PART B ONLY

PROJECT TITLE:

Evaluating the Quality of Interview Data Collected by Teratology Information Services About Pregnancy Outcomes, Maternal and Infant Health, Following Medication Use During Pregnancy and Lactation

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B. Statistical Methods

1. Respondent Universe and Sampling Methods

A convenience sample of three TIS will be used for this data quality study: Connecticut, Texas, and Utah. Within each of the TIS, we will not sample participants; rather, the TIS will invite all women who make use of the TIS to join the study. Within a given TIS, any and all women at least 18 years of age who are pregnant or breastfeeding while taking a medication who live within the catchment area may contact one of these TIS for information about their medication exposure. Because this information collection is not being conducted with the goal of evaluating the effects of medications used during pregnancy or lactation, the study sample size is not based on measures of medication effects, and no sampling method will be employed. Rather, every pregnant or breastfeeding woman meeting the above criteria who contacts one of the 3 participating TIS about a medication exposure during the study enrollment period will be asked to participate. Enrollment will continue until a total of 250 women have been enrolled by each TIS or until the enrollment period ends after 6 months. We anticipate that approximately 85% of the women invited to participate will do so. This response rate estimate is based upon the fact that all potential participants are in fact calling the TIS of their own volition due to their high interest in the health of their child. Based upon an 85% response rate estimate, a total of 882 women will be invited to participate in order to obtain a total of 750 participants.

Based on current experience of the 3 participating TIS, it is estimated that about 80% of study participants will be women who contacted the TIS about use of a medication during pregnancy and about 20% will be women who contacted the TIS about use of a medication while breastfeeding. The exact distributions will vary somewhat for the different TIS. It is estimated that about half of the women who contacted the TIS about use of a medication during pregnancy will go on to breastfeed afterward, and that about half of these will be taking a chronic medication that could result in exposure during breastfeeding and would qualify for enrolment in the pregnancy and lactation exposure group. Because the proposed information collection is an evaluation project, one of its goals is to estimate the participation rate of pregnant and breastfeeding women who contact a TIS.

2. Procedures for the Collection of Information

Within a continuous six-month period, three TIS will approach all women who contact their services, and who have used any prescription or over-the-counter medication, herbal preparation, or dietary supplement during pregnancy or while breastfeeding, about participation in a follow-up study. Enrollment will be restricted to pregnant and breastfeeding women who are at least 18 years of age, live in the United States, and are not incarcerated. TIS staff will explain the project and obtain verbal informed consent from each woman who agrees to participate in follow-up telephone interviews (up to a maximum of 250 enrollees per service). For each woman who contacts the TIS about taking a medication during pregnancy, but does not breastfeed, 4 telephone interviews will be conducted: (1) at enrollment to conduct the enrollment and initial pregnancy questionnaires; (2) during the third trimester of pregnancy to conduct the follow-up pregnancy questionnaire; (3) approximately one month after delivery to conduct the initial infant

questionnaire; and (4) when the infant is about 3 months old to conduct the follow-up infant questionnaire. For each woman who contacts the TIS about taking a medication while breastfeeding, either 2 or 3 telephone interview sessions will be conducted: (1) at enrollment to conduct the enrollment and initial breastfeeding questionnaires; (2) at approximately one month after enrollment to conduct the follow-up breastfeeding questionnaire; and (3) if the woman is taking a chronic medication or frequently takes an episodic medication, at approximately 3 months after enrollment to conduct another follow-up breastfeeding questionnaire. For each woman who contacts the TIS about taking a medication during pregnancy and who breastfeeds after delivery, 4 telephone interviews will be conducted: (1) at enrollment to conduct the enrollment and initial pregnancy questionnaires; (2) during the third trimester of pregnancy to conduct the follow-up pregnancy questionnaire; (3) approximately one month after delivery to conduct the initial infant questionnaire and, if she has taken a medication, the initial breastfeeding questionnaire; and (4) when the infant is about 3 months old to conduct the follow-up infant questionnaire and, if the woman is breastfeeding and has taken a medication, the follow-up breastfeeding questionnaire. The interviews will collect information regarding maternal and fetal health throughout pregnancy, and maternal and infant health at delivery, during the newborn and early infancy periods, and while breastfeeding. All participating TIS will collect the same information from all participants so that data can be pooled to evaluate the effects of individual drugs. The specific schedule for interviews is provided in Attachment E. The verbal consent forms and questionnaires to be used in each of the interviews are provided in Attachments C2 and D1-D7.

Each TIS will collect identifying information (e.g., name, phone numbers, email address) for each woman who agrees to participate in order to conduct follow-up interviews throughout pregnancy and during breastfeeding. The identifying and contact information will be maintained on-site by the local study staff until all interviews for that site have been completed and the responses have been entered into an electronic data file. Each participant will be assigned a subject identification number (ID) which will appear on the questionnaires. Identifying and contact information for each participant will be kept in a separate file linked to the questionnaires only through the subject ID. Once all interviews at that site have been completed and the responses have been entered into an electronic data file, the identifying information (e.g., name, phone numbers, email address, expected date of delivery, date of the last menstrual period, birth or delivery dates) maintained by the study for all participants will be destroyed, and the subject IDs will be removed from the files containing questionnaire responses. However, information obtained by the TIS counselor provided during the participant's initial call before she agreed to participate in the study, including identifying information, will be kept by the TIS as per their usual practice.

A final anonymized file containing only the individual study questionnaire responses will be transmitted to CDC by each participating TIS over CDC's Secure Data Network. The information from the 3 TIS will be pooled and used to estimate the number, range, and types of exposures to unique medications ascertained by the project; the participation rate among pregnant and breastfeeding women who contacted one of the 3 participating TIS about a medication exposure during pregnancy or breastfeeding; the proportion of enrolled women who

actually participated in each phase of the follow-up; the specificity and completeness of information obtained about pregnancy outcomes, and maternal and infant health from the interviews conducted; whether the women who participated in the project were similar to all pregnant and breastfeeding women in the U.S. in terms of demographics and risk factors for pregnancy outcomes; and the additional time and resources that were required by the 3 TIS to conduct the project. In order to quantify the specificity and completeness of information obtained from open-ended questions, the quality of the response to each of these questions will be rated at the conclusion of each interview by the TIS staff according to predefined categories (e.g., complete/specific; moderately complete/specific; incomplete/nonspecific). These categories will then be used to analyze the quality of responses obtained from open-ended questions for the entire project.

3. Methods to Maximize Response Rates and Deal with Nonresponse

The schedule of interviews to be conducted with each participant is provided in Appendix E. The maximum number of interviews for any single respondent is four over the course of one year. Each TIS will collect identifying information (e.g., name, phone numbers, email address) for each woman who agrees to participate in order to conduct follow-up interviews throughout pregnancy and during breastfeeding. Each participant's contact information will be updated at each interview using the tracking form, and the optimal time to contact her for the next interview will be assessed. Five attempts by phone and two attempts by email will be made to contact each respondent for each interview, after which the respondent will be considered lost to follow-up and excluded from future interviews.

No incentives for participation will be offered to respondents. The known demographic and risk factor characteristics of enrollees who do not complete all study interviews will be compared with those who do complete all interviews in order to assess whether these groups differ.

4. Test of Procedures or Methods to be Undertaken

Each participating TIS tested each interview with women of child-bearing age during a 3-month period in fall, 2007 (5 interviews total) in order to assess the length of time it took to complete each interview, whether the questions were clear and understandable to the respondent, whether the questions generated the intended type and quality of information, and to obtain the women's input on the nature, content, and acceptability of the interviews. The length of the interviews depended on the number and complexity of medication exposures each woman had, and on the number and complexity of health conditions that she and/or her infant had. In general, the informed consent took about 20 minutes, the initial pregnancy interview took about 30 minutes, and the initial infant and breastfeeding interviews took about 20 minutes. The follow-up pregnancy interview took about 20 minutes, and the follow-up infant and breastfeeding interviews took about 15 minutes each when there were no complex medication exposures or health conditions.

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

Individuals consulted on statistical aspects of the study design:

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