go to Question 5)

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

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**f. Has the responsible agency changed since last year’s Annual Synar Report?**

- Yes  No

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

- Are the same
- Have a formal written memorandum of agreement
- Have an informal partnership
- Conduct joint planning activities
- Combine resources
- Have other collaborative arrangement(s) *(Please describe.)* \_\_\_\_\_
- No relationship

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

- Yes  No

5. Please answer the following questions regarding the state's activities to enforce the state's youth access to tobacco law(s) in FFY 2021 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130(e)).

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

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

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

PENALTY	OWNERS	CLERKS	TOTAL
Number of <u>citations issued</u>	0	0	0
Number of <u>finest assessed</u>	0	0	0
Number of <u>permits/licenses suspended</u>	0		0
Number of <u>permits/licenses revoked</u>	0		0
Other (Please describe.) <i>There were warnings issued to those outlets found in violation during the Synar Study. Also, the clerks were oriented about the law by the MHAASA and the Puerto Rico Treasury Department.</i>	28	0	28

- 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:

To minimize the risk of bias, the team split into groups and conducted simultaneous inspections. Throughout the inspection period, team members-maintained communication. If one team issues a citation, all other teams are immediate notified. When the youth inspectors entered an outlet, they had to leave if there was prior knowledge about the inspection. The youth inspector had to leave if there was knowledge of the inspection and postpone the inspection for a later date that was unannounced.

- 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

MHAASA'S Regional Prevention Centers Staff visited 2,372 outlets listed by the Puerto Rico Treasury Department as licensed retailers to provide orientations about legislation that prohibits the sale, donation, and distribution of cigarettes and other tobacco products including e-cigarettes to minors and the implications of law violations, and the prohibition of advertising if located within 500 ft. from schools. They also gave retailers the appropriate posters/stickers with information on current legislation alerting potential consumers on the prohibition of the sale of tobacco products to minors.

Incentives for merchants who comply (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

MHAASA'S staff partner with the Lung Association's Puerto Rico Chapter for the "Non- Smoking Day Activity". This year MHAASA's concentrated efforts in providing information on the harm of smoking, especially on e-cigarettes and "It's a good time to stop smoking". This was provided by virtual orientations to students from the public and private schools, and colleges to alert students about the harm of the use of e-cigarettes and vaping.

MHAASA'S Assistant Administrator participated in three radio programs to speak about the importance of retailers complying with current legislation that prohibits the sale of cigarettes, e-cigarettes, and other tobacco products to minors and the importance of requesting ID of youth appearing to be under 27 years of age.

MHAASA continues using Facebook to share campaigns directed to younger viewers about "I Decided Not to Smoke", "It blinds me, but it has taste, don't be blind", and "How Much Time do You Have Left?".

Media use to publicize compliance inspection results

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

Other activities *(Please list.)* Tobacco Prevention Advisory Committee

MHAASA continues leading the Tobacco Prevention Advisory Committee (CAPT, by its Spanish acronym) with the Third Mission Institute of the Albizu University. The CAPT was created to give counsel and offer recommendations in planning, development, and implementation of public policy. The CAPT members are key staff of the following agencies:

- Mental Health and Anti-Addiction Services Administration (MHAASA)
- Puerto Rico Health Department
- Puerto Rico Treasury Department
- Department of Public Safety
- Consumer Affairs Department
- Department of Justice
- Puerto Rico Department of the Family
- Permit Management Office

The CAPT met monthly. The committee was able to meet virtually through an online platform. The CAPT has been monitoring the following legislative measures:

- Bill 180: amendment of the Internal Revenue Service's Code to increase the minimum age of the sale of tobacco products to 21 years of age.
- Bill 52: law to increase the age from 18 to 21 to hire in tobacco-related jobs.
- Bill 363: require training of employees on the law of no smoking in public and private workplaces
- Resolution 126: require research on the use and abuse of tobacco, alcohol, and controlled substances in children under 21 years of age in the Eastern Region of Puerto Rico
- Bill 246: amendment of the Internal Revenue Service's Code to increase the minimum age for the sale of tobacco products to 21 years of age for the purchase of cigarettes and other tobacco products. MHAASA and the CAPT supported the Bill 246. The project was approved. This was a breakthrough because although President Trump signed legislation amending the Federal, Food, Drug, and Cosmetic Act, and raising the federal minimum age of sale of tobacco products from 18 to 21 years, in Puerto Rico the Internal Revenue Agents cannot enforce a federal law. The Internal Revenue Code of Puerto Rico must be amended to raise the age for sale of tobacco from 18 to 21.



## SYNAR SURVEY METHODS AND RESULTS

The following questions pertain to the survey methodology and results of the Synar survey used by the state to meet the requirements of the Synar Regulation in FFY 2021 (see 42 U.S.C. 300x-26 and 45 C.F.R. 96.130).

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

Yes  No

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

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

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

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

Yes  No

*If Yes, upload a copy of SSES tables 1–8 (in Excel) to WebBGAS. Then go to Question 8. If No, continue to Question 7b.*

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

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

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

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

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

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

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

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

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

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

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

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

- Yes  No  No stratification

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

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

- Yes  No

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

*If No, go to Question 7g.*

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

- Yes  No

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

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

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

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

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

Yes  No

If Yes, answer the following questions about its coverage.

a. The calendar year of the latest Sampling frame coverage study: 2015

b. Percent coverage from the latest Sampling frame coverage study: 91.5%

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: 2022

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 08/16/2021 to 09/10/2021  
MM/DD/YY MM/DD/YY

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

13

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

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

**SECTION II: FFY 2022 (Intended Use):**

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

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

- Synar sampling methodology  Yes  No
- Synar inspection protocol  Yes  No

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

**2. Please describe the state’s plans to maintain and/or reduce the target rate for Synar inspections to be completed in FFY 2022. Include a brief description of plans for law enforcement efforts to enforce youth tobacco access laws, activities that support law enforcement efforts to enforce youth tobacco access laws, and any anticipated changes in youth tobacco access legislation or regulation in the state.**

MHAASA will maintain the Tobacco Prevention Advisory Committee (CAPT). This year the CAPT was able to meet nine times from January to December 2021. This year the committee discussed six bills and worked on an endorsement letter for the Bill 246 that was approved. The bill raised the minimum sale age of tobacco products from 18 to 21 years of age.

**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

The enforcement agencies continue to have a shortage of inspections agents due to retirement of many of their staff members. The economic situation of government agencies limits the recruitment of new Internal Revenue Agents.

- Limited resources for activities to support enforcement and compliance with youth tobacco access laws

The economic crisis of the island limits the resources available for the enforcement activities.

- 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

The Synar Study in Puerto Rico had used the list of tobacco-licensed retailers maintained by the Treasury Department as the list frame. The Treasury Department had exclusive authority to grant tobacco-selling permits. This list had proved to be highly accurate and comprehensive based on our prior Coverage Studies.

However, several modifications have affected the quality of the list frame. In December 2018, the Treasury Department migrated their data from the PRITAS platform (Puerto Rico Integrated Tax Administration System) to a new SURI system (Unified Internal Revenue System, by its Spanish acronym). Then in December 2019, the permit authority was transferred to the Puerto Rico Office of Management and Budget (OMB). The migration of the computerized permit records from Treasury to OMB was started in 2019 but is slated to continue until September 2022. The number of tobacco retailers has decreased substantially over time. For example, in 2018, the tobacco list included 7,282 retailers, then fell in 2019 to 4,776 retailers, and in 2020, to 1,713 retailers. Moreover, the tobacco license number (ID) codification has changed multiple times in the data migration. Other challenges detected in the transition were errors between the license number ID in the database and the printed permit. Other challenges included expired licenses and duplicated retailers in the list.

During this time, we have sought both permit lists and have worked on an integrated and corrected master list. In the future, the master list will be supplemented with the database that MHAASA keeps of their annual orientations to tobacco retailers and the commercial business list.

Limited expertise in survey methodology

Laws/regulations limiting the use of minors in tobacco inspections

The interpretation of current labor Law 230 of 1942 is that MHAASA cannot use youth inspectors aged 18 and under to simulate purchases in unannounced inspection visits due to labor law restrictions and the interpretation that this places the youth's welfare at risk. Contracting youth inspectors aged 17 or under is considered a violation, and it is a challenge to identify youth inspectors of 18 and over with a younger appearance.

Difficulties recruiting youth inspectors

The MHAASA personnel had difficulty recruiting youth inspectors due to the COVID-19 pandemic. Some candidates refused to participate because they were afraid of getting infected with the coronavirus.

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

The recruitment process of youth inspectors was a challenge. Some candidates refused to participate because they were afraid of getting infected with the coronavirus. There were ten female and three male youth recruited.

- Geographic, demographic, and logistical considerations in conducting inspections

In recent years, Puerto Rico had a seismic sequence on the central southern coast of the island, with earthquakes of lesser magnitude continuing in this area. There were establishments and government agencies that suffered structural damages. Since the event in January 2020 of a magnitude of 6.4, over 400 earthquakes have occurred in this region, ten of which were of a magnitude of 5+ on the Richter Scale. Many of these aftershocks have caused structural damages to some outlets. Also, FEMA established areas of high risk where outlets could not open, some closing for good.

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

- Issues regarding sources of tobacco under tribal jurisdiction

- Other challenges (*Please list.*) High-risk crime areas

**High-risk crime areas**

There are safety concerns for staff and youth when the outlets are located in high-risk crime areas and are open for business after 8:00 pm. Instability in Puerto Rico (i.e. fiscal crisis, unemployment) continues to influence tobacco sales. Businesses are feeling the effects of the economy; therefore, they are more willing to sell to minors to increase profit margins. MHAASA plans to continue its efforts and keep awareness of this issue at the forefront with law enforcement, retailers, and the general community.

## APPENDIX A: FORMS 1–5

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

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

**Instructions for Completing Form 1:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2022). Provide the remaining information by stratum if stratification was used. Make copies of the form if additional rows are needed to list all the strata.

Column 1: *If stratification was used:*

- 1(a) Sequentially number each row.
- 1(b) Write in the name of each stratum. All strata in the state must be listed.

*If no stratification was used:*

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

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

- Column 2: 2(a) Report the number of over-the-counter (OTC) outlets in the sampling frame in each stratum.  
2(b) Report the number of vending machine (VM) outlets in the sampling frame in each stratum.  
2(c) Report the combined total of OTC and VM outlets in the sampling frame in each stratum.

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

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

- Column 4: 4(a) Report the number of eligible OTC outlets for which an inspection was completed, for each stratum.  
4(b) Report the numbers of eligible VM outlets for which an inspection was completed, for each stratum.  
4(c) Report the combined total of eligible OTC and VM outlets for which an inspection was completed, for each stratum.

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

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





## **FORM 2 (Optional)**

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

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

**Instructions for Completing Form 2:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2022).

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



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

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

**Instructions for Completing Form 3:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2022).

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

Column 1:       Sequentially number each row.

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

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

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

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

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

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

<b>Summary of Clusters Created and Sampled</b>				
				<b>State:</b> _____
				<b>FFY:</b> 2022
(1) Row #	(2) Stratum Name	(3) Number of PSUs Created	(4) Number of PSUs Selected	(5) Number of PSUs in the Final Sample
<b>Total</b>				

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

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

**Instructions for Completing Form 4:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2022).

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

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

<b>Inspection Tallies by Reason of Ineligibility or Noncompletion</b>			
		<b>State:</b> _____	
		<b>FFY:</b> 2022 _____	
(1) INELIGIBLE		(2) ELIGIBLE	
Reason for Ineligibility	(a) Counts	Reason for Noncompletion	(a) Counts
Out of business		In operation but closed at time of visit	
Does not sell tobacco products		Unsafe to access	
Inaccessible by youth		Presence of police	
Private club or private residence		Youth inspector knows salesperson	
Temporary closure		Moved to new location	
Unlocatable		Drive-thru only/youth inspector has no driver's license	
Wholesale only/Carton sale only		Tobacco out of stock	
Vending machine broken		Ran out of time	
Duplicate		Other noncompletion reason(s) <i>(Describe.)</i>	
Other ineligibility reason(s) <i>(Describe.)</i>			
<b>Total</b>		<b>Total</b>	

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

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

**Instructions for Completing Form 5:** In the top right-hand corner of the form, provide the state name and reporting federal fiscal year (FFY 2022).

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

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

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

<b>Synar Survey Inspector Characteristics</b>		
		<b>State:</b> _____
		<b>FFY:</b> 2022
	(1) Attempted Buys	(2) Successful Buys
<b>Male</b>		
15 years		
16 years		
17 years		
18 years		
19 years		
20 years		
<b>Male Subtotal</b>		
<b>Female</b>		
15 years		
16 years		
17 years		
18 years		
19 years		
20 years		
<b>Female Subtotal</b>		
<b>Other</b>		
<b>Total</b>		

## APPENDIXES B & C: FORMS

### Instructions

Appendix B (Sampling Design) and Appendix C (Inspection Protocol) are to reflect the state's CSAP-approved sampling design and inspection protocol. These appendixes, therefore, should generally describe the design and protocol and, with the exception of Question #10 of Appendix B, are not to be modified with year-specific information. Please note that any changes to either appendix must receive CSAP's advance, written approval. To facilitate the state's completion of this section, simply cut and paste the previously approved sampling design (Appendix B) and inspection protocol (Appendix C) and respond to Question #10 of Appendix B to provide the requested information about sample size calculations for the Synar survey conducted in FFY 2021.

## APPENDIX B: SYNAR SURVEY SAMPLING METHODOLOGY

State: PR  
 FFY: 2022

**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
Permit Management Office – List of Licensed Tobacco Outlets	3	The list contained the licensed tobacco outlets within the 78 municipalities that comprise Puerto Rico.	The Permit Management Office provides to MHAASA officials the updated list of licensed tobacco outlets in an annual basis.

**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.)**

The sampling methodology used in this study consists of systematic sample selection. This statistical method involves the selection of every  $k^{\text{th}}$  element from a sampling frame, where  $k$ , the sampling interval, is calculated as:  $k = \text{population size } (N) / \text{sample size } (n)$ . Using this procedure each element in the population has a known and equal probability of selection. This makes systematic sampling functionally like simple random sampling. It is, however, more efficient (if variance within systematic sample is more than variance of population) and much less expensive to carry out (Daniel, W. 1995).

The sampling frame includes over the counter (OTC) outlets and vending machine outlets (VM). From the sampling frame, a starting point is chosen using a random number generator, and thereafter outlets are selected at regular intervals. The systematic sample of outlets is selected to conduct the study across areas of the island represented by the 12 MHAASA Regional Prevention Centers at that



time. Each Regional Prevention Center provides prevention services to a predefined geographic region within the 78 municipalities that comprise Puerto Rico.

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

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

- b. Is clustering used within the stratified sample?

Yes (Go to Question 8.)

No (Go to Question 9.)

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

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

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

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

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

Yes (Respond to part b.)

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

- b. SSES Sample Size Calculator used?

State Level (Respond to Question 10a.)

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

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

The SSES Sample Size Calculator was used to determine the minimum adequate sample size. Below is the formula for calculating a sample size using a one-tail test:

Effective sample size:

$$\frac{1}{\left(\frac{(s.e.)^2}{P(1-P)} + \frac{1}{N}\right)}$$

where P is the maximum allowed RVR\*,  
s.e. is the standard error of the estimate, and  
N is the total number of outlets in the sample frame.

The target sample size ( $n_t$ ) is the effective sample size times the design effect from the previous year.

The original sample size is determined by:

$$n_o = (1 + s) \frac{n_t}{r_i r_c}$$

where  $s$  is the safety margin of 25%,  
 $r_i$  is the eligibility rate from previous year, and  
 $r_c$  is the completion rate from previous year.

\*Synar activities are intended to keep the RVR below the 20% mark. So, the relevant null hypothesis is that the true RVR is 20% or higher. Thus, the calculated sample size will allow us to test if the RVR estimate in Puerto Rico was lower than the maximum allowed RVR.

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

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

**Inputs for Effective Sample Size:**

RVR: 20%

Frame Size: 1,587

**Input for Target Sample Size:**

Design Effect: 1

**Inputs for Original Sample Size:**

Safety Margin: 25%

Accuracy (Eligibility) Rate: 65.83%

Completion Rate: 90%

- 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.**

## APPENDIX C: SYNAR SURVEY INSPECTION PROTOCOL SUMMARY

State: PR  
FFY: 2022

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

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

#### a. Consummated buy attempts?

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

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

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

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

- Required  
 Permitted under specified circumstances (Describe: When the retailer was found in violation, the MHAASA personnel and the Internal Revenue Service Agents entered the outlet to give a warning. )  
 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): Mental Health and Anti-Addiction Services

**Administration and the Puerto Rico Treasury Department**

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**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.**

The youth inspectors enter the outlet selected in the sample list with discretion. They must observe where the cigarettes are located and check if there are one of the following brands: Newport or Marlboro. Youth inspectors proceed to ask the clerk for a pack of cigarettes of one of the brands mentioned. Youth inspectors are not supposed to convince the clerk in any way beyond asking once for a pack of cigarettes. If there is a smoke shop in the sample, the youth inspectors should ask for an electronic cigarette.

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

MHAASA's Prevention and Mental Health Promotion Assistant Administration operates 10 Regional Prevention Centers (RPC) throughout the island. Each RPC provides services to a predefined geographic region serving 78 municipalities. The manager of each RPC decided which staff of its center was the adult supervisor.

One staff member of the RPC always supervised the youth inspectors, but they never entered the outlet when the youth inspector was attempting to buy cigarettes. They were trained to provide transportation, locate the outlets, verify the locations, and supervise all inspection procedures.

When the retailer was found in violation of the law at the time of the inspection, the MHAASA personnel and the Internal Revenue Agents entered the outlet to issue a warning. All the Synar personnel (RPC staff, agents of the Puerto Rico Treasury Department and youth inspectors) were trained by the investigators and participated in role-playing exercises.

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

The RPC staff identified candidates for youth inspectors in their geographic region. The candidates had to be 18 years of age at the time of operation and be youthful in appearance.

Also, they had to have good communication skills, be capable of following specific and general directions, be available to work after regular hours or weekends, and visit outlets from different municipalities in the assigned RPC. All the candidates must possess a valid identification card.

Staff from the RPC staff interviewed youth inspector candidates and submitted a listing of preliminary choices to the MHAASA Prevention Tobacco Coordinator, who conducted a second interview. In the second interview, the Tobacco Coordinator explored the applicant's interest in participating in the study, verifying the candidate's physical appearance, verbal, and writing skills and capacity and willingness to follow instructions. After the selection was made, applicants had to comply with the agency's contracting requirements.

At least one youth inspector was contracted by each RPC to conduct the random unannounced inspections as required. Youth inspectors were trained on the inspection protocol using written materials, verbal instructions, videos, role-play exercises, and data collection methods by the investigators.

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

**a. Legal**

Yes  No

*(If Yes, please describe.)*

**b. Procedural**

Yes  No

*(If Yes, please describe.)*

**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 inspectors must follow these instructions:

-The youth inspectors are required to use a face mask at all the times.  
-One staff member of the RPC accompanies them at all the times.  
-Staff members do not enter the outlet when the youth is attempting to buy cigarettes.  
-If there is a violation during the Synar inspection, all the intervention with the retailer is done by the MHAASA personnel and the Internal Revenue Agents of the Treasury Department. Immediately after the attempt of purchase is done, the youth inspectors were instructed to leave the premises.  
-Youth do not enter any outlet if they feel that surroundings make the youth feel concerned about their safety, and in such cases, they are instructed to leave the premises. A further attempt is made to complete the inspection.

**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.)*

As part of the Governor's Executive Order 2020-033, all of the population of Puerto Rico is required to use a face mask to enter any outlet. All the youth inspectors are required to use face masks all the time.

Puerto Rico cannot use underage youth inspectors for the Synar Study. Puerto Rico Law 246 of 2011, as amended, forbids this for considering it a risk activity. A consultation was made to the Department of Justice, and the Children's Advocate indicated that the use of underage youth cannot be approved due to an interpretation of the law that this places the welfare of the youth at risk.

**b. Procedural**

Yes  No

*(If Yes, please describe.)*

The youth inspectors were of 18-20 years of age with a youthful appearance. All the youth inspectors, agents of the Department of Treasury, and RPC staff were trained on data collection methods by the researcher.

## APPENDIX D: LIST SAMPLING FRAME COVERAGE STUDY

(LIST FRAME ONLY)

State: PR  
FFY: 2022

1. Calendar year of the coverage study: 2021
2.
  - a. Unweighted percent coverage found: 89.4%
  - b. Weighted percent coverage found: 86.1%
  - c. Number of outlets found through canvassing: 38
  - d. Number of outlets matched on the list frame: 34

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

The area frame used to the Puerto Rico Synar Coverage Study consisted of all islanwide census blocks. Census blocks are areas surrounded by visible features such as streets, roads, streams, and invisible boundaries such as city limits, property lines and short imaginary extensions of streets and roads.

- 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.**

Two hundred census blocks were systematically selected from the list of all the inhabited census blocks of the entire territory of Puerto Rico. The list of census blocks was derived from the US Census website. The list was sorted by municipality. From the list of census blocks of each strata (see below) 20 census blocks were systematically selected for inspection.

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

MHAASA's operates 10 Regional Prevention Centers throughout the island. Each Regional Prevention Center provides services to a predefined geographic region serving the 78 municipalities. Each prevention region represented one strata of the study.

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

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

Yes  No

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

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

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

Yes  No

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

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

Yes  No

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

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

Yes  No

*If No, respond to Question 9.*

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

Personnel of the state agency's Regional Prevention Centers were trained to conduct the field survey. Maps of the selected blocks and canvassing log sheets were provided to identify the



area to be canvassed and collect the information. The maps included the boundaries and streets of the area. Field staff visited each census block selected in the list area frame and canvassed the area completely and registered all commercial establishments. When the canvassing was completed, the field worker made a final check that all routes and locations had been covered and all necessary information about the identified outlets had been gathered.

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

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

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

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

The field staff entered each establishment to determine cigarette sales and to collect information required for the survey (e.g. name, address, phone number, business type, license number). First, the staff conducted a visual scan of the establishment, and determined if there was a vending machine in the outlet. The field team visited a total of 232 business establishments (51.3% in urban areas and 48.7% in rural areas). The final list of canvassed tobacco-selling outlets included 38 establishments, 37 with valid licenses to sell tobacco and currently selling tobacco (n=37 over the counter; n=0 vending machine), and 1 without a valid license.

**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.)**

Matches were primarily defined as an outlet's on-site license number exactly matching the license number in the Synar sampling frame. The matching process was conducted in two steps. The first step was carried out by matching the license number. Those outlets that appear in the master lists were declared as "matches". Then the remaining outlets on the list were searched by the name of the outlet, name of the proprietary and address, respectively. Outlets matching the three criteria were also declared "matches". The remaining outlets were declared as "mismatches".

Note: Given the low number of tobacco-vending machine outlets identified in the coverage study, the team of independent investigators validated the field results. The investigators visited eight census blocks from three strata in the list area frame, canvassed the areas entirely, and registered all commercial establishments. The results obtained by the field staff

and the investigators matched; except for minor fieldwork errors regarding commercial establishments outside the census blocks which had been counted on several occasions.

We believe the quality of the Coverage Study could have been diminished by several factors:

1) Inter-agency handover of permit authority. As described above the tobacco licensing authority was transferred from the Treasury Department to the Office of Management and Budget. The transition is still ongoing so both agencies are maintaining lists of permits. We integrated both lists to derive a master list.

2) Large outward migration. Both the fiscal crisis of the state and a longstanding economic stagnation has resulted in a large outward migration of population from the island to the mainland. It has been estimated that close to half a million residents have left during the past 10 years. This outward-migration trend seems to have been accelerated by both the Level 4 Hurricane that hit Puerto Rico in 2017, major earthquake event in the southern region of Puerto Rico, and the recent COVID Pandemic.

Based on the information indicated above, we propose to repeat the Coverage Study the following year (FFY 2023). In the new study, we will incorporate a reserve sample to replace census blocks where no commercial establishments can be located.

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

The weight was calculated as the inverse of the probability of selection of the Census Block multiplied by the fraction of the block's population sampled.

$$W = \frac{1}{\text{Probability of Selection } i} * \frac{\text{Number of blocks in Sample}}{\text{Total number of blocks in the state}}$$

where  $i = \text{strata}$ .