NATIONAL YOUTH TOBACCO SURVEY
2015-2017

OMB No. 0920-0612

Revision

SUPPORTING STATEMENT: PART B

January 14, 2015

Submitted by:
René Arrazola, MPH
Centers for Disease Control and Prevention
Office on Smoking and Health
Epidemiology Branch
4770 Buford Highway NE, MS-F79
Atlanta, GA 30341
Phone: 770-488-2414
Fax: 770-488-5848
E-mail: RArrazola@cdc.gov

Centers for Disease Control and Prevention
Department of Health and Human Services

TABLE OF CONTENTS

LIST OF APPENDICES

Permission Form Reminder Notice (English Version)

I6. National Youth Tobacco Survey Questionnaire Supplemental Documents – Parental Permission Form Reminder Notice (Spanish Version)

I7. National Youth Tobacco Survey Questionnaire Supplemental Documents - Questionnaire Administration Guide

I8. Summary of Changes in the NYTS Questionnaire from 2014 to 2015

I9. Example: Instrument Testing Activity

J. IRB Approval Letter

K. Sample Table Shells

L. Detailed Sampling and Weighting Plan

LIST OF TABLES

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

This study will employ a repeat cross-sectional design to develop national estimates of tobacco use behaviors and exposure to pro- and anti-tobacco influences among students enrolled in grades 6-12. The study represents the continuation of the National Youth Tobacco Survey (NYTS) cycles that took place in 1999, 2000, 2002, 2004, 2006, 2009, 2011, 2012, 2013, and 2014 (OMB no. 0920-0621, exp. 1/31/2015). The NYTS came before OMB for the first time in 2003, after which management of the survey was passed from the American Legacy Foundation to CDC.

As presented in this supporting justification, every effort has been made to maintain the methodology established in prior cycles of the NYTS to permit comparability across cycles. The primary objectives of the NYTS are to develop estimates of tobacco use behaviors and exposure to pro- and anti-tobacco influences among students enrolled in middle school and high school; to identify differences related to demographic characteristics (age, grade, sex, and race/ethnicity); and to determine whether there are time trends in tobacco use behaviors and exposure to influences that promote or discourage tobacco use. Data from the NYTS provide a comprehensive picture of the tobacco use behaviors of adolescents and their exposure to pro- and anti-tobacco influences. Data are reported at the national level only; no school district or regional estimates will be produced. Such information is required to support CDC's responsibilities in providing technical assistance in the planning, monitoring, and evaluation of national, state, and local tobacco prevention and control programs.

B.1 RESPONDENT UNIVERSE AND SAMPLING METHODS

The universe for the study will consist of students in 6th through 12th grade that attend public and private schools in the 50 U.S. States and the District of Columbia. Private schools will include both religious and non-religious schools.

The sampling frame for schools has been obtained from Market Data Retrieval (MDR) (formerly known as Quality Education Data, Inc., or QED). It has been augmented by combining it with the frames maintained by the National Center for Education Statistics (NCES). School-level data on enrollment by grade and minority race/ethnicity are available in the NCES data set.

Table B-1 displays the current U.S. distribution of eligible schools by urban status and type of school. This tabulation was computed over a frame of eligible schools with middle school and/or high school grades prepared using the latest MDR files that are the basis for the sampling frame. [1]

[1] We created a dichotomy of urban vs. non-urban schools using the Metro Status categorical variable available in these files.

Table B1 - Distribution of Schools by Urban Status and School Type

Table of School Type by Urban Status			
School Type	**Urban Status**		
Frequency **Percent** **Row Pct** **Col Pct**	**Rural**	**Urban**	**Total**
Non-public	5597 8.20 41.98 14.86	7737 11.33 58.02 25.28	13334 19.53
Public	32060 46.97 58.37 85.14	22869 33.50 41.63 74.72	54929 80.47
Total	37657 55.16	30606 44.84	68263 100.00

B.2 PROCEDURES FOR COLLECTION OF INFORMATION

B.2.a Statistical Methodology for Stratification and Sample Selection

A national probability sample will be selected that will support national estimates by grade, sex, and grade cross-tabulated by sex, for students enrolled in grades 6-12. The design will further support separate estimates of the characteristics of non-Hispanic white, non-Hispanic black, and Hispanic students by school level (middle and high school). The procedures for stratification and sample selection are consistent with those from previous cycles of NYTS. Additional details of the sampling plan are provided in Attachment L.

Sampling Frame and Stratification

For the 2015 NYTS survey, we will use a combination of sources to create the school frame in order to increase school coverage. Along with the MDR dataset, we will use two files from NCES; the Common Core Dataset (CCD) which is a national file of public schools and the Private School Universe Survey Dataset (PSS), a file of national non-public schools. The principle behind combining multiple data sources is to increase the coverage of schools nationally.

The sampling frame representing the 50 U.S. States and the District of Columbia will be stratified by urban status and by racial/ethnic minority concentrations. The definition of urban

status strata, distinguishing urban and non-urban areas, will be based on metropolitan statistical area, or Metropolitan Statistical Area (MSA), versus non-MSA areas. The sample will be structured into geographically defined units, called primary sampling units (PSUs), which consist of one county or a group of small, contiguous counties. Table B-1 provides the distribution of eligible schools in the frame.

We will impose a school size threshold as an additional criterion for eligibility. By removing from the frame those schools with an aggregate enrollment of less than 25 students across eligible grades, we will improve efficiency and safeguard privacy. Attachment L demonstrates that the coverage losses are negligible in terms of eligible students as well as in terms of potential biases.

Selection of PSUs. A total of 85 PSUs will be selected with probability proportional to the student enrollment in the PSU. The PSUs will be allocated to the urban/non-urban strata in proportion to the total eligible student enrollment in the stratum. This approach will increase the sampling efficiency by generating a nearly self-weighting sample.

Selection of Schools. Schools will be classified by enrollment size as small, medium or large. Small schools contain one or more grades with less than 25 students per eligible grade. The remaining schools are classified as medium if they have fewer than 50 students in any of the eligible grades; otherwise, they are considered large schools.

Among large schools, two schools will be selected in each sample PSU, one middle school and one high school, with probability proportional to the measure of enrollment size. In principle, a total of 170 large school (85 high schools and 85 middle schools) selections will be made at the second stage from the 85 sample PSUs. Among medium schools, 10 high schools and 10 middle schools will be selected from a sub-sample of 10 PSUs. Similarly, among small schools, a separate random sample of 15 middle schools and 15 high-schools will be taken from 15 sub-sample PSUs. A total of 220 schools will be selected.

These numbers will be adjusted in our simulation study prior to sample selection to ensure that the sample provides the target numbers of non-Hispanic black and Hispanic students per school level and the target numbers per grade. To ensure the latter balance across grades, the subsampling of PSUs for the selection of high schools used on the 2014 NYTS will be continued, while middle schools will be selected in every sample PSU.

Selection of Students. Classes are selected based on two specific scientific parameters to ensure a nationally representative sample. First, classes have to be selected in such a way that all students in the school have a chance to participate. Second, all classes must be mutually exclusive so that no student is selected more than once. In each school, once we have determined the type of class or time period from which classes will be selected, we randomly select the appropriate number of classes within each grade. To maintain acceptable school participation rates, it is essential that each school have input in the decision of which classes will be sampled in their school following one of the above approaches. Examples of class sampling frames that have been used in past cycles include all 2nd period classes or a required physical education class. As long as the scientific sampling parameters are met, we work with each school to identify a classroom sampling frame that will work best for each school. All students in a selected classroom will be selected for the study.

Refusals. School districts, schools, or students who refuse to participate in the study will not be replaced in the sample. We will record the characteristics of schools that refuse along with reasons given for their refusal for analysis of potential study biases.

B.2.b Estimation and Justification of Sample Size

The NYTS is designed to produce the key estimates accurate to within ± 5% at a 95% precision level. Estimates by grade, sex, and grade cross-tabulated by sex, meet this standard. The same standard is used for the estimates for racial/ethnic groups by school level (middle and high school).

The derivation of sample sizes is driven by these precision levels for subgroup estimates, specifically for the smallest subgroups defined by grade and by sex. With a sample size of approximately 3,000 participants by grade—totals of 9,000 and 12,000 for middle school and high school grades, respectively—the design will ensure the required precision levels for design effects as large as 3.0. As shown in Attachment L, subgroups of size 1,500 students will achieve the +/-5% precision levels for 95% confidence intervals.

We propose to replicate key aspects of the sampling design utilized for the 2014 NYTS. Refinements typically occur in response to the changing demographics of the in-school population and to meet CDC's policy needs. For example, increasing percentages of minority students will likely lead to more efficient sampling of minority students. In addition, the proposed design will more effectively oversample non-Hispanic black students by increasing the sampling intensity in those schools with high concentrations of non-Hispanic black students.

Across nine cycles, the NYTS has maintained exceptional student and school response rates. We have averaged a 78% combined (school x student) response rate. At the school and student levels, response rates are higher. The school participation rate has averaged 86% and student participation rate has averaged approximately 90%. After each cycle of the NYTS, a non-response bias analysis is conducted to determine the impact of non-response on prevalence estimates. The analysis first considers differential response rates across population subgroups; i.e., bivariate analyses of potential non-response bias. Any variables found significant in the bivariate analyses are then included in the multivariate analysis. The multivariate analyses examine the independent effect that each school-level characteristic may have on non-response. CDC plans to seek external review of the sample design to determine if any modifications would be deemed appropriate for future years. The anticipated total number of participating students is 20,077, as developed in Attachment L. We will randomly select 39 schools of the 85 large high schools and 39 schools of the 85 large middle schools into the double class sampling group. In other words, we will select two classes per grade in these schools (i.e., six classes in middle schools and eight classes in high schools) to ensure that target precision levels are met for racial/ethnic minority group estimates. Among the remaining large schools, only one class per grade level will be selected (46 high schools and 46 middle schools). Similarly, one class per grade level will be selected in medium schools. In small schools, that is, those that cannot support a full class selection at each grade, all students in all eligible grades are taken into the sample.

The sample was designed to yield approximately 1,500 participating non-Hispanic black students per level and approximately 1,500 participating Hispanic students per level. The target

numbers were achieved in the previous cycles of the NYTS and will be confirmed in the simulation studies that we perform to fine tune the sampling parameters prior to sample selection.

B.2.c. Estimation and Statistical Testing Procedures

Sample data will be weighted by the inverse of the probability of case selection and adjusted for non-response. The resulting weights will be trimmed to reduce mean-squared error. Next, the strata weights will be adjusted to reflect true relative enrollments rather than relative weighted enrollment. Finally, the data will be post-stratified to match national distributions of middle and high school students by race/ethnicity and grade. Variances will be computed using linearization methods.

Confidence intervals vary depending upon whether an estimate represents the full population or a subset, such as a particular grade, sex, or racial/ethnic group. Within a grouping, they also vary depending on the level of the estimate and the design effect associated with the measure.

Based on the prior NYTS cycles, as well as on precision requirements that have driven the sampling design, we can expect the following subgroup estimates to be within ±5% at 95% precision level:

- Estimates by grade, sex, and grade cross-tabulated by sex
- Racial/Ethnic minority group estimates for non-Hispanic blacks and Hispanics cross-tabulated by school level

The former estimates will be derived from projected sample sizes of 2,868 participating students per grade, and therefore, approximately 1,434 by sex within grade. For the latter estimates, the anticipated number of participants in each minority group is at least 1,500 per school level. For conservative design effect scenarios (design effects as large as 3.0), estimates based on these subgroup sample sizes will be within +/- 5 percentage points at the 95% confidence level.

The NYTS data are used for trend analyses where data for successive cycles are compared with statistical testing techniques. Statistical testing methods are also used to compare subgroup prevalence rates (e.g., male versus female students) for each cycle of the NYTS. These tests will be performed with statistical techniques that account for the complex survey design.

B.2.d Use of Less Frequent Than Annual Data Collection to Reduce Burden

The NYTS was initially designed as a biennial survey. However, as witnessed during the 1990s, youth tobacco use can increase or decrease rapidly, making biennial collection less optimal. On June 22, 2009, the Family Smoking Prevention and Tobacco Control Act was enacted, which gave FDA the authority to regulate the manufacturing, marketing, and sale of tobacco products. Under this new authority, a number of regulatory and enforcement actions are underway or will be commencing soon, including the prohibition of certain types of tobacco advertising and promotion, prohibition of the sale of single cigarettes, elimination of flavors in

cigarettes (other than menthol), enforcement of youth access restrictions, and the introduction of graphic warning labels on cigarette packs. To assist the FDA in ensuring its shared goal with CDC of protecting young people from tobacco use is met, annual data collection is needed to monitor the impact of FDA's actions on public health as well as to measure potential unintended consequences (such as increased use of currently unregulated tobacco products such as e-cigarettes and little cigars). The collection of annual data is particularly important in the first few years following the new regulatory authority as many regulations are being implemented in a short time frame. Rather than develop a completely new surveillance system to monitor measures critical to FDA regarding youth tobacco use, thereby increasing burden, CDC and FDA entered into a partnership to leverage the CDC's existing NYTS system to collect annual data that will be useful to both agencies. The collaboration between CDC and FDA in administering the NYTS annually will efficiently allow both agencies to meet their goals.

B.2.e Survey Instrument

The NYTS questionnaire (Attachment I1) contains 81 items. The first set of questions on the questionnaire gather demographic data. Most of the remaining questions address the following tobacco-related topics: tobacco use (cigarettes, smokeless tobacco, cigars, pipes, bidis, electronic vapor products and hookah), knowledge and attitudes, media and advertising, minors' access and enforcement, cessation, and environmental exposure to tobacco smoke. The questions are in a multiple-choice format and will be administered as an 8-page, optically scannable questionnaire booklet.

B.2.f Data Collection Procedures

Data will be collected by a small staff of professional data collectors who are specially trained to conduct the NYTS. The time during the school day in which the survey is administered varies by school. This decision is made in coordination with each school to ensure that the type of class or period of the day selected for sampling: 1) meets the scientific sampling parameters to ensure a nationally representative sample; and 2) results in the least burden/highest possible acceptability for the school. Each data collector will have direct responsibility for administering the survey to students. Data collectors will follow a questionnaire administration guide (Attachment I7). Teachers will be asked to remain at the front or back of the classroom and not to walk around the room monitoring the aisles during survey administration because doing so could affect honest responses and compromise anonymity. Teachers also will be asked to identify students with parental consent to participate in the survey and to make sure non-participating students have appropriate alternate activities. The rationale for this is to increase the candor and comfort level of students. The only direct responsibility of teachers in data collection is to distribute and follow up on parental permission forms sent out prior to the scheduled date of data collection in the school. Teachers are provided with a parental permission form distribution script (Attachment I2) to follow when distributing permission forms to students. The Data Collection Checklist (Attachment H1) is completed by teachers to track which students have received parental permission to participate in the data collection. The teachers receive instructions on completing the Data Collection Checklist in the "Letter to Teachers in Participating Schools" (Attachment H2). The data collector will utilize the information on the Data Collection Checklist to identify students eligible for a make-up survey administration; this information will be recorded by the data collector on the "Make-up List and Instructions" document (also included in Attachment H1).

In general, our data collection procedures have been designed to ensure that:

- Protocol is followed in obtaining access to schools
- Everyday school activity schedules are disrupted minimally
- Administrative burden placed on teachers is minimal
- Parents give informed permission to participate in the survey
- Anonymity of student participation is maintained, with no punitive actions against non-participants
- Alternative activities are provided for nonparticipants
- Control over the quality of data is maintained

B.2.g Obtaining Access to and Support from Schools

All initial letters of invitation will be on CDC letterhead from the Department of Health and Human Services and signed by Timothy McAfee, MD, MPH, Director of the Office on Smoking and Health, NCCDPHP at CDC. The procedures for gaining access to and support from states, districts, and schools will have three major steps:

- First, support will be sought from State Education Agencies and State Departments of Health. The initial request will be accompanied by a study fact sheet and a list of all sampled districts and schools in their jurisdiction. States will be asked to provide general guidance on working with the selected school districts and schools and to notify school districts that they may anticipate being contacted about the survey.

- Once cleared at the state level, an invitation packet will be sent to sampled school districts in the state. Districts will receive a list of schools sampled from within their district in the invitation packet and will be asked to provide general guidance on working with them and to notify schools that they may anticipate being contacted about the study. Telephone contact will be made with the office comparable to the district office (e.g., diocesan office of education), if there is one.

- Once cleared at the school district level, selected schools will be invited to participate. Information previously obtained about the school will be verified. The burden and benefits of participation in the survey will be presented. After a school agrees to participate, a tailor-made plan for collection of data in the school will be developed (e.g., select classes, determine whether the survey will be administered to selected classes sections simultaneously or in serial). Well in advance of the agreed upon survey administration date, schools will receive the appropriate number of parental consent forms and instructions. All materials needed to conduct the survey will be provided by the data collector visiting the school. Contact with schools will be maintained until all data collection activities have been completed.

Prior experience suggests the process of working with each state's health and education agencies, school districts and schools will have unique features. Communication with each agency will recognize the organizational constraints and prevailing practices of the agency. Scripts for use in guiding these discussions may be found in Appendices C1 (state-level), D1 (district-level), and E1 (school-level). Copies of letters of invitation can be found in Attachment E2 (state-level); Attachment F2 (district-level); and Attachment G2 (school-level). Attachment G2 also contains the NYTS Fact Sheet for Schools. Attachment G3 contains a copy of the letter

sent to school administrators once they have agreed to participate.

B.2.h Informed Consent

The permission form informs both the student and the parent about an important activity in which the student has the opportunity to participate. By providing adequate information about the activity, it helps ensure that permission will be informed. A copy of the permission form is contained in Appendices G4 (English version) and G5 (Spanish version). In accordance with the No Child Left Behind Act, the permission form indicates that a copy of the questionnaire will be available for review by parents at their child's school.

A waiver of written student assent was obtained for the participation of children because this research presents no more than minimal risk to subjects, parental permission is required for participation, the waiver will not adversely affect the rights and welfare of the students because they are free to decline to take part, and it is thought that some students may perceive they are not anonymous if they are required to provide stated assent and sign a consent/assent document. Students are told "Participating in this survey is voluntary and your grade in this class will not be affected, whether or not you answer the questions." Completion of the survey implies student assent.

B.2.i Quality Control

Table B.2.i lists the major means of quality control. As shown, the task of collecting quality data begins with a clear and explicit study protocol and ends with procedures for the visual inspection and scanning of collected data. In between these activities, and subsequent to data collector training, measures must be taken to reinforce training, to assist field staff who express/exhibit difficulties completing data collection activities, and to check on data collection techniques. Because the ultimate aim is production of a high quality database and reports, various quality assurance activities will be applied during the data collection phase.

B.3 METHODS TO MAXIMIZE RESPONSE RATES AND DEAL WITH NONRESPONSE

B.3.a Expected Response Rates

The study requires a final yield of approximately 21,000 students. It is necessary to draw an initial sample that is considerably larger than this target number to compensate for school and student non-participation. On prior cycles of the NYTS, school participation averaged 89%, with a low of 83%; student participation averaged 90% with a low of 88%. For the 2015 NYTS, we conservatively have assumed an 80% school and 90% student participation. A $500 incentive will be offered to each participating school.

Table B.2.i - Major Means of Quality Control

Survey Step	Quality Control Procedures
Mailing to Districts and School	▪ Validate district and school sample to verify/update contact information of district/diocese/school leadership (100%) ▪ Check inner vs. outer label for agreement in correspondence (5% sample) ▪ Verify that any errors in packaging were not systematic (100%)
Telephone Follow-up Contacts	▪ Monitor early sample of calls to ensure that the recruiter follows procedures, elicits proper information, and has proper demeanor (10%) ▪ Perform spot checks on recruiters' class selection outcomes to confirm procedures were implemented according to protocol (10%)
Previsit Logistics Verification	▪ Review data collection procedures with school personnel in each school to ensure that all preparatory activities are performed properly in advance of data collector arrival (e.g., distribution of permission forms) (100%)
Data Collector Training and Supervision of School Visits	▪ Issue quizzes during data collector training to ensure that key concepts are understood (daily during training) ▪ Maintain at least one weekly telephone monitoring of all field staff throughout data collection (100% of field staff) ▪ Reinforce training and clarify procedures through periodic field newsletters (100% of field staff) ▪ Verify by telephone with a 10% sample of early schools that all data collection procedures are being followed
Receipt Control	▪ Verify that a sample of forms received the prior day were logged in and are stored in the proper location (5%) ▪ Require entry of staff ID in receipt control and all other transactions (100%)
Manual Editing	▪ Verify initial editing by all editors until standards are achieved (100%) ▪ Spot check editing by editor (5%)
Computer Scanning	▪ Verify scanning program is operating correctly by comparing scanned values against bubbled-in responses; repeat until no issues are found (10 booklets) ▪ Transcribe questionnaires that are not scannable (100%) ▪ Remove any scannable form that reflects intentional misuse by a respondent (100%)

NYTS participation rates traditionally have been relatively high compared to other federally funded, national, school-based, health-related surveys of high school students. For example, the widely cited *Monitoring the Future* survey (formerly known as the *High School Senior Survey*) achieves substantially lower participation rates. The participation rates established by the NYTS are the product of the application of proven and tested procedures for maximizing school and student participation.

As indicated in A.16.c, it is desirable to complete data collection before the final month of school (i.e., by mid-April to mid-May, depending on location). Many schools are very busy at that time with standardized testing and final exams; in addition, attendance can be very unstable, especially among twelfth grade students.

B.3.b Methods for Maximizing Responses and Handling Nonresponse

We distinguish among six potential types of nonresponse problems: refusal to participate by a selected school district, school, teacher, parent, or student; and collection of incomplete information from a student.

To minimize refusals at all levels--from school district to student--we will use a variety of techniques, emphasizing the importance of the survey. Given the subject matter is tobacco, we expect that a few school districts or schools will need to place the issue of survey participation before the school board. To increase the likelihood of an affirmative decision, we will: (1) work through the state agencies to communicate its support of the survey; (2) indicate that the survey is being sponsored by CDC; (3) convey to the school district or school that the survey has the endorsement of many key national educational and health associations, such as the National PTA, American Medical Association, National Association of State Boards of Education, Council of Chief State School Officers and the National School Boards Association;(4) maintain both a toll-free hotline and dedicated email account to answer questions from the school board; (5) offer a package of educational products to each participating school, as recommended by OMB in approving the 1998 YRBS in alternative schools (OMB No. 0920-0416, expiration 12/98) and implemented on NYTS ever since; (6) comply with all requirements from school districts in preparing written proposals for survey clearance; (7) convey a willingness to appear in person, if needed, to present the survey before a school board, research committee, or other local entity tasked with reviewing the survey; and (8) offer schools a monetary incentive of $500.

The sampling plan does not allow for the replacement of schools that refuse to participate due to concern that replacing schools would introduce bias. All participating state departments of health and education, school districts, and schools also will have access to the published survey results.

Maximizing responses and dealing with refusals from parents, teachers, and students require different strategies. To maximize responses, we will recommend that schools help to advertise the survey through the principal's newsletter, PTA meetings, and other established means of communication. Reminders will be sent to parents who have not returned parental permission forms within an agreed upon time period (e.g., three days); those who do not respond to the reminder will be sent a second and final reminder. The permission form will provide a telephone number at CDC that parents may call to have questions answered before agreeing to give permission for their child's participation. Permission forms will be available in English, Spanish, and any other languages spoken by a large percentage of parents in a given school district. Field staff will be available on location to answer questions from parents who remain uncertain of permission. Bilingual field staff will be used in locations with high Hispanic concentrations (e.g., California, Florida, New York City, and Texas).

Teacher refusals to cooperate with the study are not expected to be a problem because schools will already have agreed to participate. Refusals by students who have parental

permission to participate are expected to be minimal. No punitive action will be taken against a nonconsenting student. Nonconsenting students will not be replaced. Data will be analyzed to determine if student nonresponse introduces any biases.

To minimize the likelihood of missing values on the survey, students will be reminded in writing in the questionnaire booklet and verbally by the survey administrator to review the optically "scan-able" questionnaire before turning it in to verify that: (1) each question has been answered, (2) only one oval is filled in for each question with the exception of questions instructing the respondent to choose one or more answers (e.g. the question on race asks the student to mark each race that applies); and (3) each response has been entered with a No. 2 pencil, fills the oval, and is dark. A No. 2 pencil will be provided to each survey participant to reduce the likelihood that the responses will not scan properly, which would produce missing values. In addition, when completed questionnaires are visually scanned later at project headquarters, any oval that is lightly filled in will be darkened (unless they appear to be erasures) and stray marks will be erased before the forms are scanned. Missing values for an individual student on the survey will not be imputed.

B.4 TESTS OF PROCEDURES OR METHODS TO BE UNDERTAKEN

The NYTS core questionnaire items–those identified for use both nationally and at the state level–originally were subjected to cognitive analyses by RTI in 1999. This cognitive analysis directly affected the first NYTS questionnaire fielded in 1999. Cognitive analyses of a small number of new questions were conducted in the fall of 2003 to investigate potential sources of error. A limited pretest of the 2004 NYTS questionnaire was also conducted in August 2003. Cognitive testing was undertaken again prior to the 2006 NYTS. Specifically, testing evaluated revisions to certain existing core survey questions and additional new items subsequently under consideration. In April 2005, a pretest of the NYTS 2006 questionnaire was conducted in accord with OMB guidelines. The pretests sharpened the articulation of certain survey questions and confirmed the existing empirical estimate of the survey burden. In 2012, cognitive testing was performed on 26 new questions that were added to the NYTS; while retaining the overall length of the survey to 81 questions. In 2013, another round of cognitive testing was done but this time it was performed on the whole survey. For the 2015 cycle of NYTS, cognitive testing was done on 11 new questions that focused on electronic vapor products (e.g. electronic cigarettes, electronic cigars, vape pens, electronic hookah). The new questions that were tested, including any changes, and final question wording, are provided in Attachment I-8. This attachment also provides a list of questions that were removed to maintain the previous length of 81 items; thus, not increasing the burden on students who will receive the questionnaire.

The current ICR includes a new line item in the burden table to support more robust testing of changes to the NYTS questionnaire prior to their implementation. Burden is specifically allocated to performing cognitive testing of new or modified questions that will provide better measures of tobacco products. The burden also includes testing of the questionnaires to confirm that they can be completed in 45 minutes. See Attachment I9 for an example testing activity.

B.5 INDIVIDUALS CONSULTED ON STATISTICAL ASPECTS AND INDIVIDUALS COLLECTING AND/OR ANALYZING DATA

B.5.a Statistical Review

Statistical aspects of the study have been reviewed by the individuals listed below.

Dr. Ronaldo Iachan, Ph.D. Senior Statistician ICF Macro 530 Gaither Road Rockville, MD 20850 Phone: 301-572-0538 Email: Ronaldo.Iachan@icfi.com	William H. Robb, M.S. Statistician ICF Macro 40 Wall Street, NY, NY 10005 Phone: 646-695-8182 Email: wRobb@icfi.com
Mirna Moloney, M.S. Statistician ICF Macro 530 Gaither Road Rockville, MD 20850 Phone: 301-572-0943 Email: Mirna.Moloney@icfi.com	Richard (Lee) Harding, M.S. Statistician ICF Macro 530 Gaither Road Rockville, MD 20850 Phone: 301-572 -0524 Email: Richard.Harding@icfi.com

B.5.b Agency Responsibility

Within the agency, the following individual will be responsible for receiving and approving contract deliverables and will have primary responsibility for data analysis:

René Arrazola, MPH
Centers for Disease Control and Prevention
Office on Smoking and Health, Epidemiology Branch
4770 Buford Highway NE, MS-F79
Atlanta, GA 30341
Phone: 770-488-2414; Fax: 770-488-5848
E-mail: RArrazola@cdc.gov

B.5.c Responsibility for Data Collection

The representative of the contractor responsible for conducting the planned data collection is:

Katherine H. Flint, M.A.
Project Director
ICF Macro
530 Gaither Road
Rockville, MD 20850
Phone: 301-572-0333; Fax: 301-572-0986
E-mail: Kate.Flint@icfi.com

REFERENCES

American Cancer Society (2013a). *Cancer Prevention & Early Detection: Facts and Figures 2013*. Atlanta, GA: American Cancer Society, 2013.

American Cancer Society (2013b). *Child and Teen Tobacco Use*. Atlanta, GA: American Cancer Society.

American Cancer Society (2013c). *Smokeless Tobacco: Who Uses Smokeless Tobacco?* Retrieved from http://www.cancer.org/cancer/cancercauses/tobaccocancer/smokeless-tobacco

American Legacy Foundation (2000a). *Cigarette Smoking Among Youth: Results from the 1999 National Youth Tobacco Survey. First Look Report 1.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2000b). *Pathways to Established Smoking: Results from the 1999 National Youth Tobacco Survey. First Look Report 3.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2000c). *The Relationship Between Cigarette Use and Other Tobacco Products: Results from the National Youth Tobacco Survey. First Look Report 4*. Washington, DC: American Legacy Foundation.

American Legacy Foundation (2000d). *What Youth Think About Smoking: Results from the 1999 National Youth Tobacco Survey. First Look Report 2.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2000e). *Youth Access to Cigarettes: Results from the 1999 National Youth Tobacco Survey. First Look Report 5.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2001a). *Cigarette Smoking Among Youth: Results from the 2000 National Youth Tobacco Survey. First Look Report 7.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2001b). *Youth Exposure to Environmental Tobacco Smoke. First Look Report 6.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2002). *Using Multiple Strategies in Tobacco Use Prevention Education. First Look Report 8.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2003a). *The Relationship between Cigarette Use and Other Tobacco Products: Results from the 2000 National Youth Tobacco Survey. First Look Report 10.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2003b). *Youth Tobacco Cessation: Results from the 2000 National Youth Tobacco Survey. First Look Report 11.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2004). *Cigarette Smoking among Youth: Results from the 2002 National Youth Tobacco Survey. First Look Report 13.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2005). *Beyond Cigarettes: The Use Of Other Tobacco Products. First Look Report 15.* Washington, DC: American Legacy Foundation.

American Legacy Foundation (2012). Tobacco Fact Sheet: Cigars, Cigarillos, and Little Cigars. Retrieved from http://www.legacyforhealth.org/content/download/642/7502/version/2/file/Fact_Sheet-Cigars_Cigarillos_LittleCigars.pdf

American Medical Association (2006). 2006 Annual Tobacco Report. Retried from http://www.ama-assn.org/ama1/pub/upload/mm/471/bot15A06.doc

Appleyard, J., Messeri, P., & Haviland, D. (2001). Smoking among Asian American and Hawaiian/Pacific Islander youth: new data from the 2000 National Youth Tobacco Survey. *Asian American Pacific Islander Journal of Health*, *9*(1), 5-14.

Arrazola, R.A. (2013, November 21). Young Smokers. Centers for Disease Control and Prevention. Podcast retrieved from http://www2c.cdc.gov/podcasts/player.asp?f=8630364

Arrazola, R.A., Kuiper, N.M., & Dube, S.R. (2013). Patterns of Current Use of Tobacco Products Among U.S. High School Students for 2000-2012-Findings From the National Youth Tobacco Survey. *Journal of Adolescent Health*, *54*(1), 54-60. http://dx.doi.org/10.1016/j.jadohealth.2013.08.003.

Asian Pacific Partners for Empowerment and Leadership (2000). *Critical Policy Issues on Tobacco Prevention and Control for the Asian American and Pacific Islander Community.* The Robert Wood Johnson Foundation.

Asian Pacific Partners for Empowerment and Leadership (2002). *Making Tobacco Relevant for Asian American and Pacific Islander Communities.* The Robert Wood Johnson Foundation, Centers for Disease Control and Prevention, Office on Smoking and Health, Campaign for Tobacco-Free Kids.

Aslam, N. & Bushra, R. (2010). Active Smoking in Adolescents of Karachi, Pakistan. *Oman Medical Journal*, *25*(2), 142.

CDC (2001). Youth Tobacco Surveillance–United States, 2000. *MMWR*; 50(SS-4).

CDC (2005). Tobacco Use, Access, and Exposure to Tobacco in Media Among Middle and High

Schools Students – United States, 2004. *MMWR*; 54(12):297-301.

CDC (2009). Cigarette Brand Preference Among Middle and High School Students Who Are Established Smokers- United States, 2004 and 2006. *MMWR*; 58(05): 112-115.

CDC (2010). Tobacco Use Among Middle and High School Students—United States, 2000-2009. *MMWR*; 59(33):1063-1068.

CDC (2012a). Current Tobacco Use Among Middle and High School Students – United States, 2011. *MMWR;* 61(31): 581-585.

CDC (2012b). National Youth Tobacco Survey. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention. Available at http://www.cdc.gov/tobacco/data_statistics/surveys/nyts.

CDC (2013a). Notes from the field: Electronic cigarette use among middle and high school students—United States, 2011-2012. *Morbidity and Mortality Weekly Report; 62*(35), 729–730.

CDC (2013b). Tobacco Product Use Among Middle and High School Students- United States, 2011 and 2012. *Morbidity and Mortality Weekly Report; 62*(45), 893-897.

CDC (2013c). Winnable Battles Progress Report- 2010-2015. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention.

CDC (2014a). *Best Practices for Comprehensive Tobacco Control Programs – 2014*. Atlanta, GA: U.S. Department of Health and Human Services, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

CDC (2014b). *Budget Request Summary- Fiscal Year 2015*. Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention.

CDC (2014c). *Winnable Battles*. Retrieved from http://www.cdc.gov/winnablebattles/

CDC (2014d). *Annual Performance Report and Performance Plan- Fiscal Year 2014.* Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention.

Dutra, L.M. & Glantz, S.A. (2014). Electronic Cigarettes and Conventional Cigarette Use Among US Adolescents: A Cross-sectional Study. *JAMA Pediatrics*, published online March 06, 2014. doi:10.1001/jamapediatrics.2013.5488.

FDA (2014). *FDA Proposes to Extend Its Tobacco Authority to Additional Tobacco Products, including e-cigarettes. FDA NEWS RELEASE.* N.p., 24 Apr. 2014. Web. 9 May 2014. http://www.fda.gov/newsevents/newsroom/pressannouncements/ucm394667.htm

Frieden, T.R. (2010). A framework for public health action: The health impact pyramid. *American Journal of Public Health, 100*(4), 590-595.

Institute of Medicine (2011). *Leading Health Indicators for Healthy People 2020: Letter Report*. Washington, DC: The National Academies Press.

Lee S., Grana R.A., & Glantz, S.A. (2013). Electronic Cigarette Use Among Korean Adolescents: A Cross-Sectional Study of Market Penetration, Dual Use, and Relationship to Quit Attempts and Former Smoking. Published online November 25, 2013. *Journal of Adolescent Health*. doi:10.1016/j.jadohealth.2013.11.003.

Martin-Pujol, A., Fernandez, E., Schiaffino, A., Moncada, A., Ariza, C., Blanch, C., Martinez-Sanchez J.M., & the RESPIR-NET research group. (2013). Tobacco smoking, exposure to second-hand smoke, and asthma and wheezing in schoolchildren: a cross-sectional study. *Acta Pediatric, 102*(7), 305-309.

National Institute on Drug Abuse (2003). Youths' Opportunities to Experiment Influence Later Use of Illegal Drugs. *National Institute on Drug Abuse, 17*(5).

National Institute on Drug Abuse (2014). *Monitoring the Future national results on drug use: 1975-2013: Overview, Key Findings on Adolescent Drug Use*. National Institute on Drug Abuse, National Institutes of Health. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

Neergaard, J., Singh, P., Job, J., & Montgomery, S. (2007). Waterpipe smoking and nicotine exposure: A review of the current evidence. *Nicotine and Tobacco Research, 9*(10), 987–994.

Richardson, A., He, J.P., Curry, L., & Merikangas, K. (2012). Cigarette smoking and mood disorders in U.S. adolescents: Sex-specific associations with symptoms, diagnoses, impairment and health services use. *Journal of Psychosomatic Research, 72*(4), 269-275.

Shelley, D., Cantrell, J., Faulkner, D., Haviland, L., Healton, C., & Messeri, P. (2005). Physician and Dentist Tobacco use Counseling and Adolescent Smoking Behavior: Results from the 2000 National Youth Tobacco Survey. *Pediatrics, 115*(3), 719-725. American Legacy Foundation.

Smith, J.R., Novotny, T.E., Edland, S.D., Hofstetter, C.R., Lindsay, S.P., & Al-Delaimy, W.K. (2011). Determinants of Hookah Use among High School Students. *Nicotine and Tobacco Research, (13)*7, 565-572.

Starr, G., Rogers, T., Schooley, M., Porter, S., Wiesen, E., & Jamison, N. (2005). *Key outcome indicators for evaluating comprehensive tobacco control programs*. Atlanta, GA: Centers for Diesease Control and Prevention.

The University of California (2012). *Tobacco Use among Asian American, Native Hawaiian and Pacific Islander Communities in California.* The California Cancer Research Fund.

U.S. Bureau of Labor Statistics (2014). *May 2013 National Occupational Employment and Wage Estimates, United States.* Retrieved from http://www.bls.gov/oes/current/oes_nat.htm

Upadhyaya, H.P., Deas, D.D., Brady, K.T., & Kruesi, M. (2002). Cigarette smoking and psychiatric comorbidity in children and adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, *41*(11), 1294-1305.

USDHHS (2010a). *How Tobacco Smoke Causes Disease: The Biology and Behavioral Basis for Smoking-Attributable Disease: A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Service, Public Health Service, CDC, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2010.

USDHHS (2010b). *Healthy People 2020.* Washington, D.C.: U.S. Department of Health and Human Services. Available at: http://healthypeople.gov/2020/default.aspx

USDHHS (2012a). *Ending the Tobacco Epidemic: Progress toward a Healthier Nation.* Washington, DC: US Department of Health and Human Services, Office of the Assistant Secretary for Health.

USDHHS (2012b). *Preventing Tobacco Use Among Youth and Young Adults: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

USDHHS (2014). *The Health Consequences of Smoking- 50 years of Progress: A Report of the Surgeon General.* Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health.

USDHHS, HRSA (2004). *Promising Practices in MCH Needs Assessment: A Guide Based on a National Study*. U.S. Department of Health and Human Services, Health Resources and Services Administration.

USDHHS, NIH, & NCI (2007). NCI's President's Cancer Panel 2006-2007 Annual Report: *Promoting Healthy Lifestyles: Policy, Program, and Personal Recommendations for Reducing Cancer Risk*. U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

USDHHS, NIH, & NIDA (2007). *Director's Report to the National Advisory Council on Drug Abuse*. U.S. Department of Health and Human Services, National Institutes of Health, National Institute on Drug Abuse.