## NATIONAL QUITLINE DATA WAREHOUSE (NQDW)

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# **Supporting Statement B**

#### Revision

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# Submitted by:

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# **TABLE OF CONTENTS**

В.	STATISTICAL METHODS	
B.1	Respondent Universe and Sampling Methods	1
B.2	Procedures for the Collection of Information	2
B.3	Methods to Maximize Response Rates and Deal with No response	3
B.4	Tests of Procedures or Methods to be Undertaken	4
B.5	Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data	5

#### LIST OF ATTACHMENTS

- A-1 Public Health Service Act
- A-2. Federal Register Notice
- A-3 Federal Register Notice Comments and Agency Responses (placeholder)
- B. Consultants on NQDW
- C-1. NQDW Intake Questionnaire
- C-2. NQDW ASQ Intake Questionnaire Chinese
- C-3. NQDW\_ASQ Intake Questionnaire\_Korean
- C-4. NQDW\_ASQ Intake Questionnaire\_Vietnamese
- D-1. NQDW Intake Questionnaire Subset
- D-2 NQDW ASQ Intake Questionnaire subset Chinese
- D-3. NQDW\_ASQ Intake Questionnaire\_subset\_Korean
- D-4. NQDW\_ASQ Intake Questionnaire\_subset\_Vietnamese
- E-1. NQDW\_ASQ 7-Month Follow-up Questionnaire\_Chinese
- E-2. NQDW\_ ASQ 7-Month Follow-up Questionnaire\_Korean
- E-3. NQDW\_ASQ 7-Month Follow-up Questionnaire\_Vietnamese
- E-4. NQDW\_ASQ 7-Month Follow-up Questionnaire\_English
- F. NQDW Quitline Services Survey
- G-1. Data Collection Calendar
- G-2. Instructions for Submitting NODW Data to CDC
- G-3. Request Email for Submitting NQDW Individual-Level Intake data (for quitlines without outstanding data)
- G-4. Request Email for Submitting NQDW Individual-Level Intake data (for quitlines with outstanding data)
- G-5. Request Email for Submitting NQDW Individual-Level Intake data and Services Survey data (for quitlines without outstanding data)
- G-6. Request Email for Submitting NQDW Individual-Level Intake data and Services Survey data (for quitlines with outstanding data)
- G-7. Request Email for Submitting NQDW ASQ 7-month Follow-up data
- G-8. Reminder Email Prompt for Non-Respondents for Individual-Level Intake data, Services Survey data, and/or ASQ 7-month Follow-up data
- G-9. Reminder Email for Follow-up with Non-Respondents to Repeated Data Requests
- H. Sample Table shells

#### B. Statistical Methods

## **B.1** Respondent Universe and Sampling Methods

#### National Quitline Data Warehouse (NQDW) Intake Questionnaire

The NQDW Intake Questionnaire (Attachment C-1) will be administered to the entire respondent universe of quitline participants from the 50 U.S. states, the District of Columbia, Guam, Puerto Rico, and the Asian Smokers' Quitline (ASQ). Under this request, the entire respondent universe of quitlines will expand to include participants who access quitline services through the telephone as well as other modalities (e.g., website visits, text-based services, etc.). Basic information about participant demographics, tobacco-use behaviors of participants, why participants are contacting the quitline, and how participants heard about the quitline will be collected. Sampling methods are not applicable, as it is necessary to enumerate services provided to all participants for program planning and evaluation.

CDC anticipates that the total number of tobacco users contacting state quitlines, including both those who call 1-800-QUIT-NOW and the other state-specific quitline telephone numbers, as well as participants who register to receive services though other modalities (e.g. website visits, text-based services, etc.), to be similar to the previous annual average of 404,082. 405,053 respondents are expected to participate through the 50 U.S. states, the District of Columbia, Guam, and Puerto Rico on behalf of themselves. By comparison, 819 are expected to participate through the 50 U.S. states, the District of Columbia, Guam, and Puerto Rico on behalf of others. Additionally, 1,686 are expected to participate through the ASQ on behalf of themselves, and 249 are expected to participate through the ASQ on behalf of others.

Though the estimated number of quitline participants who completed an NQDW Intake Questionnaire declined from 502,998 in 2016-2017 to 335,349 in 2018, these data reflect only those participants who registered for quitline services via telephone. Since a majority of quitlines provide web-based interactive counseling and interactive text messaging services, CDC anticipates that collecting data on participants who register for services through different modalities will provide a more complete and accurate account of the number of registrants quitlines serve. This assumption is supported by feedback from a key quitline vendor that serves almost half of the states and indicated that 72% of participants from January – August 2020 completed the intake questionnaire over the phone versus 28% who completed it online.

Moreover, since younger generations are often early adopters of new technologies, and therefore likelier than older adults to not only access a broad range of technologies, but to use those technologies to access health-related information and services, collecting registrant data for different modalities will provide a more complete and accurate account of the age demographic of quitline participants (Sanci, 2020; Giovanelli, Ozer, & Dahl, 2020; Wright, 2020; Clarke et al., 2020).

The previous annual average of 404,082 only includes persons who completed enough of the intake questionnaire to generate a unique participant ID in NQDW intake data (i.e. they answered the first question); it does <u>not</u> include individuals who contact the quitlines but do not take the NQDW intake questionnaire.

In 2019, 291,638 participants called into a quitline administered by the 50 U.S. states, the

District of Columbia, Guam, and Puerto Rico on behalf of themselves and completed an intake questionnaire. Using the 2019 total and the proportion of callers versus online participants provided by a key quitline vendor, the total number of intake questionnaire respondents is estimated to be 405,053 (291,638\*100/72 = 405,053). Therefore, by including data from modalities beyond the telephone, CDC expects that the NQDW intake questionnaire will be administered to an additional 113,415 (405,053-291,638=113,415) web-based participants on all quitlines annually.

#### National Quitline Data Warehouse (NQDW) Seven-Month Follow-Up Questionnaire

In 2010-2011, CDC collected seven-month follow-up data for the NQDW from all states using the NQDW Seven-Month Follow-up Questionnaire. To reduce burden on states, CDC suspended ongoing data collection of the NQDW Seven-Month Follow-up Survey in 2012. Barring substantial changes in quitline services provided and tobacco users receiving services from quitlines, seven-month follow-up quit rates should remain relatively stable over time. In 2015, CDC awarded a cooperative agreement that involves collecting and reporting seven-month follow-up data from a single, national quitline service provider (University of California San Diego) that serves quitline participants whose preferred language is Chinese, Korean, or Vietnamese (the Asian Smokers' Quitline (ASQ)). Surveys among those clients are administered in Chinese, Korean, and Vietnamese languages (Attachments E-1 to E-3, Attachment E-4 is provided in English language for reference).

These Seven-Month Follow-Up Data are requested annually from the ASQ (Attachment G-1). The ASQ issues the 7-Month Follow-Up questionnaire randomly to 20% of tobacco users annually who call the ASQ for themselves and receive services from the ASQ and has a 70% completion rate. An estimated 236 tobacco users who called the ASQ for themselves and received services will complete the NQDW Seven-Month Follow-up Questionnaire (1,686\*.20\*.70=236).

Should the need arise in the future to resume collecting seven-month follow-up data from all states, a revision request to this information collection request approval will be submitted to OMB. Sampling methods are not applicable.

#### National Quitline Data Warehouse (NQDW) Quitline Services Survey

CDC will request that health department personnel (i.e., state tobacco control managers or their designees) from the 50 state health departments, the District of Columbia, Puerto Rico, and Guam, as well as a representative from the Asian Smokers' Quitline (ASQ) complete the NQDW Quitline Services Survey electronically semiannually (Attachment F). Sampling methods are not applicable.

#### **B.2** Procedures for the Collection of Information

Data will be collected using the NQDW Intake Questionnaire (Attachment C-1 and D-1 for U.S. or U.S. territory quitline participants and C-2 to C-4 and D-2 to D-4 for ASQ quitline participants), the NQDW ASQ Seven Month Follow-up Questionnaire (Attachments E-1 to E-4), and the NQDW Quitline Services Survey (Attachment F) by either state health department personnel who manage the quitline or their designee, such as contracted quitline service providers.

Telephone quitline specialists will continue to collect intake information at the beginning of their telephone interactions with callers, as part of the needs assessment process for determining appropriate counseling messages. Much of this information will be collected passively as clients naturally share information about their smoking/tobacco use and history. Telephone quitline specialists will actively ask questions as necessary, using a conversational style whereby questions will be woven into the conversation rather than asked in a highly structured format. The demographic questions are also asked at naturally occurring and appropriate points in the conversation or at the conclusion of the conversation when the customer service questions about scheduling a repeated counseling call are made. Quitline experts agree that this approach is preferable for collecting the necessary information in a manner that is respectful of the reason the caller called the quitline – for assistance in quitting. This approach also prevents callers from becoming fatigued with the interview and discontinuing the call before they received their cessation counseling. State quitlines seek to prioritize high-quality services over data collection. Missing intake data has not been an issue for quitlines that are using this strategy to collect intake data from their callers using the MDS suggested intake questions. For the seven-month follow-up survey, individuals who received services from the Asian Smokers' Quitline will be asked questions in a structured manner – question-by-question as listed on the NQDW ASQ Seven-Month Follow-up Questionnaire (Attachments E-1 to E-4) as this information, including information on caller satisfaction, is being collected for evaluation purposes.

Participants who access quitline services using a non-telephone modality (such as text messaging or the web) will have an NQDW Intake Questionnaire administered either by a live quitline specialist subject to the same procedures as the telephone quitline specialists, or through an automated survey process. Since data from the broader range of modality registrations will be captured for the first time, pending approval of this information collection request, submitted data will be reviewed to determine whether missing intake data or any other issues unique to alternate modality registration data will need to be addressed. However, as telephone-based services are made available through all quitlines, those participants who choose to utilize an alternative modality likely exhibit greater comfort with that modality than they do with telephones. Therefore, CDC expects the completion rate to be comparable across all modalities as respondents actively choose the modality that they are most comfortable using.

The CDC contractor (see Section B.5) provides data management and processing support to CDC for NDQW. A total of 54 respondents, including all 50 U.S. states, the District of Columbia, Guam, Puerto Rico, and the ASQ, will provide the contractor with data collected from the NQDW Intake Questionnaire. The state Tobacco Control Manager or their designee, which might include representatives from the state's quitline service provider (e.g. Optum or National Jewish Health ), is responsible for sending the contractor a de-identified electronic data file containing participant intake data aligned with the NQDW Intake Questionnaire on a quarterly basis. These electronic data files are compiled from the state's quitline data system, which is supported by state funding sources supplemented by cooperative agreement assistance from CDC. In addition to the per respondent burden estimates for respondents completing the NQDW Intake Questionnaire, CDC also estimated the burden associated with compiling electronic data files for the NQDW Intake Questionnaire and submitting those. CDC estimates the burden for preparing and submitting NQDW Intake Questionnaire data to the contractor to each of the 54 respondents, which consist of 53 state tobacco control program managers or their designees, such as quitline service providers, and 1 representative from the Asian Smokers' Quitline, to be one hour for each quarterly submission of the electronic data files for the NQDW Intake Questionnaire. This estimate includes

time for uploading data files to the contractor's secure FTP server.

As noted previously, the 50 U.S. states, the District of Columbia, Guam, and Puerto Rico no longer submit Seven-Month Follow-Up data to the NQDW. A representative from the ASQ will submit a de-identified electronic data file containing data collected from the Seven-Month Follow-up Questionnaire to the contractor on an annual basis. CDC estimates the burden to the Asian Smokers' Quitline for submitting the de-identified electronic data file for the NQDW Seven-Month Follow-up to be one hour per year.

The NQDW Quitline Services Survey (Attachment F) instruments are state-specific fillable form-style Microsoft Word documents that CDC prepares every six months for states to complete. The survey consists of 22 questions, and the electronic form for the survey includes drop-down boxes, data entry fields, and checkboxes to help reduce data entry errors. The first part of the survey (questions 1-15) consists of collecting respondent contact information and survey questions regarding the services offered by the state's quitline: (a) the name of the state's quitline; (b) the phone numbers used by the state's quitline; (c) the quitline's hours of operation; (d) available counseling languages offered by the quitline; (e) eligibility criteria for receiving counseling from the quitline; (f) the amount of counseling offered by the quitline; (g) free quitting medications that are offered by the quitline; (h) eligibility criteria to receive free quitting medications from the quitline; (i) the amount of free quitting medications offered by the quitline; (j) how participants heard about the quitline; (k) service modalities; and, (l) population-specific cessation protocols. quitline services offered do not typically change much within a year for a given state, and consequently, responses to these questions tend to remain the same. To reduce burden on survey respondents, CDC will pre-populate the responses to questions 2-15 with the information the state reported for the previous semiannual period. As this information collection request includes an updated NQDW Quitline Services Survey, the first implementation of the new form will not include pre-populated responses; pre-population will resume after this first data collection. States are asked to review their previous responses to those questions and make edits if there were any changes in the services being offered by the quitline since the last time the state responded to the survey.

The second part of the survey (questions 16-22) consists of questions regarding the state's quitline (a) call volume, (b) number of unique callers, (c) number of web visits, (d) referral sources, (e) number of referrals received by the quitline, (f) service utilization, and (g) number of completed registrations. The estimated burden per response is 20 minutes and is based on states' experiences completing these survey forms over the past ten years. Although the revised survey contains five more questions in sum (17 to 22), the number of questions that are not pre-populated only increased by one (from 6 to 7). As the changes to the survey also reflect stakeholders' perceptions of appropriate burden, desire to capture information on quitline services provided through different modalities, and improved guidance for responses, the estimated burden is expected to remain consistent with prior years.

CDC's contractor sends an email, with the survey included as an attachment, to state health department personnel (i.e., state health department tobacco control managers or their designee) from all 50 states, DC, Guam, Puerto Rico, as well as a representative from the ASQ, once every six months. As part of our ongoing technical assistance through the National Tobacco Control Program, CDC keeps updated contact information for personnel at each state health department and their designees. The estimated burden per response for this submission is 20 minutes. This includes time for emailing the completed survey back to the contractor or submitting it through the

secure FTP site (described below).

The contractor uses an online data submission tool (a secure FTP server) in which state health department personnel and/or their designees have a unique username and password. The server is checked several times each week for files and the files are quickly removed after being downloaded. The only problem with this system reported by states is states not being able to access the FTP server because of firewall issues or other security measures on their side. The CDC technical assistants have provided detailed instructions to states in the form of screen shots and a narrative guide to aid states who may be unfamiliar with submitting data through this mechanism and are available to "walk" states through this process on a phone call. CDC believes that most of the technological difficulties have been resolved, as evidenced by the fact that all state health department personnel and/or their designees use the secure FTP site to deliver individual-level data; CDC has received no CD/DVDs via U.S. mail since September 2018.

## **B.3** Methods to Maximize Response Rates and Deal with Non-Response

Quitlines are voluntary, state-based treatment protocols initiated by tobacco users who either call the quitline, register with the quitline through a website, or use a different modality to engage with quitline services. Unlike population surveys, which have a sampling frame and a response rate indicating the proportion of eligible respondents that participated, NQDW has no sampling frame, participation is initiated by the participant and is entirely voluntary, and data reported by NQDW to CDC is restricted to individuals who have provided some information in response to the NQDW questionnaire. The NQDW does not calculate a response rate for individuals responding to the NODW Intake Questionnaire because all quitline clients must provide this information as part of the registration and counseling process. Participants who provide any information, at least as to why they are contacting the quitline, are included in the intake data. In cases where participants refuse to provide any information about themselves to the quitline operators or refuse to answer any questions, (e.g., individuals who abandon the call before providing any information), per protocol, these persons are automatically excluded from the data pool for NQDW intake data. Most states do not maintain data for abandoned calls. The NQDW defines the response rate for the NQDW Intake Questionnaire as the number of states/territories that provide Intake Questionnaire data files to the NQDW each quarter. Since the addition of the ASQ in 2016, the quarterly response rate for the NQDW Intake Questionnaire data files collected from states has remained at approximately 96-98%, and all of the states/territories/quitline service providers have submitted quarterly NQDW Intake Questionnaire data files to NQDW.

State health department tobacco control managers or their designee from all 50 states, DC, Guam and Puerto Rico, as well as a representative from the ASQ, submit a summary file of NQDW intake data to the contractor quarterly (Attachment G-1). A request email for submitting summary participant intake data and a reminder email for non-respondents are used to prompt submission of this information (Attachments G-3 to G-6 and G-8). The original request is issued two weeks after the close of the calendar quarter with a listed deadline of six weeks after the calendar quarter (Attachment G-1). Follow-up requests begin immediately following the deadline (Attachment G-8) and continue every two weeks thereafter (Attachment G-9) so long as the data remains outstanding.

The NQDW Seven-Month Follow-up Questionnaire will be administered to tobacco users

who received a service from the Asian Smokers' Quitline and collected by a single, national quitline service provider (University of California San Diego). The University of California San Diego issues the 7-Month Follow-Up questionnaire randomly to 20% of tobacco users annually who call the ASQ for themselves and receive services from the ASQ and has a 70% completion rate. A request email for submitting annual summary Seven-Month Follow-up intake data and reminder email for non-respondents are used to prompt submission of this information (Attachments G-7 and G-8).

The contractor emails a request and copy of the state-specific reporting forms for the NQDW Quitline Services Survey to state health department personnel (i.e., state health department tobacco control managers or their designee) from all 50 states, DC, Guam and Puerto Rico, as well as a representative from the ASQ, for them to complete and return once every six months (Attachments G-1, G-5, and G-6). CDC asks individuals who are responding to the NQDW Quitline Services Survey to complete and return the survey within four weeks of the request. To maximize response rates for this survey, CDC will send a reminder email to states that have not completed the survey by the deadline (Attachment G-8). This reminder requests submission of the survey within two weeks (Attachment G-1). For calendar years 2019 through 2020, CDC asked 54 quitlines (including all 50 states, DC, Guam and Puerto Rico, as well as a representative from the ASQ) to complete the semiannual NQDW Quitline Services Survey – a total of four semiannual reporting periods - resulting in a total of 216 possible responses (54 x 4 = 216).

To support high response rates, CDC-OSH has provided extensive technical assistance (TA) to state programs and quitline service providers including specific information on the data files needed for the NQDW. CDC provides technical assistance for the 53 U.S. states and territories and the ASQ participating in the NQDW to minimize the need for formatting data for the NQDW and to make data submission procedures more routine and easily integrated into their regular state procedures.

Additionally, CDC substantially overhauled and simplified the NQDW Quitlines Services Survey in early 2015 by developing a version of the NQDW Quitline Services Survey that can be completed by filling out a form-style Word document that contains drop-down boxes, data entry fields, and checkboxes to make data entry easier and cut down on the potential for data entry errors. In addition, the instrument was reduced from over 50 questions that respondents at state health departments or their designees had to answer to 17 questions. Though this information collection request proposes the addition of five questions that were informed by stakeholder feedback, the proposed revision is still much shorter than the original survey. Additionally, the use of pre-population features means that the proposed revised survey requires active engagement with only seven questions as compared to six questions in the 2015 iteration of the survey. Once respondents have completed the survey, using the electronic reporting form provided, they email it back to the contractorT or upload it to the secure FTP site, where their responses are uploaded to the NQDW database.

CDC-OSH has also responded to states' requests for easier data submission of summary NQDW Intake Questionnaire data quarterly to CDC and created an online data submission tool (a secure FTP server) in which quitlines and their designees have unique user names and passwords (Attachment G-2). Feedback received from state programs indicate that the NQDW data submission procedures have become more routine and more easily integrated into their regular state procedures. State programs have also mentioned that they appreciate CDC-OSH's

flexibility regarding the form in which data are submitted and CDC-OSH's effort to respond to state needs effectively and efficiently.

#### **B.4.** Tests of Procedures or Methods to be Undertaken

Burden estimates are based on the results of instrument pre-testing and experience with the NQDW data collection during the previous four years of OMB approval (2016-2020). Since states and quitline service providers have been submitting data to the NQDW since 2010, both states and quitline service providers are quite familiar with and accustomed to the process. The total burden hours for submitting intake data (from all states and the Asian Smoker's Quitline) has decreased by 14,351 hours since the 2019 OMB approval (from 82,440 in 2019 to 68,089 in this information collection request) due to updates in the estimated number of callers (based on average tobacco users who completed an NQDW or ASQ Intake Questionnaire in 2019), and participants who use other modalities to engage with quitlines for the 50 U.S. states, the District of Columbia, Guam, and Puerto Rico.

# **B.5** Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data

CDC has consulted with, and will continue to consult with, leading tobacco researchers and CDC partners, including the North American Quitline Consortium (NAQC), as appropriate (Attachment B). In 2015, CDC and NAQC engaged in active alignment of the minimal data set (MDS). CDC has continued to communicate about data elements and provided consultation to NAQC on the 2019 update to the MDS. The changes proposed in this revision request reflect our continued commitment to maintaining alignment between the NQDW survey instruments and the MDS in order to standardize the data elements.

To ensure that these proposed changes to the NQDW survey instruments also reflected and were responsive to quitline program needs, CDC convened a group of state quitline representatives from the National Tobacco Control Program in 2020. The group met and discussed proposed changes to the NQDW Intake Questionnaire and Services Survey. These discussions ensured that CDC's proposed changes to the NQDW Intake Questionnaire and Services Survey are informed by stakeholder feedback and reflect quitline services as accurately as possible while remaining a minimal collection and reporting burden to states. State representatives and CDC subject matter experts who worked on the review and revision are listed in Attachment B.

During the first five years of the NQDW, CDC also convened an evaluation workgroup consisting of quitline evaluators and representatives from quitline service providers, NAQC, and state tobacco control programs and other federal agencies (Attachment B). CDC hosted an inperson meeting with the NQDW evaluation workgroup and RTI International, CDC's previous contractor providing technical assistance and evaluation support for the NQDW, in May 2013. This meeting provided CDC with an opportunity to obtain stakeholder feedback and expert opinion on using NQDW for evaluation, monitoring, and program improvement from NAQC and the quitline community. During the meeting, the workgroup discussed evaluation plans for the NQDW that included data analysis, quality assurance, and dissemination. Notes were taken during the meeting, and a summary of discussion items and recommendations identified during the meeting was prepared.

Data management and analysis will be performed by the Office on Smoking and Health at CDC with contractor support. The CDC contractor will receive, maintain, and process data. Cleaned data will be submitted to CDC. Starting in November 2013, CDC began sharing tabulations using the NQDW data collected from 2010-2019 publicly online through the CDC's State Tobacco Activities Tracking and Evaluation (STATE) System website (http://apps.nccd.cdc.gov/statesystem/Default/Default.aspx) which contains a variety of current and historical state-level and national data on tobacco use prevention and control. CDC plans to continue sharing quarterly NQDW data tabulations from the NQDW data on the STATE system on an ongoing basis (Attachment H).

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