SEARCH FOR DIABETES IN YOUTH STUDY

OMB No. 0920-0904

Revision

OMB SUPPORTING STATEMENT: PART A

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List of sections updated and/or revised:

Added Text box summarizing study.

Abstract.

Updated

A.1.

Details on the number of cases registered and number of in person visits to be completed during SEARCH Phase 4 included.

A.1. Items to be collected

Updated to include forms 4A1, 4A2, 4A3 and 4A4 for the Registry Study incident cases and forms 4A5 and 4A6 for the Registry Study Prevalent cases

A.9.

The token of appreciations has been updated adding tokens of appreciation for the Registry Study in-person exam and deleting tokens of appreciation for the cohort visit.

A.10.1.B.

Improvements in security of restricted access of SEARCH website by increasing the minimum password strength.

A.12 (including Tables A.12.A and A.12.B)

Additional burden to registry participants completing the in-person visit.

Additional collection of information from individuals with prevalent diabetes.

Deletion of the cohort visit and exam.

A.15

Revised table to include decrease and increase in annualized burden for the current submission.

Added table detailing changes (if any) to attachments and data collection instruments.

- **Goal:** To estimate the incidence and prevalence of diabetes among youth in the U.S. by diabetes type, and by demographics including age, sex, and race/ethnicity. To assess temporal trends in diabetes incidence in major US racial/ethnic groups, including African Americans, Hispanics, American Indian Tribes, Asian Americans, Pacific Islanders, by age, sex, and diabetes type.
- **Methods of data collection**: Individuals identified with incident and prevalent diabetes will be invited to participate in study. The information collected from the participants will include information about diabetes type, date of diabetes diagnosis, physical examination, and measurements of risk factors for micro and macro vascular diabetes complications.
- **Population to be studied:** All youth less than 20 years in applicable geographic areas and health plans. SEARCH participants are drawn from four geographically defined populations in Ohio, Washington, South Carolina, and Colorado, from health plan enrollees in California, and from Indian Health Service beneficiaries from American Indian populations in Arizona and New Mexico.
- **Analysis plans:** Incidence and prevalence estimations are based on number of cases identified divided by the population under observation (e.g. youth under 20 years of age who live in Colorado). Trends in incidence analysis will use Poisson regression. Analysis for comparisons between diabetes type and demographics will include Poisson and logistic regression models.

Abstract

CDC requests OMB approval to continue collecting information in Phase 4 of a registry study (2015-2020) known as SEARCH for Diabetes in Youth. OMB first approved this study in 2011 (OMB # 0920-0904, exp. 11/30/2014) and a revision was approved in 2014 (OMB #0920-0904, exp. 8/31/2017). OMB approval is requested for the final three years of the five year project funded from September 30, 2015, to September 29, 2020. Phase 4 (FOA DP15-002) is built upon activities a multi-center initiated in 2000 through collaborative research project that involved six clinical sites and a data coordinating center, all funded through cooperative agreements (DP006136, DP006134, DP006133, DP006131, DP006139, DP006138) . Phase 3 and 4 only included 5 clinical sites and a data coordinating center.

A number of changes have been implemented and will continue during Phase 4. Respondents will continue to be youth < 20 years of age who have been diagnosed with diabetes or their parents. Information will be collected from the study participants by five clinical sites, and transmitted to the Coordinating Center for the study, each clinical site and the Coordinating Center are funded through a cooperative agreement. Information collection will support a case registry that can be used to estimate the incidence and prevalence of diabetes in youth in the U.S. In Phase 3, CDC also funded a cohort component to this study. For Phase 4, CDC is no

longer funding this component. The registry study will continue to collect information from participants related to diabetes diagnosis and will now ask participants who were initially diagnosed with diabetes in 2016 to complete an in-person study examination. In addition, prevalent cases will be asked to complete an initial participant survey. Two forms will be moved from the cohort study and added to the registry study. The cohort study is not funded during this phase of SEARCH by CDC. There is a net reduction in total estimated annualized burden of 3.2 hours.

We estimate 1,511 incident cases of diabetes among youth under 20 years of age will be identified each year of the study. We anticipate 80% of participants will complete the initial participant survey. Among those with incident diabetes identified in 2016 and who complete the survey, we anticipate 65 to 70% will complete the 823 in-person visits. We estimate there will be 776 prevalent cases of diabetes among youth under 20 years of age identified by the study.

A. JUSTIFICATION

A.1. Circumstances Making the Collection of Information Necessary

CDC requests OMB approval to continue collecting information in Phase 4 of a registry study (2015-2020) known as SEARCH for Diabetes in Youth. OMB first approved this study in 2011 (OMB # 0920-0904, exp. 11/30/2014) and a revision was approved in 2014 (OMB #0920-0904, exp. 8/31/2017). OMB approval is requested for the final three years of the five year project funded from September 30, 2015, to September 29, 2020. Phase 4 (FOA DP15-002) is built upon activities a multi-center initiated in 2000 through collaborative research project that involved six clinical sites and a data coordinating center, all funded through cooperative agreements (DP006136, DP006134, DP006133, DP006131, DP006139, DP006138) . Phase 3 and 4 only included 5 clinical sites and a data coordinating center.

Diabetes is one of the most common chronic diseases among children in the United States. When diabetes strikes during childhood, it is routinely assumed to be type 1, or juvenile-onset, diabetes. Type 1 diabetes develops when the body's immune system destroys pancreatic cells that make the hormone insulin that regulates blood sugar. It normally strikes children and young adults. People with type 1 diabetes must have daily insulin injections to survive.
In the last two decades, type 2 diabetes, formerly known as adult-onset diabetes, has been reported among U.S. children and adolescents with increasing frequency. Type 2 diabetes begins when the body develops a resistance to insulin and no longer uses the insulin properly. As the need for insulin rises, the pancreas gradually loses its ability to produce sufficient amounts of insulin to regulate blood sugar.

Reports of increasing frequency of both type 1 and type 2 diabetes in youth have been among the most concerning aspects of the evolving diabetes epidemic. Unfortunately, there was very limited data on how diabetes among children in the U.S. may have changed over time, or even

how many children in the U.S. had type 1 or type 2 diabetes. There was no survey or study large enough to document either the change in incidence and prevalence of diabetes among youth or to distinguish between different types of diabetes. In response to this growing public health concern, the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH) funded the SEARCH for Diabetes in Youth study.

The SEARCH for Diabetes in Youth study began in 2000 as a multi-center, epidemiological study, conducted in six geographically dispersed Study Centers (Kaiser Permanente of Southern California, Pasadena, California; Cincinnati Children's Medical Center, Cincinnati, Ohio; University of Colorado Denver, Denver, Colorado; Seattle Children's Hospital, Seattle, Washington; South Carolina coordinated at University of North Carolina, Chapel Hill, North Carolina; Kaukini Medical Center, Hawaii) that reflected the racial and ethnic diversity of the U.S. Phases 1 (2000-2005) and 2 (2005-2010) were designed collaboratively by the research sites to produce estimates of the prevalence and incidence of diabetes among youth age < 20 years, according to diabetes type, age, sex, and race/ethnicity, and to characterize selected acute and chronic complications of diabetes and their risk factors, as well as the quality of life and quality of health care. Phase 3 (2010-2015) design included both a registry component (similar to Phase 1 and 2) and added a cohort component to assess incidence and prevalence of diabetes complications. During Phases 1, 2, and 3, a Coordinating Center worked collaboratively with clinical sites to conduct data collection and analysis. Phase 4 (2015-2020) includes five clinical sites (Kaiser Permanente of Southern California, Pasadena, California; Cincinnati Children's Medical Center, Cincinnati, Ohio; University of Colorado Denver, Denver, Colorado; Seattle Children's Hospital, Seattle, Washington; South Carolina coordinated at University of North Carolina, Chapel Hill, North Carolina) and Coordinating Center all funded through cooperative agreements. Major strengths of SEARCH include: 1) race/ethnic diversity within the large cohort of youth with type 1 diabetes; and 2) size and diversity of the cohort of youth with type 2 diabetes. In addition, SEARCH has substantially contributed to the understanding of the etiologic and clinical dimensions of childhood diabetes that relate to classification of diabetes. The SEARCH study brings together major and timely facets of childhood diabetes research: an epidemiologic component that assesses temporal trends in the incidence of diabetes in youth; and a public health perspective on case classification of diabetes in youth.

Critical questions remain regarding ongoing trends in incidence of childhood diabetes, as well as the rationale and sustainability of public health surveillance systems for diabetes in youth. SEARCH is exceptionally strongly positioned to address these questions through its established infrastructure and surveillance system, and its highly experienced, collaborative and multi-disciplinary investigative team.

Phase 4 of the SEARCH for Diabetes in Youth study will build on previous efforts, with some changes to the data collection and management procedures developed during Phases 1, 2, and 3. As in the initial phases, clinical and observational protocols will be determined collaboratively by the principal investigators from five study sites, and guided by experience gained during Phases 1, 2, and 3. Information collected from the participants at each study site will be transmitted to a Coordinating Center, funded by CDC through a cooperative agreement,

for aggregation and analysis. CDC will receive a de-identified analysis data set from the Coordinating Center. These activities are authorized by section 301 of the Public Health Service Act (42 USC 241, Part A, Research and Investigation; see **Attachment 1**).

We estimate that an average of 1,511 incident cases of diabetes among youth under 20 years will be registered in each year for SEARCH Phase 4. SEARCH Phase 3 identified an average of 1,361 incident cases of diabetes among youth under 20 years each year and completed 1,088 participant surveys each year (80% participation rate among registry study participants). We anticipate similar response rates for the survey in Phase 4 and 65 to 70% response rate for the in-person visit. We estimate 823 participants will complete the in-person visit. We estimate there will be 776 prevalent cases identified.

Overview of the Data Collection

Phase 4 will involve five geographically dispersed study sites and a Coordinating Center (see **Attachment 3).** Data collection will consist of two components:

1. Incident cases:
    - Collection of information on newly diagnosed incident diabetes cases in youth age < 20 years.
    - Collection information from an in-person visit on youth age < 20 years with incident diabetes diagnosed in 2016.
2. Prevalent cases:
    - Collection of information on previously diagnosed diabetes cases in youth age < 20 years.

Items of Information to be Collected

The information collected from the participants will include information about diabetes type, date of diabetes diagnosis, physical examination, and measurements of risk factors for micro and macro vascular diabetes complications. The data collection forms related to the Registry Study are included in **Attachments 4A1 and 4A2a and 2b** (medication inventory and incident cases initial participant survey), **Attachments 4A3 and 4A4** (incident case in person visit exam and specimen collection) and **Attachments 4A5a and 4A5b** (prevalent case initial participant survey).

In the previous OMB submission, we included data collection forms for the Cohort Study as Attachments 4b1-4b16. These forms are not included in this Revision since the cohort study is no longer funded by CDC.

Identification of Website(s) and Website Content Directed at Children under 13 Years of Age

There is no website content directed at children under 13.

A.2. Purpose and Use of Information Collection

SEARCH provides the foundation for childhood diabetes surveillance efforts in public health, clinic, and research settings. SEARCH data will be used to design and implement public health efforts to prevent both type 1 and type 2 diabetes in youth. De-identified information will also be made available to researchers for additional analyses.

In Phase 4, the specific aims of the SEARCH Registry Study are:

Aim 1: To estimate the incidence and prevalence of diabetes among youth in the U.S. by diabetes type, and by demographics including age, sex, and race/ethnicity.

Aim 2: To assess temporal trends in diabetes incidence in major US racial/ethnic groups, including African Americans, Hispanics, American Indian Tribes, Asian Americans, Pacific Islanders, by age, sex, and diabetes type. In particular, the long-term observational period will allow the following questions to be answered:

- Does the incidence of type 1 diabetes continue to rise across the five major race and ethnicity groups in the U.S., or is there a leveling off, as recently reported in northern Europe?
- Does the incidence of type 2 diabetes increase across the five major race and ethnicity groups in the US, or is there a leveling off, particularly in the minority racial/ethnic groups at the highest risk of type 2 diabetes?

Recent SEARCH data estimated 167,000 youth (age <20 years) in the United States had type 1 diabetes in 2009, an increase of over 21 percent in 8 years. This increase in prevalence is likely explained by an increase in the number of youth who were annually diagnosed with type 1 diabetes. SEARCH reported that from 2002 through 2009 the incidence of type 1 diabetes among non-Hispanic white youth increased by 2.7 percent per year.

Recent SEARCH data estimated 20,300 youth in the United States had type 2 diabetes in 2009, an increase of over 30% in 8 years.

SEARCH has also demonstrated that diabetes complications are present at an early age and a short duration of diabetes, and their burden is higher in minority youth.

Additional information about uses of SEARCH Phase 1, Phase 2 and Phase 3 data is provided in the References section of this Information Collection Request (see **Attachment 5**).

A.3. Use of Information Technology and Burden Reduction

Clinical sites will reduce the burden to the participants related to the data collected from surveys by different methods to accommodate the participant. Clinical sites can: mail the forms to the participant for completion at home prior to clinical visit; contact participants by telephone to complete forms; assist the participant in completing the forms as administered as an interview; and also provide participants with web address for secure on-line completion of survey form.

A.4. Efforts to Identify Duplication and Use of Similar Information

These data are available exclusively from the SEARCH grantees, and no other source of data exists that would allow for national estimates of the incidence of diabetes in youth or for the incidence and prevalence of risk factors and complications among youth with diabetes. Although data-sets with questions and measures related to diabetes currently exist [e.g., the National Health and Nutrition Examination Survey [(NHANES), OMB No. 0920-0950, exp.12/31/2017], the number of youth with diabetes from NHANES or other general-purpose information collections is too small to allow accurate estimates of diabetes burden in youth in the U.S. For example, in NHANES 2009-2014 there were only 43 youth < 20 years who self-reported diabetes and of those only 8 were less than 12 years old. This number is too small to examine any characteristics of the youth population with diabetes since it is stated in the NHANES Analytic Guidelines that a minimum sample size of 150 is needed. Further, the prevalence estimate based on NHANES 2009-2014 data for diabetes among youth under 20 years has a relative standard error of 24% and is considered unreliable based on the NHANES Analytic Guidelines. We are also unable to distinguish diabetes type in the NHANES sample. Since the estimates of the incidence or prevalence of diabetes among youth are not available from these data sets, SEARCH will supplement the existing information to provide this information. Further, the alternative data sources would only allow the tracking of prevalence of diabetes and not estimates of incidence.

A.5. Impact on Small Businesses or Other Small Entities

No small businesses will be involved in this data collection.

A.6. Consequences of Collecting Information Less Frequently

Ongoing data collection is a necessary component of the SEARCH study in order to calculate incidence of diabetes among youth as it occurs in the study population and to obtain estimates of the prevalence. Information will be collected for five years to allow for on-going monitoring of the study and estimates of the incidence of diabetes in youth. This allows the tracking of trends in the population. The reporting periods established for SEARCH are frequent enough to

allow for ongoing evaluation, but not too frequent to be overly burdensome. The current reporting periods allow CDC and SEARCH grantees to assess performance at regular intervals, and to make adjustments as necessary. Less frequent data collection would compromise the ability to successfully regularly assess the incidence and prevalence of diabetes in youth.

A.7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5

This request fully complies with the regulation 5 CFR 1320.5. There are no special circumstances with this information collection package.

A.8. Comments to the Federal Register Notice and Efforts to Consult with Outside Agency

A. A 60-day Notice was published in the Federal Register on December 8, 2016, Vol. 81, No. 236, pp. 88685 -88687 (**Attachment 2A**). One public comment was received and acknowledged (**Attachment 2B**).
B. In 2015, CDC and NIH formed a working group of experts, the Observational Study Monitoring Board (OSMB), to provide on-going outside consultation to the SEARCH Study. The OSMB meets twice a year. In 2009, the National Institutes of Health, National Institute for Diabetes, Digestive and Kidney Disease formed a group of experts (External Evaluation Committee) to advise NIH on recommendations for the future direction of SEARCH. In 2006, the CDC and NIH formed a working group of experts, the External Scientific Evaluation Committee (ESEC) which provided on-going outside consultation to the SEARCH Study, CDC and NIH from 2006 to 2015.There were no major problems that could not be resolved during the consultations. Members of the OSMB, the ESEC and the NIH External Evaluation Committee, along with scientists at both the CDC and NIH, are listed in **Attachment 6**.

A.9. Explanation of Any Payment or Gift to Respondents

The SEARCH registry participants that complete the initial participant survey (both incident and prevalent cases) will be offered a $10 token of appreciation in cash/gift cards.

In general, the SEARCH registry visit participants completing the in person visit will be offered an $80 token of appreciation in cash/gift cards. Each clinical site is governed by a separate IRB and each site has unique characteristics, resulting in some differences across the sites. In Seattle, Washington, in addition to the tokens of appreciation mentioned above, participants also receive $6 food voucher if they are fasting for the visit and an additional $20 if blood draw or urine test needs to be repeated. At Kaiser Permanente of Southern California, in addition to the tokens of appreciation mentioned above, participants are provided with a gift card for gasoline if they have to travel more than 10 miles each way for the study visit (one $10 gift card for 10-39 miles; two $10 gift cards for 40-79 miles and three $10 gift cards for more than 80 miles). In Cincinnati, Ohio, participants who are 18 years or older are offered $60 gift card for

the study visit and $20 gift card for the overnight urine collection and participants who are < 18 years old are offered $40 gift card for the study, $20 gift card for the overnight urine. In South Carolina, in-person visit participants are offered $80 Walmart gift card. Because of long travel distances for the Carolina clinical site, if participants travel 70-100 miles round trip an additional $40 Walmart gift card is offered; if the participants travel 101 – 150 miles one $20 gift card is offered in addition to the $40 gift card; and if the participants travel more than 150 miles then two $20 Walmart gift cards are offered in addition to the $40 gift card.

A.10. Protection of Privacy and Confidentiality of Information Provided by Respondents

A. Privacy Act Determination. This submission has been reviewed by National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP) and CDC's Information Collection Review Office, which determined that the Privacy Act does apply to this project because participant-level information with personal identifiers is collected by the clinical sites. The applicable System of Records Notice is 09-20-0136, Epidemiologic Studies and Surveillance of Disease Problems. (Attachment 13).

De-identified information is collected by the Coordinating Center and subsequently transmitted to CDC. There is a two-step de-identification and re-coding process. In the first step, the clinical site removes patient name and other direct identifiers from the records, and assigns a randomly-generated, site-specific participant ID code to each record before transmitting participant-level information to the Coordinating Center. The clinical site maintains and protects the information that links direct patient identifiers to the site's participant ID codes. The Coordinating Center does not have the capacity to re-link the de-identified, coded information that it receives to direct patient identifiers such as name, social security number (SSN), or medical record number.

In the second step, the Coordinating Center replaces each record's site-specific ID code with a new, randomly generated participant ID code assigned by the Coordinating Center. Information reported to CDC includes only ID codes generated by the Coordinating Center. Patient names and other direct identifiers cannot be reconstructed from the ID code that is randomly generated by the Coordinating Center.

The SEARCH clinical sites will collect information in individually identifiable form (IIF) on each registered diabetes case (personal identifiers such as name, address, age, race/ethnicity) along with information about the youth's medical history and results of in-person visits. The collection of personal information is necessary in order for the clinical sites to contact registered cases for inclusion in the study and to conduct follow-up. The SEARCH clinical sites will use a number of different methods to collect data including telephone and in-person interviews, medical record abstraction, and laboratory and physical examination measurements. Each clinical site will enter the data collected from the participants into a database that is then transmitted to the Coordinating Center (data collection contractor) for compilation and analysis. This database was developed specifically by the Coordinating Center

for the purpose of compiling data from the registry participants for the SEARCH study. Another source of data collection will occur as direct data entry by the participants which is transmitted directly to the Coordinating Center and merged with other participant data. Each SEARCH Clinical Site will maintain the data for seven years after the end of the study. At the close out of SEARCH the Coordinating Center will provide CDC with a public use de-identified data set. This data will also be made publicly available through the NIH data repository or similar site to enable secondary, in-depth analyses.

Participant information undergoes two levels of de-identification prior to transmission to CDC. First, each clinical site assigns a unique identifier (ID) code to each participant who is identified or followed at that site. The site-specific ID code is used to manage transmission of records from the clinical site to the Coordinating Center. The information transmitted to the Coordinating Center does not include names or addresses of SEARCH participants. The Coordinating Center will not accept a method of record identification, such as social security number, that may be linked to other databases. The identifying information provided to the Coordinating Center will include the unique ID code, state of residence, month and year of birth, and Hispanic origin and race. Details on the process to provide the Coordinating Center with a Limited Dataset under HIPAA are provided in Section 10.1 Privacy Impact Assessment information. The clinical site is solely responsible for maintaining the unique list linking the ID code with the participant's name.

Upon receipt of the de-identified, coded data, the Coordinating Center will create a new, randomly generated ID code for each case. This new, randomly generated ID code will be used whenever the Coordinating Center provides data to the CDC or to other non-SEARCH investigators. The ID codes assigned by the Coordinating Center cannot be linked back to the ID codes assigned by the clinical sites, or the names of participants. Research entities have successfully used the two-step de-identification process to protect the identities of research participants and to guard against inadvertent disclosure of personal information in identifiable form.

The aggregate data provided to the Coordinating Center will be archived on secure network servers with user ID and password restricted access at the location of the Coordinating Center. Access rights and restrictions to network resources are determined by user ID. Network systems are maintained in a locked room with access strictly limited to essential employees. A public use de-identified dataset will be provided to CDC at the conclusion of the study.

While the proposed data collection by CDC may impact the respondent's privacy, CDC has taken a number of steps to ensure the respondent's privacy is not impacted. CDC will not receive any identifying information. All identifying information will be maintained at the SEARCH Clinical Sites and will not be transmitted to the Coordinating Center or to the CDC. The SEARCH Coordinating Center, Wake Forest University, has obtained a Certificate of Confidentiality for SEARCH Study that covers the Coordinating Center and each Clinical Site. The current

certificate is valid through September 29, 2020 (**Attachment 8**). HIPAA waiver language is included in the consent form for each clinical site (**Attachment 9**).

The SEARCH Phase 4 information collection has been approved by the Institutional Review Board (IRB) at each participating site and by the IRB at the Coordinating Center (see **Attachment 7**). Each SEARCH Phase 4 participant signs an informed consent document that describes the voluntary nature of participation and states that the information they provide will be protected by a Certificate of Confidentiality (**Attachment 9**).

Data transmitted to the Coordinating Center qualifies as a HIPAA Limited Dataset. Each Center has a Limited Data Use Agreement with the Coordinating Center (**Attachment 10**) in compliance with the Standards of Privacy of Individually Identifiable Health Information as outlined by the HIPAA privacy rules. Access to study data is limited to the staff working on the study. Local access to the data is governed by the requirements of the local IRB. Additional safeguards include a two-step process of de-identification first at the clinical site and then at the Coordinating Center as detailed below in 10.1.A.

B. Administrative Safeguards. The information collected during prior phases of the SEARCH project was protected by a Certificate of Confidentiality at each site (**Attachment 8**). The 301(d) confidentiality certificates provide legally effective barriers to disclosure for individually identifiable data residing at the clinical sites and as needed, protection to data residing at laboratories, and other subcontractors with study data. These certificates will protect individual data from sources not connected with this study. Certificates of Confidentiality 301(d) for Phase 4 are provided by the National Institutes of Health, National Institute for Digestive and Diabetes and Kidney Disease (**Attachment 8**). Sensitive individually identified patient data which require the continuous confidentiality protection granted under the earlier certificates will be covered under the updated certificates, as well as new data to be collected in Phase 4. All study personnel will be trained in the appropriate and sensitive means of data collection.

Physical and Electronic Safeguards. Information will be obtained from multiple sources: Medical Records, In Person Surveys, In Person Visits (including physical exam, questionnaires, laboratory studies of blood and urine). Forms used for data collection will be distributed to the clinical sites by the Coordinating Center. Data will be transmitted electronically via a password protected website to the Coordinating Center for data analysis. The Coordinating Center employs a digital server certificate from Comodo, Inc. This certificate allows the communications between the web server and the client system to be encrypted. This encryption is as advanced as is now allowable by the United States Government, and the mechanism is the same as is used by the banking industry and for electronic commerce. The Coordinating Center's web system is protected by a Cisco firewall that limits the source and type of traffic coming into the institution, and remains under constant monitoring and control.

Restricted areas of the SEARCH web site are protected by user login. Prior to gaining access to the restricted area, the user is required to enter a username and password that are checked against a database of authorized system users. The organization of the SEARCH authorization database is such that it allows the Coordinating Center to restrict functions of an individual user by their login. The Coordinating Center can restrict their ability to view entire sections of the web site, reports, data elements and more. For security purposes, once a user has successfully logged into the system, inactivity for a period of an hour will automatically force the user to re-authenticate prior to using the system again. Users are recommended to log out of the system before leaving their work area for any extended period. Minimum password strength, password reuse restrictions and a 90-day password change frequency requirement are imposed to help ensure security of the web system.

Nature of Response. Respondents are the study participants at each clinical site. Transmission of de-identified information to CDC via the Coordinating Center at the conclusion of the study is required under the terms of the cooperative agreements that provide funding for the research.

A.11. Institutional Review Board (IRB) and Justification for Sensitive Questions

The research at each clinical site is overseen by its Institutional Review Board. As required by 45 CFR 46, each site obtains assent from the youth who participate in the research, and permission from their parent(s) or guardian(s) (**Attachment 9**).

SEARCH grantees collect potentially sensitive information on baseline forms. Study aims cannot be achieved without the collection of sensitive, or potentially sensitive, information. The justification for each item is detailed below.

- Racial/ethnic group is necessary for subgroup analysis by ethnic group to evaluate differences in prevalence and incidence of diabetes and outcomes.
- Total family income, parental and participant education are important measures of socioeconomic status and predictors of disease development, medical care use, and longevity.

A.12 Estimates of Annualized Burden and Costs

Respondents will be youth or their parents/guardians with incident diabetes and prevalent diabetes in 2016 registered by the clinical sites in SEARCH Phase 4. All information will be transmitted to the Coordinating Center for aggregation and analysis. Information will be transmitted electronically through a secure web site dedicated to the project. The information collection has two components:

1. Incident diabetes cases:

- Collection of information on newly diagnosed incident diabetes cases in youth age < 20 years. CDC estimates that each clinical site will identify and register an average of 302 to 303 cases per year, for a total of 1,511 cases across all sites. The items collected for each case include Medication Inventory and Initial Participant Survey. Copies of the data collection instruments are included in **Attachments 4A1, 4A2a and 4A2b**. The total estimated annualized burden for this information collection is 378 hours.
- Physical exam and specimen collection for the 2016 incident cases. CDC estimates that each clinical site will identify and register 1511 cases during this incident year. Of these cases, CDC anticipants 80% will complete the Initial Participant Survey and be invited for an in-person visit. Of those, we anticipate a 65 to 70% response rate and complete 823 in-person visits. Copies of the data collection instruments are included in **Attachments 4A3 and 4A4**. The total estimated annualized burden for this information collection is 1,371 hours.

2. Prevalent diabetes cases:
    - Collection of information on prevalent cases of diagnosed diabetes among youth < 20 years. CDC estimates that the clinical sites will identify 776 cases. The items collected for each case include an Initial Participant Survey. Copies of the data collection instruments are included in **Attachments 4A5a and 4A5b**.The total estimated annualized burden for this information collection is 130 hours

The total estimated annualized burden for all sites is 2,016 hours, as shown in Table A.12-A.

Table A.12-A. Estimated Annualized Burden Hours

Type of Respondent	No. of Respondents	No. of Responses per Respondent	Form Name	Average Burden per Response	Total Burden (in hours)
Incident case	1511	1	Medical Inventory	5/60	126
		1	Initial Participant Survey Incident case (adult and parent)	10/60	252
Incident case in 2016 who complete	823	1	Physical Exam	15/60	1235
		1	Specimen	20/60	274

survey			collection		
Prevalent case	776	1	Initial Participant Survey, Prevalent case (adult and parent)	10/60	129
Total					2016

The total estimated cost to study participants is $45,771 as shown in Table A.12-B. The cost to respondents is based on an average hourly wage rate of $22.71 (mean hourly wage for adults, 2014, U.S. Bureau of Labor Statistics). Some participants in the registry study are assumed to be employed. For younger patients who are not employed and would typically be dependent on a parent or guardian to enable their participation, the average hourly wage represents the value of the parent or guardian's time.

Table A.12-B. Estimated Annualized Cost to Respondents

Type of Respondent	No. of Respondents	No. of Responses per Respondent	Form Name	Average Burden per Response	Total Burden (in hours)	Hourly Wage	Total Respondent cost
Incident case	1511	1	Medical Inventory	5/60	126	$22.71	2,862
		1	Initial Participant Survey Incident case (adult and	10/60	252	$22.71	5,723

			parent)				
Incident case in 2016 who complete survey	823	1	Physical exam	1.5/60	1235	$22.71	28,035
		1	Specimen collection	20/60	274	$22.71	6,223
Prevalent case	776	1	Initial Participant Survey, Prevalent case (adult and parent)	10/60	129	$22.71	2,928
Total							15,771

A.13. Estimate of Other Total Annual Cost Burden to Respondents or Recordkeepers

There are no capital costs, operating costs or maintenance costs to report.

A.14. Annualized Cost to the Government

For the SEARCH for Diabetes in Youth Study, the estimated average annual contract costs (including direct and indirect costs) in this 5 year submission for coordinating center are as follows:

Source	Cost
Cooperative Agreements	
Clinical sites ($380,000 for each site, 5 sites)	$1,900,000
Coordinating Center	$562,626
Total Annual Cooperative Agreement Costs	**$2,462,626**
CDC	
Personnel	$40,000
Total Annualized Cost to Federal Government	**$2,502,626**

Clinical sites are responsible for information collection from participants and transmitting data to the Coordinating Center. The Coordinating Center is responsible for coordinating data collection, data analysis, and providing general study support to the SEARCH clinical sites.

The Coordinating Center will identify subcontractors to complete the tasks of laboratory measurement, subclinical measurements, and development of recruitment materials.

CDC costs for staff time for project development, implementation and monitoring are estimated at 0.5 FTE for $40,000 annually. The average annualized cost to the Federal Government for the SEARCH study in this submission period is estimated at $2,502,626.

A.15. <u>Explanation for Program Changes or Adjustments</u>

The SEARCH for Diabetes in Youth Study was initially approved with 4,248 annualized burden hours. In this Revision, we request approval for 1,879 annualized burden hours (a net reduction of 2,369 annualized burden hours). The changes that affect the total estimated annualized burden are itemized below.

	Previously approved annualized burden hours	4,248
Reduction due to discontinuation of the Health Questionnaire Youth for Cohort participants (former Attachment 4b_1)	710 x 15/60 = 178 burden hours	-178
Reduction due to discontinuation of the Health Questionnaire Parent for Cohort participants (former Attachment 4b_2)	710 x 15/60 = 178 burden hours	-178
Reduction due to discontinuation of the CES-Depression for Cohort participants (former Attachment 4b_3)	710 x 4/60 = 47 burden hours	-47
Reduction due to discontinuation of the Quality of Care for Cohort participants (former Attachment 4b_4)	710 x 13/60 = 154 burden hours	-154
Reduction due to discontinuation of the Peds QL for Cohort participants (former Attachment 4b_5)	710 x 5/60 = 59 burden hours	-59
Reduction due to discontinuation of the SEARCH MNSI Neuropathy	710 x 10/60 = 118 burden hours	-118

for Cohort participants (former Attachment 4b_6)		
Reduction due to discontinuation of the Diabetes Eating Survey for Cohort participants (former Attachment 4b_7)	710 x 5/60 = 59 burden hours	-59
Reduction due to discontinuation of the Low Blood Sugar Survey for Cohort participants (former Attachment 4b_8)	710 x 5/60 = 59 burden hours	-59
Reduction due to discontinuation of the Supplemental for Cohort participants (former Attachment 4b_9)	710 x 10/60 = 118 burden hours	-118
Reduction due to discontinuation of the Tanner Stage for Cohort participants (former Attachment 4b_10a and 4b_10b)	710 x 5/60 = 59 burden hours	-59
Reduction due to discontinuation of the Retinal photo for Cohort participants (former Attachment 4b_11)	710 x 15/60 = 178 burden hours	-178
Reduction due to discontinuation of the Family Conflict for Cohort participants (former Attachment 4b_12)	710 x 5/60 = 59 burden hours	- 59
Reduction due to discontinuation of the Pediatric Diabetes QOL for Cohort participants (former Attachment 4b_13)	710 x 5/60 = 59 burden hours	-59
Reduction due to discontinuation of the Physical Exam for Cohort participants (former Attachment 4b_14)	710 x 180/60 = 2130 burden hours	-2130
Reduction due to discontinuation of the Specimen Collection for Cohort participants (former Attachment 4b_15)	710 x 20/60 = 237 burden hours	-237
Reduction due to discontinuation of the Food Frequency Questionnaire for Cohort participants (former Attachment 4b_16)	710 x 20/60 = 237 burden hours	-237

Increase due to the additional incident cases who complete Medical Inventory (Attachment 4a_1)	236 respondents x 5/60 = 20 burden hours	+ 20
Increase due to the additional incident cases who complete Initial Participant Survey (Attachment 4a_2a and 4a_2b)	236 respondents x 10/60 = 39 burden hours	+39
Increase due to the Physical Examination Form for Registry Participants (former Attachment 4a_3)	823 respondents x 80/60 = 1097 burden hours	+ 1097
Increase due to the Specimen Collection Form for Registry Participants (Attachment 4a_4)	823 respondents x 20/60 = 274 burden hours	+ 274
Increase due to the Initial Participant Survey for Prevalent cases (Attachment 4a_5a and 4a_5b)	776 respondents x 10/60 = 64 burden hours	+130
	Net change	- 2,191
	Requested annualized burden hours in this Revision ICR	1879

Attachments with updates:

Attachment	Name	Changes (if any)
Attachment 1	Authorizing Legislation: PHSA	None
Attachment 2A	Federal Register Notice	Updated
Attachment 2B	Summary of Public Comments and CDC Response	Updated
Attachment 3	SEARCH Study Sites and Coordinating Center	No change
Attachment 4A1-4	Registry data collection, incident cases	Changes detailed in table below
Attachment 4A5a and 4A5b	Registry data collection,	New forms

	prevalent cases	
Attachment 5	Uses of SEARCH data and publications	Updated
Attachment 6	Experts Consulted During SEARCH Development	Updated
Attachment 7	IRB Approvals	Updated
Attachment 8	Certificate of Confidentiality	Updated
Attachment 9	Clinical site consent forms included HIPPA waiver language	No change
Attachment 10	Data use agreements	No change
Attachment 11	Published article documenting SEARCH methods	No change
Attachment 12	SEARCH Technical Report Capture Recapture	New

Detailed changes to data collection instruments:

Attachment	Form name	Changes made
4A1	Medication Inventory	No changes
4A2a and 4A2b	Incident Case Initial Participant Survey	No changes to the following questions: 1,2,8,9,10
		Deleted question 7 asking participant to report diabetes type
		Deleted question 14 asking participant if s/he was in the military at time of diagnosis
		Deleted question 15 asking participant to report weight
		Deleted question 16 asking participant to report height

		Combined question 22 and 23 into one question on health insurance and moved to 12
		Moved the following questions to improve the flow of the questionnaire: 3 moved to 4, 6 moved to 7, 11 moved to 13, 12 moved to 14, 13 moved to 6, 17 moved to 18, 18 moved to 19, 19 moved to 20, 20 moved to 21, 24 moved to 11, 25 moved to 15, 26 moved to 16, 27 moved to 17, 28 moved to 25, 29 moved to 24, 30 moved to 25
4A3	Physical exam	No changes
4A4	Specimen collection	Revised questions 5 and 6 since spot urine is no longer collected. Still ask females if they are pregnant or menstruating at the time of the exam
4A5a and 4A5b	Prevalent Case Initial Participant Survey	New

A.16. <u>Plans for Tabulation and Publication and Project Time Timeline</u>

CDC will continue to use the registry data reported by grantees to produce and provide national estimates on the incidence of diabetes among youth and the incidence and prevalence of micro and macro-vascular complications. This information will be included in CDC reports such as the Diabetes Fact Sheet which is updated every two years and will also be reported in peer reviewed journals in collaboration with the SEARCH grantees and the contractor. Preliminary results from the registry study of SEARCH Phase 3 have been submitted or presented at national and international scientific conferences **(Attachment 5**). This information has resulted in a publication documenting trends in prevalence and incidence among youth with diabetes in the U.S.

Information collected as part of the Registry Study and as part of SEARCH Phase 4 will allow researchers to examine trends among youth with diabetes since the SEARCH study began in 2000.

The SEARCH Clinical Sites and Coordinating Center are funded under cooperative agreements, therefore decisions on specific publications and time tables is determined by the SEARCH Clinical Site Principal Investigators with input and suggestions by CDC. CDC and the Coordinating Center provide support to the SEARCH Clinical Sites in the efforts but do not

develop specific timelines. The Coordinating Center will work with SEARCH Clinical Site investigators to develop detailed analysis plans and timelines for each publication. We are seeking OMB approval for an extension to cover the data collection for the final three years of the five year study. The study currently has OMB approval through August, 2017.

SEARCH is an on-going study. Registration of incident cases and collection of information is on-going. Identification of prevalent cases in 2017 by the SEARCH Clinical sites and contacting of the participants will begin once OMB approval is received. The Clinical Sites and Coordinating Center are currently funded through 9/29/2020 for this project. It is anticipated that data collection will continue until the summer of 2020 to allow for tabulation of results by the end of the funding cycle.

A.17. Reason(s) Display of OMB Expiration Date is Inappropriate

The OMB expiration date will be displayed.

A.18. Exceptions to Certification for Paperwork Reduction Act Submissions

There are no exceptions to the certification.