Birth Defects Study To Evaluate Pregnancy exposureS (BD-STEPS)
OMB 0920-0010

Supporting Statement B
Revision

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B. Collection of Information Employing Statistical Methods

B.1. Respondent Universe and Sampling Methods

Cases for BD-STEPS in Atlanta are selected from the MACDP surveillance system, and cases for all other Centers are selected from established state surveillance systems. The collection of information for cases of selected birth defects does not employ statistical methods because all infants with one of the 17 birth defects are included in Birth Defects surveillance systems, not just samples. Individual birth defects are rare occurrences so it is necessary to ascertain all cases in order to have enough cases of specific defects to study. However, the controls in the BD-STEPS are selected by a sampling process.

For BD-STEPS, each of the CBDRP will select randomly from the population (from either vital records or hospital birth logs) approximately 75 eligible controls each year for inclusion in the study. Whether hospital records or birth certificates are used as the source for control-infants, the records are reviewed to ensure that, given the available information, the selected control- infant does not have a birth defect. Records are also reviewed to abstract information for the purpose of follow up and contact.

B.2. Procedures for the Collection of Information

State-specific birth defects surveillance data are used to identify case subjects for the BD-STEPS. The selection of BD-STEPS controls is described in Section B.1. Once the children are identified for the study, a clinical geneticist reviews the information abstracted from the medical record to determine if they meet the case definition and are eligible for the study. Once eligibility has been established, the names and contact information for the families are sent to the Centers for the initial contact. The first contact, sent by mail to the mothers, is an introductory letter (**Attachment R1/S2**), along with a "Human Subjects" fact sheet **(Attachment S1/S2**), and a "Question and Answer" sheet (**Attachment Q1/Q2).** .

Approximately 10 days after the introductory packet has been sent, the centralized interview contractor makes follow up phone or email contact with the family (see **Attachment U1/T2)** for email and voicemail contact scripts). If email contact is made, arrangements are made for a follow up phone call. During this phone call, the interviewer obtains oral consent for the interview and either conducts the interview then or schedules the interview at a time convenient for the family. The interview is conducted with a CATI (see **Attachment G1/G2** for a hard copy of the questionnaire). The script used in the telephone interview (including oral consent) is in **Attachment L1/L2**. The script varies slightly depending on the status of the child: control, living case, and died or stillborn case.

A thank you letter is sent after all interviews. For the states that allow CBDRP access of newborn bloodspots and require maternal consent, a request for sharing of residual newborn bloodspots is

included in the interview thank you letter (**Attachment V1/V2**) along with a $10 gift card, and a written consent form pertaining to bloodspots (**Attachment M1/M2**). For parents of multiples (e.g. twins or triplets), consent for sharing data (including newborn bloodspots) of the siblings that were part of the multiple birth will be requested (**Attachment N1/N2**).

In addition, participants are asked in the questionnaire if they report working in one of eight occupational categories of interest. If yes, participants are sent a standardized introductory invitation that includes information about the online questionnaire and a link to the questionnaire (**Attachment H1-H8**).

Finally, Medical Records will be requested (**Attachments O1/O2 and W**) for review for participants reporting certain medical conditions (see Section B.4).

B.3. Methods to Maximize Response Rates and Deal with Nonresponse

The response rate during the first year of the NBDPS was approximately 60% for cases and controls. With the addition of the $20 money order in the introductory packet, interview participation rates increased initially to over 70% in 2000. Given the changing communication landscape with increasingly difficult initial contact of potential new participants, in May of 2010, NBDPS recruitment tracking and tracing procedure was revised and approved by CDC IRB to include the use of e-mail (see **Attachment U1/U2** for email and voicemail scripts**)**. Interview participation rates ranged from approximately 60-70% from 2005-2009.

The token of appreciation amount for both the online questionnaire and the bloodspot consent request is ten dollars. This amount is less than the $20 gift card offered for the BD-STEPS CATI questionnaire. The direct interviewer contact required for the CATI was determined to be more time-consuming than the newly proposed data collections. Based on this difference and the experience of the research group with previous studies, the BD-STEPS coordinating council voted to implement $10 tokens of appreciation for both proposed study segments.

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

As mentioned before, a large portion of the BD-STEPS interview will be maintained from the NBDPS to make pooling of the CBDRP's NBDPS and BD-STEPS data possible. Innovative questions were added for BD-STEPs and are detailed in section A.3.

The online occupational questionnaire (**Attachment H1-H8**) represents a new method for data collection for the study.

In addition, new for BD-STEPS (as mentioned in section A.6), at the end of the interview, requests are planned for participants reporting certain procedures/conditions for mailing an additional consent for medical/dental records. Medical records contain specific information that might be hard for women to recall, and medical record review allows validation of exposures reported by the mother in the CATI. Initial topics for which medical records are planned include fertility treatments and dental treatments (See **Attachments O1/O2 and W** for medical records request letter and medical records request form).

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

The statistical aspects of the design of the BD-STEPS are the responsibility of the Principal investigator:

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Additional consultation on the development of the BD-STEPS was obtained from the Principal Investigators of the CBDRP (**Attachment J**). RTI International is currently contracted by CDC to manage all BD-STEPS interviewing activities; the RTI International primary contact is the following:

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Analysis of BD-STEPS data is the primary responsibility of Dr. Reefhuis, with assistance from the Principal Investigators of the CBDRP.