

**Population-Based
Surveillance and
Etiological Research of
Adverse Reproductive Outcomes
and Toxic Wastes**

PUBLIC DRINKING WATER CONTAMINATION AND BIRTHWEIGHT, AND SELECTED BIRTH DEFECTS



**Jim Florio
Governor**

**Bruce Siegel, M.D., M.P.H.
Acting State Commissioner of Health**

A P P E N D I X

POPULATION-BASED SURVEILLANCE AND ETIOLOGICAL RESEARCH OF ADVERSE REPRODUCTIVE OUTCOMES AND TOXIC WASTES

REPORT ON PHASE IV-B: PUBLIC DRINKING WATER CONTAMINATION AND BIRTHWEIGHT, AND SELECTED BIRTH DEFECTS

A CASE-CONTROL STUDY

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Centers for Disease Control**

APPENDIX A

QUESTIONNAIRE

A. VERIFICATION OF MOTHER'S STATUS:

I would like to begin by asking you to verify some general information.

1. What is your full name, including your maiden name? [ENTER ON COVER SHEET ONLY.]
2. What is the full name of the child we have selected to talk to you about? [ENTER ON COVER SHEET ONLY.]
3. What is your current address?

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____ ZIP: _____

4. When did you move to this address? __ / __ / __
mo. day yr.
5. Is this your home phone number? [ENTER ON COVER SHEET ONLY.]
6. Is there a more convenient number where we can reach you? [IF YES] What is the number? [ENTER ON COVER SHEET ONLY.] DESCRIBE BRIEFLY:
7. What is the first name of the child's natural (i.e., biological) father? _____
(first)

B. MOTHER'S ADDRESS HISTORY:

I would like to ask you about all the places where you lived from _____ (one year before DOIB) to the birth of _____ [DOIB].

1. Address # 1 (BIRTH): Where were you living when _____ [NOIB] was born?

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____ ZIP: _____

- a. On what dates did you live there? From: __ / __ to __ / __
mo. yr. mo. yr.
- b. Was it a single-family home? [2]-Yes [1]-No If no, what type of home was it? _____
- c. Was it a mobile home? [2]-Yes [1]-No

2. Address # 2 (CONCEPTION): Where were you living when you think you became pregnant with _____ [NOIB]?

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____ ZIP: _____

- a. On what dates did you live there? From: __ / __ to __ / __
mo. yr. mo. yr.
- b. Was it a single-family home? [2]-Yes [1]-No If no, what type of home was it? _____
- c. Was it a mobile home? [2]-Yes [1]-No

3. Address # 3 [before CONCEPTION]: Where were you living before that (especially the three months before)?

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____ ZIP: _____

a. On what dates did you live there? From: __ / __ to __ / __

mo. yr. mo. yr.

b. Was it a single-family home? [2]-Yes [1]-No If no, what type of home was it? _____

c. Was it a mobile home? [2]-Yes [1]-No

4. Address # 4: Where were you living before that? Continue until at least one year before DOIB.

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____ ZIP: _____

On what dates did you live there? From: __ / __ to __ / __

mo. yr. mo. yr.

C. LIVING IN A MOBILE HOME (NOTE THAT THIS SHOULD BE CLEAR FROM PREVIOUS QUESTIONS):

PERIOD OCCURRED AROUND INDEX PREGNANCY

-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
2	2	2	2	- Yes
1	1	1	1	- No
9	9	9	9	- Unknown

D. GENERAL INFORMATION, MOTHER:

Now I would like to ask you some background questions about yourself.

1. When were you born? __ / __ / __
mo. day yr.

2. AGE AT DOIB [__]

3. Where was your family living when you were born?

CITY: _____ COUNTY: _____ STATE: _____ COUNTRY: _____

4. What is your race? Are you ...?

[1] - White [2] - Black

[3] - Other, specify _____

[8] - Chooses not to answer question [9] - Unknown

5. What was the highest grade of regular school or college that you completed? CHECK CATEGORY:

[1] - No formal schooling [4] - Grades 9-11 [7] - College graduate

[2] - Grades 1-6 [5] - Grade 12, completed high school [8] - Post-graduate

[3] - Grades 7-8 [6] - 1-3 years of college or technical school [9] - Unknown/No response

6. Without shoes on, how tall are you? _____
feet inches

Height in centimeters [_ _ _]

E. GENERAL INFORMATION, FATHER:

Now, I would like to ask you some questions about the child's natural (i.e., biological) father.

1. When was he born? __ / __ / __
mo. day yr.

2. AGE AT DOIB [__]

3. What is his race? Is he ...?

[1] - White

[2] - Black

[3] - Other, specify _____

[8] - Chooses not to answer question

[9] - Unknown

4. What was the highest grade of regular school or college that he completed? CHECK CATEGORY:

[1] - No formal schooling

[4] - Grades 9-11

[7] - College graduate

[2] - Grades 1-6

[5] - Grade 12, completed high school

[8] - Post-graduate

[3] - Grades 7-8

[6] - 1-3 years of college or technical school

[9] - Unknown/No response

5. Are you and [NOIB'S] father related by blood? [2]-Yes [1]-No [8]-No response [9]-Unknown
If yes, how are you related? _____

6. Did he have any jobs in the period from [-3] to [DOIB]? [2]-Yes [1]-No [9]-Unknown

What was his usual job around the time of your pregnancy with [NOIB]. What was his job called?

JOB TITLE: _____

What was the name and address of the employer?

COMPANY NAME: _____

NUMBER AND STREET: _____

CITY: _____

COUNTY: _____

STATE: _____

Describe what his job involved? What did he do?

Describe what the employer did? What did they make?

DESCRIPTION: _____

F. PREGNANCY HISTORY - INSTRUCTIONS:

Now, I would like to ask you some questions about all of your pregnancies. The questions in this section will deal with any live births, miscarriages, elective abortions, or stillbirths you may have had. A miscarriage, also called a spontaneous abortion, is a pregnancy that ended before 20 weeks (or about 5 months) due to natural causes. They are estimated to occur in up to 15% of all pregnancies. A stillbirth is a pregnancy that ended sometime after 20 weeks.

1. Let's start with the number of pregnancies you have had. Including all live births, miscarriages, abortions, and stillbirths:

- a. How many pregnancies have you had? [_ _]
- b. Did any of your pregnancies result in twins or other multiple babies? [2]-Yes [1]-No How many? [_ _]
- c. Did any of your pregnancies result in a live birth? [2]-Yes [1]-No How many? [_ _]
- d. Did any of your pregnancies that were 20 weeks or longer result in a stillbirth? [2]-Yes [1]-No How many? [_ _]
- e. Did any of your pregnancies that were less than 20 weeks long result in a spontaneous abortion? [2]-Yes [1]-No How many? [_ _]
- f. Were any of your pregnancies that were less than 20 weeks long ended by an induced abortion? [2]-Yes [1]-No How many? [_ _]

2. Now, let's talk about your __ pregnancy (insert number, in order, going through all pregnancies).

- a. When did this pregnancy end? (Enter pregnancy number and record date of birth.)
- b. (IF A LIVEBIRTH OR STILLBIRTH) How many babies were you pregnant with?
- c. Did (this baby/these babies) have the same natural (i.e., biological) father as (NOIB)?
- d. What was the result of this pregnancy? (LIST EACH CHILD SEPARATELY)
- (1) Was the (order number, if multiple) baby a livebirth?
- (2) Was the (order number, if multiple) baby a stillbirth?
- (3) Did this (order number, if multiple) pregnancy end in a miscarriage?
- (4) Was this (order number, if multiple) pregnancy ended by an induced abortion?
- e. (IF LIVEBIRTH) What did you name the child?
- f. (IF LIVEBIRTH) What was the the child's sex?
- g. (IF LIVEBIRTH) How much did (child's name) weigh at birth? (RECORD AS STATED AND CONVERT LATER)
- h. (IF LIVEBIRTH) Was (child's name) born with any problems or birth defects? (IF YES) What were they?
- i. (IF LIVEBIRTH) Did (child's name) have any medical problems that developed or became apparent after birth? (IF YES) What were they?
- j. (IF LIVEBIRTH) Is (child's name) still living?
- (IF NOT ALIVE) When did (child's name) die?
- (IF NOT ALIVE) What caused (child's name) death?
- k. (IF CHILD DIED) Did any doctors examine the child's body after death? (IF YES) What did they find?
- l. In what month of your pregnancy did you start prenatal care?
- m. (INDEX PREGNANCY ONLY) How many prenatal visits did you have during your pregnancy with [NOIB]?
- n. (INDEX PREGNANCY ONLY) Did you miss any prenatal visits during your pregnancy with [NOIB]?
- o. Did your doctor say that the (baby was/babies were) born early, on time, or late?
- (IF EARLY OR LATE) How many weeks (early/late)?
- p. Did you have any complications or problems during this pregnancy that required special attention?
- (IF YES, WHAT WERE THE COMPLICATIONS?)
- q. Was the delivery vaginal or caesarean?
- r. Were you aware of any complications or problems during labor, delivery, or after delivery?
- (IF YES, WHAT WERE THE COMPLICATIONS?)

G. PREGNANCY HISTORY - GRID:

#	PREG.	DATE OF BIRTH	F -----RESULT-----						CHILD'S NAME	SEX 1-M 2-F	BIRTHWEIGHT IN GRAMS	DEFECTS/ PROBLEMS		D E A T H D E A T H D E A T H	
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			U	A	T	I	T	I				B	I		A
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G. PREGNANCY HISTORY - GRID, CONTINUED:

INDEX ONLY

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INDEX PREGNANCY - ENTER LATER:

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H. MEDICAL PROBLEMS DURING PREGNANCIES:

Now, I'm going to ask you about some medical problems or conditions that women sometimes experience during pregnancy. I'd like you to think back over your pregnancy with [MOIB]. We would like to know if you experienced any of these problems during that pregnancy.

<u>MEDICAL PROBLEM/CONDITION</u>	<u>DURING INDEX</u>
1. Bladder, kidney, or urinary tract infection?	[2] -Yes [1] -No
2. Anemia or low blood count?	[2] -Yes [1] -No
3. Any serious injury or accident? SPECIFY:	[2] -Yes [1] -No
4. A vaginal or cervical infection? SPECIFY:	[2] -Yes [1] -No
5. Vaginal bleeding during the first 3 months of pregnancy?	[2] -Yes [1] -No
6. Vaginal bleeding during the second 3 months of pregnancy?	[2] -Yes [1] -No
7. Vaginal bleeding during the last 3 months of pregnancy?	[2] -Yes [1] -No
8. Toxemia or pre-eclampsia? SPECIFY:	[2] -Yes [1] -No
9. Compatibility problems between your blood type and the baby's blood type?	[2] -Yes [1] -No
10. Labor before the ninth month of pregnancy?	[2] -Yes [1] -No
11. Did you have any high fevers?	[2] -Yes [1] -No
12. Did you take any medications, including aspirin? SPECIFY:	[2] -Yes [1] -No
13. Did you have diabetes (high blood or urine sugar) while pregnant?	[2] -Yes [1] -No
14. Did you have a seizure during pregnancy? SPECIFY:	[2] -Yes [1] -No
15. Were you hospitalized during the pregnancy? SPECIFY:	[2] -Yes [1] -No

I. HISTORY OF GENERAL MEDICAL CONDITIONS, PROBLEMS, TESTS, AND TREATMENTS DURING THE INDEX PREGNANCY:

Now let's turn to some general medical questions. I'm going to read you a list with a variety of conditions, problems, tests, or treatments. For each item on the list, I'll ask you if you had it around the time you were pregnant with [NOIB]. With respect to [NOIB], we'll talk about things that happened in the 3 months just before you became pregnant and then events that occurred while you were pregnant with [NOIB]. To make it easier, we'll divide the time after you were pregnant into three, three-month periods (or "trimesters"). The first three months of the pregnancy was your first trimester; then, months four, five, and six made up your second trimester, while the last three months (i.e., seven, eight, and nine) made up the third trimester. It is important that we both understand each other about WHEN certain things happened. Do you understand the use of the three, three-month trimesters or do you want me to explain it again? [REPEAT IF NECESSARY]

CONDITION/PROBLEM/TEST	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				DATE OF ILLNESS OR TREATMENT		TREATMENT/MEDICATION
		-3 to DOC	Trim.#1	Trim.#2	Trim.#3			
1. Chicken pox?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
2. Hepatitis?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
3. Influenza?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
4. Rubella (German measles)?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
5. Acne or skin problems for which medication was prescribed?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
6. High blood pressure?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
7. Thyroid condition? (indicate if under- or over-active)	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
8. Asthma/allergies?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
9. Epilepsy/seizure disorder?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
10. Gonorrhea?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
11. Syphilis?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
12. Chlamydia?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
13. Genital herpes?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		
14. Pelvic infections?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__		

1. HISTORY OF GENERAL MEDICAL CONDITIONS, PROBLEMS, TESTS, AND TREATMENTS DURING THE INDEX PREGNANCY, CONTINUED:

CONDITION/PROBLEM/TEST	AROUND PERIOD OCCURRED AROUND INDEX PREGNANCY						DATE OF ILLNESS		TREATMENT/MEDICATION
	INDEX	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	OR TREATMENT			
15. Treated for cancer with either radiation or chemotherapy?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
16. Dental X-rays during pregnancy?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
17. Other X-rays (e.g., for chest, breast, head, spine, glands, etc.)?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
18. Amniocentesis?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
19. Chorionic villi sampling?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
20. Ultrasound/pictures?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
21. Birth control: pill/oral contraceptive? SPECIFY NAME: _____	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
22. Birth control: sperm. cream/jelly (alone or with condoms, etc.)?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
23. Birth control: other?	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
24. While you were pregnant with [NOIB], did you experience severe nausea or vomiting? SPECIFY: _____	<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No	2 1	2 1	2 1	2 1	From: __/__/__ To: __/__/__			
25. In the month before you became pregnant with [NOIB], how much did you weigh? _____ lbs.								Kilograms [_ . _ . _]	
26. How much weight did you gain or lose during your pregnancy with [NOIB]? Verify gain or loss; use minus sign for a loss. _____ lbs.								Kilograms [_ . _ . _]	
27. MOTHER. Were you born with a birth defect or a physical problem? If yes, what problems? _____						<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No <input type="checkbox"/> -Unknown			
28. FATHER. How about [NOIB'S] father? Was he born with a birth defect or a physical problem? If yes, what problems? _____						<input checked="" type="checkbox"/> -Yes <input type="checkbox"/> -No <input type="checkbox"/> -Unknown			

J. MOTHER'S OCCUPATIONAL HISTORY:

Let's talk about any jobs you may have had in the year before you gave birth to [NOIB]. That would cover the period back to about _____ (insert month) of _____ (insert year), which is about one year before the birth of your child on __ / __ / __ (insert child's date of birth).

1. Did you have any jobs in the year before the birth of your child [NOIB]? [2]-Yes [1]-No

2. (SKIP THIS SECTION IF NO JOBS)

Beginning with your job just before the child's birth, I'd like to ask you about each position you had during that year. It's possible to have several positions with the same employer.

Job #1: What was your job called (its title)? When did you have this job? From: __ / __ to __ / __

JOB TITLE: _____

What was the name and address of the employer? _____ mo. yr. mo. yr.

COMPANY NAME: _____

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____

Describe what your employer did? What did they make?

How many hours did you work in a typical week? [__]-Hours

DESCRIPTION: _____

Job #2: What was your job before that called? When did you have this job? From: __ / __ to __ / __

JOB TITLE: _____

What was the name and address of the employer? _____ mo. yr. mo. yr.

COMPANY NAME: _____

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____

Describe what your employer did? What did they make?

How many hours did you work in a typical week? [__]-Hours

DESCRIPTION: _____

Job #3: What was your job before that called? When did you have this job? From: __ / __ to __ / __

JOB TITLE: _____

What was the name and address of the employer? _____ mo. yr. mo. yr.

COMPANY NAME: _____

NUMBER AND STREET: _____

CITY: _____ COUNTY: _____ STATE: _____

Describe what your employer did? What did they make?

How many hours did you work in a typical week? [__]-Hours

DESCRIPTION: _____

3. Did you have any jobs before the year in which you were pregnant with [NOIB]? [2]-Yes [1]-No

(If Yes) What was your usual job before your pregnancy with [NOIB]? What was that job called?

Describe what you did? What did you make?

DESCRIPTION: _____

(If stopped working at least one year before pregnancy) When did you stop working? __ / __ mo. yr.

K. WORK CHARACTERISTICS AND ACTIVITIES

(If worked in the year before DOIB) Let's talk about some of your work activities around the time you were pregnant with [NOIB].

<u>CHARACTERISTIC/ACTIVITY</u>	<u>AROUND INDEX</u>	<u>PERIOD OCCURRED AROUND INDEX PREGNANCY</u>			
		<u>-3-to-DOC</u>	<u>Trim.#1</u>	<u>Trim.#2</u>	<u>Trim.#3</u>
1. Did you typically work a regular five-day workweek?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
2. Did you typically work the same shift?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
3. Were you often exposed to smoke from you or your co-workers?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
4. Did you work with any machinery that is considered hazardous or dangerous?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
5. Did you work with any chemicals?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
6. Was the noise in the work environment frequently excessive (e.g., to consider protective equipment)?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
7. Was the vibration in the work environment frequently excessive (e.g., to consider protective equipment)?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
8. Was the temperature in the work environment often extremely cold (e.g., to consider protection)?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
9. Was the temperature in the work environment often extremely hot (e.g., to consider protection)?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
10. In your opinion, was your work area poorly ventilated?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					
11. Did you or your co-workers often complain of headaches, dizziness, nausea, eye irritation, etc.?	(2)-Yes (1)-No	2 1	2 1	2 1	2 1
If yes, DESCRIBE:					

K. WORK CHARACTERISTICS AND ACTIVITIES, CONTINUED:

<u>CHARACTERISTIC/ACTIVITY</u>	<u>AROUND</u>	<u>PERIOD OCCURRED AROUND INDEX PREGNANC</u>			
	<u>INDEX</u>	<u>-3-to-DOC</u>	<u>Trim.#1</u>	<u>Trim.#2</u>	<u>Trim.#3</u>
12. While working, did you usually spend four or more hours of your work-day in any of the following activities?					
a. Walking?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
b. Standing (not walking)?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
c. Working with a VDT (computer monitor)?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
d. Working on tasks requiring the same movements over and over (repetitive)?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
13. Did your work involve any of the following activities?					
a. Heavy physical exertion (lifting, pushing, etc.)?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
If any, DESCRIBE:					
b. Exposure to any hazardous (or dangerous) substances, chemicals, or radiation?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
If exposed, DESCRIBE the types of substances:					
c. Administering or preparing chemotherapeutic agents?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
d. Exposure to anesthetic gases?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
e. Exposure to high-voltage electrical currents or power lines?	[2]-Yes [1]-No	2 1	2 1	2 1	2 1
If exposed, DESCRIBE:					

L. SPECIFIC TYPES OF EXPOSURES:

Now, we would like to know if you were exposed to any of the following substances (either during your work activities or from another worker's activities) around the time you were pregnant with (NO18).

<u>SUBSTANCE OF EXPOSURE</u>	<u>AROUND INDEX</u>	<u>PERIOD OCCURRED AROUND INDEX PREGNANCY</u>			
		<u>-3-to-DOC</u>	<u>Trim.#1</u>	<u>Trim.#2</u>	<u>Trim.#3</u>
1. Metals or metal compounds (e.g., lead, mercury, nickel, cadmium chromium, arsenic)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
If yes, DESCRIBE:					
2. Particular chemicals?					
If yes to any below, DESCRIBE:					
a. Drugs or pharmaceuticals?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
b. Chemicals used to develop film?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
c. Hair dyes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
d. Printing dyes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
e. Fabric/yarn (textile) dyes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
f. Other dyes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
g. Grease or oils (e.g., cutting oil, creosote)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
h. Solvents (to dissolve oil, etc. or lubricate/soften)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
i. Chemicals used to make rubber or plastic?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
j. Chemicals used to control insects (insecticides)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
k. Chemicals used to control fungi (fungicides)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
l. Chemicals used to control rodents (rodenticide)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
m. Chemicals used to control plants/pests (herbicides)?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
n. Chemical fertilizers?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1

L. SPECIFIC TYPES OF EXPOSURES, CONTINUED:

SUBSTANCE OF EXPOSURE	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY			
		-3-to-DOC	Trim.#1	Trim.#2	Trim.#3
o. Wood preservatives?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
p. Stains, varnishes, or other wood finishes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
q. Paint, paint products, or paint thinners?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
3. Any other chemicals or chemical products? If yes, DESCRIBE:	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
4. Natural gas, gasoline, or fuel products? If yes, DESCRIBE:	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
5. Sand, stone, glass, clay, or pottery? If yes, DESCRIBE:	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
6. Chemicals used to sterilize instruments? If yes, DESCRIBE:	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
7. Radiation? a. X-rays?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
b. Fluoroscopy?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
c. Radioisotopes?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
d. Atomic/nuclear fuel?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
e. Radar?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
f. Microwaves?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
g. Ultrasound?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1
8. Photocopy or Xerox machines?	[2]-Yes	2	2	2	2
	[1]-No	1	1	1	1

M. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY:

Now, I'd like to ask you some questions about characteristics of the home environment(s) where you lived around the time you were pregnant with [D018]. These characteristics will refer to all of the locations you may have lived in during the period that began with the 3 months just before you became pregnant and ended on [D018].

CHARACTERISTIC/ACTIVITY	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				
		-3-to-00C	Trim.#1	Trim.#2	Trim.#3	
1. Did you frequently use any of the following as sources of heat?						
a. Wood (wood stove)?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
b. Kerosene (space heater)?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
c. Gas stove/oven?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
2. Did you use a gas stove or an indoor gas grill for cooking?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
3. Did your home's water supply come from						
a. a public water system?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
b. a household well?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
c. some other source?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
If yes, SPECIFY:	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
d. Whom did you pay for your home's water (company, city, etc.)?						
e. Was a water filter used in your home?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
If yes, was it located on the tap?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown
If yes, do you know what type and make of filter was used?						
4. For cooking, did you use..						
a. Plain tap water from your home's water supply?	<input checked="" type="checkbox"/> -Yes	2	2	2	2	- Yes
	<input type="checkbox"/> -No	1	1	1	1	- No
	<input type="checkbox"/> -Unk	9	9	9	9	- Unknown

N. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

CHARACTERISTIC/ACTIVITY	AROUND	PERIOD OCCURRED AROUND INDEX PREGNANCY				
	INDEX	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
b. Filtered tap water from your home's water supply?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
c. Bottled water/cooler?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
5. For drinking, did you use..						
a. Plain tap water from your home's water supply?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. Filtered tap water from your home's water supply?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
c. Bottled water/cooler?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
d. [IF USED FILTERED OR BOTTLED WATER FOR COOKING OR DRINKING] Why didn't you always use plain tap water?						
<hr/>						
e. At home, about how many glasses or cups of water or <u>cold</u> beverages made from plain or filtered tap water did you drink each day? This should include <u>any</u> beverages made from concentrate. (DO NOT INCLUDE BEVERAGES MADE FROM BOTTLED WATER)		—	—	—	—	- Number per day
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
f. At home, about how many glasses or cups of <u>hot</u> beverages made from plain or filtered tap water did you drink each day? This should include <u>any</u> beverages made such as coffee or tea. (DO NOT INCLUDE BEVERAGES MADE FROM BOTTLED WATER)		—	—	—	—	- Number per day
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
6. For bathing,						
a. Which did you take more frequently, showers or baths?	[2]-Sh.	2	2	2	2	- Showers
	[1]-Ba.	1	1	1	1	- Baths
	[9]-Unk	9	9	9	9	- Unknown
b. How many times a week did you take a shower or bath with your home's water supply?		—	—	—	—	- Number per week
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
c. How many minutes did you usually stay in the shower or bath?		—	—	—	—	- Minutes per shower/bath
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	

M. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

CHARACTERISTIC/ACTIVITY	AROUND	PERIOD OCCURRED AROUND INDEX PREGNANCY				
	INDEX	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
d. How many minutes did you usually stay in the bathroom after you bathed?		—	—	—	—	- Minutes per shower/bath
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
e. Did the bathroom remain steamy because of poor ventilation?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
7. Did you usually wash dishes by hand?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
8. At work, what kind of water did you drink?						
a. Bottled water?		1	1	1	1	- Bottled
b. Tap water (water cooler)?		2	2	2	2	- Filtered
c. Tap water (plain)?		3	3	3	3	- Tap
d. Other, SPECIFY:		4	4	4	4	- Other
For responses a, b, or d, Why didn't you drink the tap water?		9	9	9	9	- Unknown
e. At work, about how many glasses or cups of water or beverages made from this water did you drink each day? This should include any beverages made such as coffee, tea, or others made from concentrate.		—	—	—	—	- Number per day
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
9. How about some of the following changes or activities?						
a. Moved into a different home?	[2]-Yes	2	2	2	2	- Yes
ASK ONLY IF LOCATIONS AND DATES ARE NOT ALREADY CLEAR.	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. Undertook household improvements or renovations?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, CIRCLE BELOW OR SPECIFY:						
(1). Installed several drapes?	[2]-Yes	2	2	2	2	- Yes
(2). Installed carpets?	[2]-Yes	2	2	2	2	- Yes
(3) Installed paneling?	[2]-Yes	2	2	2	2	- Yes
(4). Installed foam insulation?	[2]-Yes	2	2	2	2	- Yes
(5). Other, SPECIFY:	[2]-Yes	2	2	2	2	- Yes

M. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

CHARACTERISTIC/ACTIVITY	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				
		-3-to-0OC	Trim.#1	Trim.#2	Trim.#5	
c. Used electric blankets or mattress pads?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
d. Used a rug shampoo/cleaner for entire areas of carpeting, not just for isolated spots?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
e. Used oil-based paint/varnish/thinner/ stripper?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
f. Had your hair straightened, permed, colored, or dyed or did any of these to someone else's hair?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
10. Were any pesticides used inside your home? If yes, SPECIFY which:	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
a. Who applied any treatments above (self, other household members, commercial firm, etc.)?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. Was your home treated by a professional exterminator on a regular basis?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
c. Was your home treated for termites?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
d. Was your home treated for ants, roaches, or other insects?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
e. Did you use mothballs, air fresheners, or disinfectants (e.g., Lysol)?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
f. Did you own or have frequent contact with any pets? If yes, SPECIFY:	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
g. Did any pets wear flea collars?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
h. Were any pets treated for fleas or ticks with powders or sprays?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
11. Were any lawn care products applied to your yard? If yes, SPECIFY which:	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown

M. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

CHARACTERISTIC/ACTIVITY	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY					
		-3-to-DOC	Trim.#1	Trim.#2	Trim.#3		
12. Did you use any fertilizers or pesticides on your own garden at home? If yes, SPECIFY which:	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
13. Did you eat fruits or vegetables from your own garden at home?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
14. Did trucks or planes spray for mosquitoes or insects around where you lived?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
15. Was the soil in your yard or garden ever tested for problems (e.g., metals)? Ever: [2]-Yes [1]-No [9]-Unknown	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
If yes, SPECIFY tests, dates, results:							
16. Have you or anyone else in your home ever had a blood test for lead or any other metal? Ever: [2]-Yes [1]-No [9]-Unknown	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
If yes, SPECIFY when, when, results:							
17. During the time around your pregnancy, were you ever within one-half mile of a landfill or a dump? If yes, SPECIFY sites, dates, <u>distance</u> from site, etc.:	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
a. If within one-half mile of a dump, were you ever actually right on the site?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
If yes, SPECIFY what did:							
b. If within one-half mile of a dump, were there any noticeable odors?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
c. If within one-half mile of a dump, did you have any contact with soil from the site?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
d. If within one-half mile of a dump, did you have any contact with water from or on the site?	[2]-Yes	2	2	2	2	- Yes	
	[1]-No	1	1	1	1	- No	
	[9]-Unk	9	9	9	9	- Unknown	
18. In the places you lived in during the time around your pregnancy..							
	a. Were there any facilities (e.g., industries, incinerators, gas stations, dry cleaners, or dumps) that emitted odors strong enough to smell from your home?	[2]-Yes	2	2	2	2	- Yes
		[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown	

M. CHARACTERISTICS OF THE HOME ENVIRONMENT THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

CHARACTERISTIC/ACTIVITY	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				
		-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
If yes, SPECIFY names and types:						
b. Did the air in your neighborhood often have an unusual/unpleasant odor?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE strength, cause, etc.:	[9]-Unk	9	9	9	9	- Unknown
c. How many times a week did you notice an unusual/unpleasant odor?		—	—	—	—	- Number per week
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
d. Did you ever feel ill or sick because of the air in your neighborhood?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE symptoms, etc.:	[9]-Unk	9	9	9	9	- Unknown
e. Did the tap water in your neighborhood often have an unusual/unpleasant taste or smell?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE:	[9]-Unk	9	9	9	9	- Unknown
f. How many times a week did you notice an unusual/unpleasant taste or smell?		—	—	—	—	- Number per week
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
g. Did you ever feel ill or sick because of the tap water in your neighborhood?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE symptoms, etc.:	[9]-Unk	9	9	9	9	- Unknown
19. Were any of the homes you ever lived in tested for radon?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
Ever: [2]-Yes [1]-No [9]-Unknown	[9]-Unk	9	9	9	9	- Unknown
If yes, SPECIFY tests, dates, results:						
20. Were there other sources of chemicals in your home's indoor air that we haven't mentioned?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE	[9]-Unk	9	9	9	9	- Unknown
21. Were there other sources of chemical substances in the immediate neighborhood right around your home that we haven't mentioned?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
If yes, DESCRIBE	[9]-Unk	9	9	9	9	- Unknown
22. Were there electrical high tension wires within 300 feet of your home or property?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
23. Compared to other nearby communities like yours, how much pollution do you think there is in your town?						
(1)-Much less (2)-Somewhat less (3)-About the same (4)-Somewhat more (5)-Much more (9)-Unknown						
24. How likely do you feel it is that you or your family might experience some serious health problems if you lived in an area with a pollution problem such as a toxic waste site, an incinerator, etc.?						
(1)-Very unlikely (2)-Somewhat unlikely (3)-Somewhat likely (4)-Very likely (9)-Unknown						

N. HOBBIES, ARTS, CRAFTS, AND RECREATIONAL ACTIVITIES THROUGHOUT THE INDEX PREGNANCY:

This section about hobbies, arts, crafts, and recreational activities is somewhat similar to the questions about your home environment. We'll talk about some of your leisure-time activities around the time you were pregnant with [D018], during the period that began with the 3 months just before you became pregnant and ended on [D018].

<u>HOBBIES/ARTS/CRAFTS/RECREATIONAL ACTIVITIES</u>	<u>AROUND INDEX</u>	<u>PERIOD OCCURRED AROUND INDEX PREGNANCY</u>				
		<u>-3-to-DOC</u>	<u>Trim.#1</u>	<u>Trim.#2</u>	<u>Trim.#3</u>	
1. Did you participate in any hobbies that might involve chemicals (e.g., developing or printing photos, ceramics, auto repair, etc.)?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, DESCRIBE:						
2. Were any hobbies that might involve chemicals done in the living area of your home by someone else?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, DESCRIBE:						
3. While you were pregnant, did you swim or wade?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, SPECIFY where, when, and frequency:						
4. While you were pregnant, did you eat any fish or shellfish from a nearby river, lake, or stream?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown

If yes, SPECIFY where and when:

0. FOOD, ALCOHOL, AND TOBACCO CONSUMPTION THROUGHOUT THE INDEX PREGNANCY:

Our next set of questions deal with your consumption of food and alcohol from [-3] to [DOI8], around the time you were pregnant with _____ [DOI8]. For alcohol use, we are specifically interested in beer, wine, wine coolers, and hard liquor.

QUESTION	AROUND	PERIOD OCCURRED AROUND INDEX PREGNANCY				
	INDEX	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
1. ALCOHOL:						
a. Did you have one or more drinks a week of beer, wine, wine coolers, or hard liquor?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. How often did you drink?	Never?	1	1	1	1	- Never
	Less than once a week?	2	2	2	2	- < Weekly
	Once a week?	3	3	3	3	- Weekly
	Several times a week, not daily?	4	4	4	4	- Several/week
	Daily?	5	5	5	5	- Daily
	Frequently more than once-a-day?	6	6	6	6	- Frequently
		9	9	9	9	- Unknown
c. Around the time you became pregnant, did you change the number of times a week that you drank? When?	[2]-Yes	2	2	2	2	- Yes, reduced
	[1]-No	1	1	1	1	- No, same
	[9]-Unk	9	9	9	9	- Unknown/DNA
d. How many days a week did you drink beer?		—	—	—	—	- Days
e. When you drank beer, how many cans or glasses did you usually have?		—	—	—	—	- Cans/Glasses
f. How many days a week did you drink wine or wine coolers?		—	—	—	—	- Days
g. When you drank wine or wine coolers, how many glasses did you usually have?		—	—	—	—	- Glasses
h. How many days a week did you drink hard liquor?		—	—	—	—	- Days
i. When you drank hard liquor, how many drinks did you usually have?		—	—	—	—	- Drinks
j. Were there ever occasions when you had five or more drinks of beer, wine, or hard liquor in one sitting?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
2. CAFFEINE:						
a. Did you drink caffeinated beverages such as coffee, tea, or cola?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. Around the time you became pregnant, did you change the amount of coffee that you drank? When?	[2]-Yes	2	2	2	2	- Yes, reduced
	[1]-No	1	1	1	1	- No, same
	[9]-Unk	9	9	9	9	- Unknown/DNA

O. FOOD AND ALCOHOL CONSUMPTION THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

QUESTION	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				
		-3-to-0OC	Trim.#1	Trim.#2	Trim.#3	
c. How many days a week did you drink coffee?		—	—	—	—	- Days
d. When you drank coffee, how many cups did you usually have?		—	—	—	—	- Cups
e. Around the time you became pregnant, did you change the amount of tea that you drank? When?	[2]-Yes	2	2	2	2	- Yes, reduced
	[1]-No	1	1	1	1	- No, same
	[9]-Unk	9	9	9	9	- Unknown
f. How many days a week did you drink caffeinated tea?		—	—	—	—	- Days
g. When you drank caffeinated tea, how many cups did you usually have?		—	—	—	—	- Cups
h. Around the time you became pregnant, did you change the amount of cola that you drank? When?	[2]-Yes	2	2	2	2	- Yes, reduced
	[1]-No	1	1	1	1	- No, same
	[9]-Unk	9	9	9	9	- Unknown/DNA
i. How many days a week did you drink caffeinated colas?		—	—	—	—	- Days
j. When you drank caffeinated colas, how many cans did you usually have?		—	—	—	—	- Cans/Glasses
3. FOOD:						
a. Thinking back over your pregnancy, was a special diet recommended for you by a physician/other health professional?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, SPECIFY:						
b. If a diet was recommended, was it for weight loss?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If no, SPECIFY reason(s):						
c. If a diet was recommended, how closely did you follow it?		1	1	1	1	- Not at all
		2	2	2	2	- Seldom
		3	3	3	3	- Usually
		4	4	4	4	- Closely
		9	9	9	9	- Unknown/DNA
d. Around the time you were pregnant, did you modify your diet on your own?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, SPECIFY modifications:						

D. FOOD AND ALCOHOL CONSUMPTION THROUGHOUT THE INDEX PREGNANCY, CONTINUED:

QUESTION	AROUND INDEX	PERIOD OCCURRED AROUND INDEX PREGNANCY				
		-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	
e. Around the time you were pregnant, were you receiving food stamps?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
f. Around the time you were pregnant, did you participate in the WIC program?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
4. TOBACCO:						
a. Did you use cigarettes, cigars, pipes, snuff, or other tobacco products around the time you were pregnant?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
b. If yes, around the time you became pregnant, did you change the amount of smoking that you did? When?	[2]-Yes	2	2	2	2	- Yes, reduced
	[1]-No	1	1	1	1	- No, same
	[9]-Unk	9	9	9	9	- Unknown/DNA
c. If you smoked, how many days a week did you smoke cigarettes?		—	—	—	—	- Days
d. If you smoked cigarettes, how many a day did you usually have?		—	—	—	—	- Cigarettes
e. If you smoked cigarettes,						
what brand?						
what size?						
filtered?						
f. Did anyone else regularly smoke in your home when you were pregnant?	[2]-Yes	2	2	2	2	- Yes
	[1]-No	1	1	1	1	- No
	[9]-Unk	9	9	9	9	- Unknown
If yes, WHO:						
g. Throughout the entire day, including time at home and at work, how many hours a day were you exposed to smoking?						
	Hours?	—	—	—	—	- Hours per day
	by trimester	-3-to-DOC	Trim.#1	Trim.#2	Trim.#3	

P. STRESS:

Sometimes events can happen which cause stress in a person's life. I'm going to read a list of possible stressful events. Tell me if any of them happened to you between -3 and DOIB.

- | | | | | | |
|-----|--|---------|--------|--|-------------|
| 1. | A change in your job or type of work/job responsibilities? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 2. | Your spouse/partner changed to a new line of work? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 3. | Being laid off or fired from your job; trouble with your boss? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 4. | Your spouse/partner laid off or fired from work? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 5. | Your living conditions changed (e.g., you moved)? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 6. | The addition of a new family member (excluding NOIB)? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 7. | You took out a mortgage or a loan? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 8. | You had financial problems? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 9. | Foreclosure on a mortgage or a loan? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 10. | A major change in the health or behavior of family members? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 11. | Serious illness/accident (excluding complications of pregnancy)? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 12. | In-law troubles? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 13. | Major arguments with your spouse/partner/other significant person (e.g., mother)? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 14. | Sexual problems? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 15. | You or your spouse/partner were arrested? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 16. | Assaulted or beaten up? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 17. | Marriage/reconciliation with your spouse/partner? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 18. | Divorce or separation from your spouse/partner? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 19. | Death of your spouse/partner? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 20. | Death of a close family member or close friend? | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 21. | Other stressful events between -3 and DOIB?
SPECIFY: | [2]-Yes | [1]-No | [8]-No response | [9]-Unknown |
| 22. | When you found out that you were pregnant with (NOIB), how did you feel?
[3]-Happy you were pregnant? [2]-Not happy, but you accepted it?
[8]-No response | | | Would you say you felt...
[1]-Unhappy?
[9]-Unknown | |
| 23. | From -3 to DOIB, were you ever very depressed for several days? | [2]-Yes | [1]-No | [8]-nr | [9]-Unknown |
| 24. | Did your personality change a lot after you became pregnant? | [2]-Yes | [1]-No | [8]-nr | [9]-Unknown |

0. FAMILY INCOME:

Finally, let's ask about your family's ability to obtain medical care around the time of your pregnancy:

1. When you first found out you were pregnant with _____ [NOIB],

a. What was the total yearly income of your family, before taxes? \$ _____

ENTER AMOUNT AFTER PROBING.

How many wage earners were there in the household? _____

How often were they each paid? _____

How much did they take home? _____

b. How many people were supported by this income? _____

c. At that time, did you have any problems paying medical and other bills? [2]-Yes [1]-No

d. Were you unable to get medical help or treatment when you needed them because of any financial difficulties? [2]-Yes [1]-No

If yes, SPECIFY: _____

e. How did you pay your medical bills? Was it by..

Blue Cross/Blue Shield? [2]-Yes [1]-No

HMO? [2]-Yes [1]-No

Medicaid? [2]-Yes [1]-No

Some other source? [2]-Yes [1]-No

SPECIFY: _____

Unable to pay bills at all? [2]-Yes [1]-No

f. At that time, were you receiving benefits from any of the following programs?

Social Security? [2]-Yes [1]-No

AFDC? [2]-Yes [1]-No

Local/general Welfare? [2]-Yes [1]-No

Unemployment Compensation? [2]-Yes [1]-No

Q. FAMILY INCOME, CONTINUED:

2. Later, when you gave birth to _____ (NO1B),

a. What was the total yearly income of your family, before taxes? \$ _____

ENTER AMOUNT AFTER PROBING.

How many wage earners were there in the household? _____

How often were they each paid? _____

How much did they take home? _____

b. How many people were supported by this income? _____

c. At that time, did you have any problems paying medical and other bills? [2]-Yes [1]-No

d. Were you unable to get medical help or treatment when you needed them because of any financial difficulties? [2]-Yes [1]-No

If yes, SPECIFY: _____

e. How did you pay your medical bills? Was it by..

Blue Cross/Blue Shield? [2]-Yes [1]-No

HMO? [2]-Yes [1]-No

Medicaid? [2]-Yes [1]-No

Some other source? [2]-Yes [1]-No

SPECIFY: _____

Unable to pay bills at all? [2]-Yes [1]-No

f. At that time, were you receiving benefits from any of the following programs?

Social Security? [2]-Yes [1]-No

AFDC? [2]-Yes [1]-No

Local/general Welfare? [2]-Yes [1]-No

Unemployment Compensation? [2]-Yes [1]-No

APPENDIX B

APPENDIX B

VARIABLES EVALUATED FOR INCLUSION

MOTHER'S AGE(1): < 23 (ref.), 23-27, 28-32, 33-35, > 35

MOTHER'S AGE(2): < 22 (ref.), 22-34, > 34

MOTHER'S HEIGHT: up to 5 feet (ref.), > 5 ft

MOTHER'S WEIGHT PRIOR
TO CONCEPTION: > 115 - 140 lbs (ref.), up to 115 lbs, > 140 lbs

MOTHER'S RACE: white (ref.), black, "other"

GRAVIDITY: 1 pregnancy (ref), 2-3 pregnancies, > 3 pregnancies

NULLIPAROUS: no (ref.), yes

PREVIOUS MISCARRIAGE: no (ref.), yes

PREVIOUS MISCARRIAGE OR STILLBIRTH: no (ref.), yes

INADEQUATE PRENATAL CARE*: no (ref.), yes

MOTHER'S EDUCATION LEVEL: not a high school graduate (ref.), high school graduate, college graduate

FATHER'S EDUCATION LEVEL: not a high school graduate (ref.), high school graduate, college graduate

FAMILY YEARLY INCOME: up to \$20,000 (ref.), > \$20,000 - \$30,000,
> \$30,000 - \$40,000, > \$40,000

AFDC &/or GENERAL RELIEF &/or FAMILY YEARLY INCOME UP TO \$20,000
&/or FOOD STAMPS &/or MEDICAID: no (ref.), yes

AFDC &/or GENERAL RELIEF &/or FAMILY YEARLY INCOME UP TO \$30,000
&/or FOOD STAMPS &/or MEDICAID &/or SS &/or WIC: no (ref.), yes

MOTHER'S OCCUPATION (a year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): professional/supervisory except nurses (ref.), white collar including nurses, blue collar, student or not working

MOTHER WORKED (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER WORKED WITH CHEMICALS (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER'S WORK INVOLVED WORKING WITH CHEMICALS - chemotherapeutic agents; anesthetic gases; solvents; paints and thinners; chemicals used to produce rubber or plastic; grease or oil; film developers; chemicals used to sterilize instruments (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER WORKED WITH PAINT, VARNISH, WOOD PRESERVATIVES, THINNERS (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER WORKED WITH SOLVENTS (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER WORKED WITH XRAYS, RADIOACTIVE MATERIALS, RADAR, ULTRASOUND (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

MOTHER'S EXPOSURE TO PHYSICAL STRESS ON THE JOB - noise; vibration; excessive heat or cold; repetitive assembly work; standing, walking or heavy exertion most of the workday (one year prior to conception, from 3 months before conception to month of conception, first trimester, during the pregnancy): no (ref.), yes

HOME IMPROVEMENTS (first trimester, later trimesters) - install drapes, carpet, paneling, foam insulation: no (ref.), yes

EXPOSURE TO PASSIVE SMOKE AT HOME (first trimester, later trimesters): no (ref.), yes

HOME PESTICIDE USE - professional or self/family member applications for termites, ants, roaches and other insects, lawn care (first trimester, later trimesters): no (ref.), yes

PETS WITH FLEA COLLARS OR FLEA/TICK TREATMENTS (first trimester, later trimesters): no (ref.), yes

USE OF MOTHBALLS, AIR FRESHNERS OR DISINFECTANTS (first trimester, later trimesters): no (ref.), yes

MOTHER'S HOBBIES INVOLVED USE OF CHEMICALS (first trimester, later trimesters): no (ref.), yes

MOTHER USED PAINTS/THINNERS IN THE HOME (first trimester, later trimesters): no (ref.), yes

MOTHER USED ELECTRIC BLANKET (first trimester, later trimesters): no (ref.), yes

MOTHER EXPOSED TO NEARBY TOXIC WASTE SITE - onsite, came in contact with soil or water from the site, smelled odors (first trimester, later trimesters): no (ref.), yes

MOTHER EXPOSED TO ODORS FROM INDUSTRIAL FACILITIES NEARBY - e.g., dry cleaners, gas stations, incinerators, factory (first trimester, later trimesters): no (ref.), yes

MATERNAL SMOKING (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

CIGARETTES/DAY(1) (3 months prior to conception to conception, first trimester, later trimesters): 0 (ref.), 1-9, 10-19, > 19

CIGARETTES/DAY(2) (3 months prior to conception to conception, first trimester, later trimesters): 0 (ref.), 1-5, 6-10, 11-20, > 20

MOTHER CONSUMED ALCOHOLIC BEVERAGES (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

MOTHER CONSUMED 5 OR MORE ALCOHOLIC BEVERAGES AT ONE SITTING (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

TOTAL AMOUNT OF ALCOHOLIC BEVERAGES CONSUMED IN A WEEK - glasses or bottles per day x days per week (3 months prior to conception to conception, first trimester, later trimesters):
0 (ref.), 1-5, 6-10, > 10.

NUMBER OF DAYS PER WEEK MOTHER CONSUMED ALCOHOLIC BEVERAGES (3 months prior to conception to conception, first trimester, later trimesters):
0 (ref.), 1, 2, 3-4, > 4

MOTHER CONSUMED CAFFEINATED BEVERAGES (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

TOTAL AMOUNT OF CAFFEINATED BEVERAGES CONSUMED PER DAY (3 months prior to conception to conception, first trimester, later trimesters):
0 (ref.), 1-2, 3-4, > 4

SPECIAL DIET WAS RECOMMENDED BY PHYSICIAN/HEALTH PROFESSIONAL (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

EMOTIONAL STRESS DURING PREGNANCY: no (ref.), "low" (job change, new mortgage/loan, move, marriage/reconciliation, addition of new family member besides newborn, other), "medium" (divorce/separated, sexual problems, major arguments with spouse/family, in-law troubles, fired/laid off, financial problems, foreclosure of mortgage/loan, major change in health or behavior of family member), "high" (assaulted/battered, arrested - you/spouse, death of close friend or family member, serious accident/illness)

HIGH FEVERS DURING PREGNANCY - includes chicken pox, hepatitis and flu (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

DIABETES WHILE PREGNANT: no (ref.), yes

EPILEPSY OR SEIZURES WHILE PREGNANT: no (ref.), yes

INFECTIONS WHILE PREGNANT - includes bladder, kidney, UTI, vaginal and cervical: no (ref.), yes

COMPATIBILITY PROBLEMS BETWEEN MOTHER'S AND CHILD'S BLOOD TYPE: no (ref.), yes

TOXEMIA OR PRE-ECLAMPSIA WHILE PREGNANT: no (ref.), yes

TAKE MEDICATIONS WHILE PREGNANT: no (ref.), yes

HIGH BLOOD PRESSURE (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

SERIOUS ACCIDENT/INJURY WHILE PREGNANT: no (ref.), yes

DENTAL OR OTHER XRAYS (3 months prior to conception to conception, first trimester, later trimesters): no (ref.), yes

USED ORAL CONTRACEPTIVE AROUND TIME OF CONCEPTION: no (ref.), yes

USED SPERMICIDE AROUND TIME OF CONCEPTION: no (ref.), yes

MOTHER HAD A BIRTH DEFECT: no (ref.), yes

FATHER HAD A BIRTH DEFECT: no (ref.), yes

MOTHER AND FATHER RELATED BY BLOOD: no (ref.), yes

SEX OF THE CHILD

APPENDIX C

APPENDIX C

BIVARIATE ANALYSIS OF RISK FACTORS AND ADVERSE REPRODUCTIVE OUTCOMES

A. BIRTH DEFECT OUTCOMES

VARIABLE	NEURAL TUBE			MAJOR CARDIAC			ORAL CLEFT		
	OR	95% CI		OR	95% CI		OR	95% CI	
mother's age(1):									
< 23	1.0	-		1.0	-		1.0	-	
23 - 27	0.55	0.19,	1.6	1.01	0.37,	2.8	1.03	0.36,	2.9
28 - 32	0.35	0.12,	1.0	0.93	0.35,	2.5	1.12	0.40,	3.1
33 - 35	0.57	0.17,	1.9	0.86	0.27,	2.7	0.37	0.08,	1.6
> 35	0.55	0.12,	2.5	0.61	0.13,	2.8	0.70	0.15,	3.3
mother's age(2):									
< 22	1.0	-		1.0	-		1.0	-	
22 - 34	0.54	0.19,	1.6	1.83	0.49,	6.8	1.63	0.44,	6.1
> 34	0.29	0.06,	1.4	1.14	0.24,	5.4	0.76	0.15,	4.0
mother's race:									
white	1.0	-		1.0	-		1.0	-	
black	0.52	0.15,	1.9	1.52	0.67,	3.5	0.54	0.17,	1.7
other	-	-		1.31	0.23,	7.4	0.64	0.07,	5.9
gravidity:									
1	1.0	-		1.0	-		1.0	-	
2 - 3	0.41	0.18,	0.9	0.97	0.46,	2.1	1.12	0.52,	2.4
> 3	0.81	0.29,	2.3	1.72	0.68,	4.4	0.71	0.22,	2.3
nulliparous:									
no	1.0	-		1.0	-		1.0	-	
yes	2.04	0.96,	4.3	0.89	0.44,	1.8	1.07	0.52,	2.2
previous miscarriage:									
no	1.0	-		1.0	-		1.0	-	
yes	0.67	0.27,	1.7	1.48	0.76,	2.9	0.84	0.39,	1.8
previous miscarriage or stillbirth:									
no	1.0	-		1.0	-		1.0	-	
yes	0.89	0.39,	2.1	1.43	0.73,	2.8	0.80	0.37,	1.7
inadequate prenatal care:									
no	1.0	-		1.0	-		1.0	-	
yes	1.36	0.49,	3.7	0.84	0.31,	2.3	2.03	0.87,	4.7

* 3 months prior to conception through the first trimester.

<u>VARIABLE</u>	<u>NEURAL TUBE</u>			<u>MAJOR CARDIAC</u>			<u>ORAL CLEFT</u>		
	<u>OR</u>	<u>95% CI</u>		<u>OR</u>	<u>95% CI</u>		<u>OR</u>	<u>95% CI</u>	
mother's education:									
< 12th grade	1.0	-		1.0	-		1.0	-	
high school grad	0.70	0.20,	2.5	0.80	0.27,	2.4	0.68	0.23,	2.1
college grad	0.41	0.10,	1.6	0.27	0.08,	0.9	0.24	0.07,	0.9
father's education:									
< 12th grade	1.0	-		1.0	-		1.0	-	
high school grad	0.56	0.18,	1.8	0.81	0.27,	2.5	0.35	0.13,	1.0
college grad	0.18	0.05,	0.7	0.39	0.12,	1.2	0.22	0.08,	0.6
family annual income:									
= < \$20,000	1.0	-		1.0	-		1.0	-	
>\$20,000-\$30,000	0.51	0.17,	1.5	1.06	0.38,	2.9	1.32	0.49,	3.5
>\$30,000-\$40,000	0.46	0.14,	1.5	1.32	0.47,	3.7	1.10	0.38,	3.2
>\$40,000-\$60,000	0.35	0.12,	1.0	0.71	0.27,	1.9	0.36	0.11,	1.1
> \$60,000	0.32	0.09,	1.1	0.57	0.18,	1.9	0.29	0.07,	1.2
AFDC, (etc.):									
no	1.0	-		1.0	-		1.0	-	
yes	3.14	1.38,	7.2	1.11	0.47,	2.6	1.68	0.74,	3.8
SS/WIC, (etc.):									
no	1.0	-		1.0	-		1.0	-	
yes	2.02	0.97,	4.2	1.29	0.69,	2.4	1.94	1.00,	3.8
mother's occupation*:									
professional/ supervisory	1.0	-		1.0	-		1.0	-	
white collar	1.16	0.41,	3.3	1.81	0.70,	4.6	1.39	0.46,	4.2
blue collar	1.35	0.28,	6.5	0.77	0.14,	4.4	2.70	0.64,	11.4
student/ unemployed	1.46	0.49,	4.4	1.88	0.69,	5.1	3.36	1.13,	10.0
mother worked*:									
no	1.0	-		1.0	-		1.0	-	
yes	1.21	0.52,	2.8	0.97	0.49,	1.9	0.38	0.19,	0.8
mother worked with chemicals*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.65	0.14,	3.1	1.36	0.48,	3.9	2.22	0.84,	5.9

* 3 months prior to conception through the first trimester.

<u>VARIABLE</u>	<u>NEURAL TUBE</u>		<u>MAJOR CARDIAC</u>		<u>ORAL CLEFT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
mother's work involved chemicals*:						
no	1.0	-	1.0	-	1.0	-
yes	1.45	0.53, 4.0	1.14	0.41, 3.2	1.58	0.59, 4.2
mother's work involved paints*:						
no	1.0	-	1.0	-	1.0	-
yes	0.81	0.17, 3.9	0.58	0.18, 1.8	0.92	0.24, 3.5
mother's work involved solvents*:						
no	1.0	-	1.0	-	1.0	-
yes	1.05	0.21, 5.3	1.42	0.40, 5.1	0.38	0.05, 3.2
mother's work involved radiation*:						
no	1.0	-	1.0	-	1.0	-
yes	0.73	0.08, 6.4	0.48	0.05, 4.2	-	-
mother's work involved physical stress*:						
no	1.0	-	1.0	-	1.0	-
yes	0.97	0.47, 2.0	0.55	0.29, 1.0	0.58	0.30, 1.1
home improve- ments*:						
no	1.0	-	1.0	-	1.0	-
yes	0.50	0.11, 2.3	1.25	0.47, 3.3	-	-
passive smoking*:						
no	1.0	-	1.0	-	1.0	-
yes	1.21	0.58, 2.5	1.27	0.67, 2.4	1.24	0.63, 2.4
home pesticide use*:						
no	1.0	-	1.0	-	1.0	-
yes	0.50	0.22, 1.1	0.94	0.50, 1.8	0.65	0.33, 1.3

* 3 months prior to conception through the first trimester.

VARIABLE	NEURAL TUBE			MAJOR CARDIAC			ORAL CLEFT		
	OR	95% CI		OR	95% CI		OR	95% CI	
pets with flea/tick treatment*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.51	0.17,	1.6	0.41	0.15,	1.1	0.71	0.29,	1.7
household use of mothballs/disinfectants*:									
no	1.0	-		1.0	-		1.0	-	
yes	1.01	0.45,	2.3	1.37	0.65,	2.9	0.93	0.45,	1.9
mother's hobbies involved use of chemicals*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.65	0.14,	3.1	0.42	0.09,	2.0	0.74	0.20,	2.8
mother used paint in home*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.81	0.17,	3.9	1.09	0.32,	3.7	0.92	0.24,	3.5
mother used electric blanket*:									
no	1.0	-		1.0	-		1.0	-	
yes	-	-		0.97	0.18,	5.2	0.55	0.06,	4.8
mother exposed to nearby toxic waste dump*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.35	0.04,	2.8	2.1	0.78,	5.6	-	-	
mother exposed to industrial odors*:									
no	1.0	-		1.0	-		1.0	-	
yes	1.44	0.55,	3.7	1.68	0.75,	3.7	0.70	0.25,	2.0
maternal smoking*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.75	0.33,	1.7	0.84	0.41,	1.7	1.28	0.65,	2.5

* 3 months prior to conception through the first trimester.

<u>VARIABLE</u>	<u>NEURAL TUBE</u>			<u>MAJOR CARDIAC</u>			<u>ORAL CLEFT</u>		
	<u>OR</u>	<u>95% CI</u>		<u>OR</u>	<u>95% CI</u>		<u>OR</u>	<u>95% CI</u>	
cigarettes/ day(1)*:									
0	1.0	-		1.0	-		1.0	-	
1 - 9	1.15	0.22,	6.1	2.25	0.68,	7.4	2.50	0.71,	8.8
10 - 19	1.26	0.37,	4.3	0.61	0.16,	2.3	1.64	0.56,	4.8
> 19	0.60	0.21,	1.7	0.54	0.22,	1.3	0.83	0.34,	2.0
cigarettes/ day(2)*:									
0	1.0	-		1.0	-		1.0	-	
1 - 5	0.61	0.13,	2.9	1.13	0.27,	4.7	1.00	0.19,	5.2
6 - 10	0.72	0.19,	2.7	1.41	0.43,	4.6	2.63	0.88,	7.8
11 - 20	0.67	0.14,	3.2	0.61	0.23,	1.6	0.68	0.24,	2.0
> 20	-	-		0.45	0.09,	2.1	1.50	0.47,	4.7
maternal alcohol consumption*:									
no	1.0	-		1.0	-		1.0	-	
yes	1.33	0.61,	2.9	1.02	0.50,	2.1	1.00	0.48,	2.1
consumption of 5 or more alcoholic drinks in one setting*:									
no	1.0	-		1.0	-		1.0	-	
yes	0.81	0.17,	3.9	1.51	0.52,	4.4	1.60	0.51,	5.0
total amount of alcoholic drinks per week*:									
0	1.0	-		1.0	-		1.0	-	
1 - 5	0.64	0.27,	1.5	0.54	0.26,	1.1	0.44	0.19,	1.0
6 - 10	0.60	0.12,	2.9	0.38	0.08,	1.8	0.82	0.24,	2.8
> 10	0.50	0.10,	2.4	0.63	0.19,	2.1	0.17	0.02,	1.4
days per week mother consumed alcoholic beverages*:									
0	1.0	-		1.0	-		1.0	-	
1	0.58	0.20,	1.7	0.56	0.23,	1.4	0.23	0.06,	0.8
2	1.15	0.37,	3.6	0.84	0.29,	2.4	1.06	0.39,	2.9
3 - 4	0.50	0.13,	1.9	0.20	0.04,	0.9	0.33	0.09,	1.2
> 4	0.30	0.04,	2.5	0.36	0.08,	1.7	0.20	0.02,	1.6

<u>VARIABLE</u>	<u>NEURAL TUBE</u>		<u>MAJOR CARDIAC</u>			<u>ORAL CLEFT</u>		
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>		<u>OR</u>	<u>95% CI</u>	
mother consumed caffeinated beverages*:								
no	1.0	-	1.0	-		1.0	-	
yes	1.28	0.49, 3.4	0.65	0.33, 1.3		1.10	0.48, 2.5	
total amount of caffeinated beverages per day*:								
0	1.0	-	1.0	-		1.0	-	
1 - 2	1.28	0.51, 3.2	0.61	0.28, 1.3		0.88	0.30, 2.5	
3 - 4	0.90	0.29, 2.8	0.99	0.43, 2.3		1.19	0.42, 3.3	
> 4	1.86	0.56, 6.2	1.03	0.36, 3.0		0.68	0.22, 2.1	
special diet*:								
no	1.0	-	1.0	-		1.0	-	
yes	0.24	0.03, 1.9	2.44	1.07, 5.5		1.22	0.44, 3.4	
emotional stress:								
no	1.0	-	1.0	-		1.0	-	
"low"	0.45	0.12, 1.7	0.71	0.26, 1.9		0.95	0.34, 2.7	
"medium"	1.28	0.46, 3.6	1.25	0.52, 3.0		1.32	0.52, 3.4	
"high"	1.06	0.36, 3.1	0.74	0.28, 1.9		0.68	0.24, 1.9	
high fevers*:								
no	1.0	-	1.0	-		1.0	-	
yes	2.61	0.99, 6.9	2.86	1.23, 6.6		1.32	0.47, 3.7	
diabetes:								
no	1.0	-	1.0	-		1.0	-	
yes	3.91	0.76, 20.3	4.35	1.00, 18.9		1.89	0.31, 11.6	
epilepsy or seizures:								
no	1.0	-	1.0	-		1.0	-	
yes	-	-	2.48	0.34, 18.1		2.85	0.39, 20.8	
infections:								
no	1.0	-	1.0	-		1.0	-	
yes	1.02	0.42, 2.5	1.61	0.80, 3.2		1.48	0.70, 3.1	
blood compatibility:								
no	1.0	-	1.0	-		1.0	-	
yes	0.35	0.04, 2.8	1.24	0.40, 3.8		0.82	0.22, 3.1	
toxemia:								
no	1.0	-	1.0	-		1.0	-	
yes	2.40	0.82, 7.2	0.71	0.19, 2.7		0.82	0.22, 3.1	

<u>VARIABLE</u>	<u>NEURAL TUBE</u>		<u>MAJOR CARDIAC</u>		<u>ORAL CLEFT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
medications:						
no	1.0	-	1.0	-	1.0	-
yes	0.79	0.38, 1.6	1.63	0.85, 3.1	1.32	0.68, 2.6
high blood pressure*:						
no	1.0	-	1.0	-	1.0	-
yes	3.75	0.23, 61.4	5.00	0.44, 56.3	2.80	0.17, 46.0
serious accident:						
no	1.0	-	1.0	-	1.0	-
yes	1.94	0.55, 6.8	1.92	0.63, 5.8	2.23	0.73, 6.8
dental or other x-rays*:						
no	1.0	-	1.0	-	1.0	-
yes	1.05	0.21, 5.3	0.71	0.31, 1.6	0.78	0.16, 3.9
use of oral contraceptives:						
no	1.0	-	1.0	-	1.0	-
yes	1.36	0.46, 4.1	0.49	0.14, 1.8	0.57	0.16, 2.1
use of spermicides:						
no	1.0	-	1.0	-	1.0	-
yes	0.60	0.22, 1.7	0.74	0.32, 1.7	0.64	0.26, 1.6
mother had a birth defect:						
no	1.0	-	1.0	-	1.0	-
yes	0.35	0.08, 1.6	0.88	0.35, 2.2	0.86	0.32, 2.3
father had a birth defect:						
no	1.0	-	1.0	-	1.0	-
yes	1.50	0.28, 8.1	2.02	0.52, 7.8	1.71	0.39, 7.4
sex of the child:						
male	1.0	-	1.0	-	1.0	-
female	2.02	0.96, 4.3	1.07	0.57, 2.0	0.92	0.48, 1.8

APPENDIX C

BIVARIATE ANALYSIS OF RISK FACTORS AND ADVERSE REPRODUCTIVE OUTCOMES

B. LOW BIRTHWEIGHT OUTCOMES

<u>VARIABLE</u>	<u>VERY LOW BIRTHWEIGHT</u>		<u>INTERMEDIATE LOW BIRTHWEIGHT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
mother's age(1):				
< 23	1.0	-	1.0	-
23 - 27	1.17	0.48, 2.8	0.95	0.41, 2.2
28 - 32	1.04	0.43, 2.5	1.26	0.56, 2.8
33 - 35	1.09	0.40, 3.0	0.73	0.27, 2.0
> 35	1.64	0.55, 4.9	1.07	0.36, 3.2
mother's age(2):				
< 22	1.0	-	1.0	-
22 - 34	0.83	0.33, 2.1	0.80	0.33, 1.9
> 34	0.83	0.28, 2.5	0.73	0.25, 2.1
mother's height:				
= < 5 feet	1.0	-	1.0	-
> 5 feet	0.97	0.38, 2.5	2.46	1.15, 5.3
mother's weight before conception:				
> 115 - 140 lbs	1.0	-	1.0	-
= < 115 lbs	1.86	0.94, 3.7	2.11	1.13, 3.9
> 140 lbs	2.09	1.13, 3.9	1.40	0.76, 2.6
mother's race:				
white	1.0	-	1.0	-
black	2.28	1.19, 4.4	1.78	0.93, 3.4
other	0.68	0.13, 3.6	0.82	0.19, 3.5
gravidity:				
1	1.0	-	1.0	-
2 - 3	0.84	0.45, 1.6	0.83	0.46, 1.5
> 3	2.15	1.01, 4.6	1.57	0.75, 3.3
nulliparous:				
no	1.0	-	1.0	-
yes	0.90	0.50, 1.6	1.02	0.59, 1.8
previous miscarriage:				
no	1.0	-	1.0	-
yes	1.37	0.78, 2.4	1.25	0.72, 2.2
previous miscarriage or stillbirth:				
no	1.0	-	1.0	-
yes	1.58	0.91, 2.8	1.31	0.76, 2.2

<u>VARIABLE</u>	<u>VERY LOW BIRTHWEIGHT</u>		<u>INTERMEDIATE LOW BIRTHWEIGHT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
inadequate prenatal care:				
no	1.0	-	1.0	-
yes	1.34	0.65, 2.8	1.93	0.99, 3.7
mother's education:				
< 12th grade	1.0	-	1.0	-
high school grad	0.48	0.20, 1.1	0.80	0.33, 1.9
college grad	0.45	0.19, 1.1	0.60	0.24, 1.5
father's education:				
< 12th grade	1.0	-	1.0	-
high school grad	0.77	0.30, 2.0	0.63	0.26, 1.5
college grad	0.41	0.16, 1.1	0.39	0.16, 0.96
family annual income:				
= < \$20,000	1.0	-	1.0	-
>\$20,000 - \$30,000	0.50	0.20, 1.2	0.79	0.35, 1.8
>\$30,000 - \$40,000	0.73	0.30, 1.8	0.94	0.40, 2.2
>\$40,000 - \$60,000	0.52	0.23, 1.2	0.72	0.34, 1.6
> \$60,000	0.87	0.38, 2.0	0.70	0.30, 1.6
AFDC, (etc.):				
no	1.0	-	1.0	-
yes	1.86	0.98, 3.5	1.45	0.76, 2.7
SS/WIC, (etc.):				
no	1.0	-	1.0	-
yes	1.27	0.75, 2.1	1.09	0.66, 1.8
mother's occupation*:				
professional/supervisory	1.0	-	1.0	-
white collar	0.90	0.46, 1.8	0.71	0.37, 1.4
blue collar	0.58	0.18, 1.9	0.73	0.25, 2.1
student/unemployed	0.82	0.39, 1.7	0.85	0.42, 1.7
mother worked*:				
no	1.0	-	1.0	-
yes	1.36	0.75, 2.5	1.10	0.63, 1.9
mother worked with chemicals*:				
no	1.0	-	1.0	-
yes	0.77	0.28, 2.2	0.96	0.35, 2.7

* during most of the pregnancy

<u>VARIABLE</u>	<u>VERY LOW BIRTHWEIGHT</u>		<u>INTERMEDIATE LOW BIRTHWEIGHT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
mother's work involved chemicals*:				
no	1.0	-	1.0	-
yes	0.73	0.33, 1.6	1.72	0.89, 3.3
mother's work involved paints*:				
no	1.0	-	1.0	-
yes	0.63	0.19, 2.1	1.15	0.49, 2.7
mother's work involved solvents*:				
no	1.0	-	1.0	-
yes	0.72	0.13, 4.0	0.61	0.15, 2.5
mother's work involved radiation*:				
no	1.0	-	1.0	-
yes	0.28	0.03, 2.5	-	-
mother's work involved physical stress*:				
no	1.0	-	1.0	-
yes	0.64	0.38, 1.1	1.17	0.71, 1.9
home improve- ments*:				
no	1.0	-	1.0	-
yes	0.36	0.12, 1.12	0.93	0.50, 1.7
passive smoking*:				
no	1.0	-	1.0	-
yes	0.96	0.56, 1.7	1.50	0.90, 2.5
home pesticide use*:				
no	1.0	-	1.0	-
yes	1.13	0.67, 1.9	0.98	0.60, 1.6

* during most of the pregnancy

<u>VARIABLE</u>	VERY LOW BIRTHWEIGHT		INTERMEDIATE LOW BIRTHWEIGHT	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
pets with flea/tick treatment*:				
no	1.0	-	1.0	-
yes	1.30	0.69, 2.4	1.25	0.68, 2.3
household use of mothballs/disinfectants*:				
no	1.0	-	1.0	-
yes	0.93	0.53, 1.6	1.32	0.75, 2.3
mother's hobbies involved use of chemicals*:				
no	1.0	-	1.0	-
yes	0.51	0.16, 1.7	-	-
mother used paint in home*:				
no	1.0	-	1.0	-
yes	0.42	0.15, 1.2	1.87	0.93, 3.8
mother used electric blanket*:				
no	1.0	-	1.0	-
yes	1.16	0.30, 4.4	1.70	0.57, 5.1
mother exposed to nearby toxic waste dump*:				
no	1.0	-	1.0	-
yes	0.56	0.17, 1.8	1.27	0.53, 3.0
mother exposed to industrial odors*:				
no	1.0	-	1.0	-
yes	0.70	0.31, 1.6	1.14	0.57, 2.3
maternal smoking*:				
no	1.0	-	1.0	-
yes	0.77	0.44, 1.4	1.65	0.96, 2.8

* during most of the pregnancy

VARIABLE	VERY LOW BIRTHWEIGHT			INTERMEDIATE LOW BIRTHWEIGHT		
	OR	95% CI		OR	95% CI	
cigarettes/ day(1)*:						
0	1.0	-		1.0	-	
1 - 9	0.49	0.18,	1.3	1.41	0.67,	3.0
10 - 19	0.66	0.19,	2.2	2.12	0.83,	5.4
> 19	0.66	0.16,	2.7	1.65	0.53,	5.1
cigarettes/ day(2)*:						
0	1.0	-		1.0	-	
1 - 5	0.68	0.24,	1.9	2.04	0.83,	5.0
6 - 10	0.36	0.11,	1.1	1.19	0.51,	2.8
11 - 20	0.47	0.12,	1.8	2.26	0.71,	7.2
> 20	0.42	0.04,	4.1	1.41	0.28,	7.2
maternal alcohol consumption*:						
no	1.0	-		1.0	-	
yes	1.31	0.74,	2.3	0.79	0.44,	1.4
consumption of 5 or more alcoholic drinks in one setting*:						
no	1.0	-		1.0	-	
yes	5.98	0.66,	54.3	3.79	0.39,	37.0
total amount of alcoholic drinks per week*:						
0	1.0	-		1.0	-	
1 - 5	0.62	0.33,	1.1	0.73	0.42,	1.3
6 - 10	1.35	0.54,	3.4	0.63	0.22,	1.8
> 10	0.34	0.09,	1.3	0.38	0.12,	1.2
days per week mother consumed alcoholic beverages*:						
0	1.0	-		1.0	-	
1	0.60	0.29,	1.2	0.83	0.44,	1.6
2	1.29	0.56,	3.0	0.70	0.28,	1.7
3 - 4	0.35	0.12,	1.0	0.24	0.08,	0.74
> 4	0.48	0.14,	1.6	0.61	0.21,	1.8

* during most of the pregnancy

<u>VARIABLE</u>	VERY LOW BIRTHWEIGHT		INTERMEDIATE LOW BIRTHWEIGHT	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
mother consumed caffeinated beverages*:				
no	1.0	-	1.0	-
yes	1.26	0.70, 2.3	0.89	0.52, 1.5
total amount of caffeinated beverages per day*:				
0	1.0	-	1.0	-
1 - 2	1.68	0.85, 3.3	1.17	0.62, 2.2
3 - 4	1.46	0.67, 3.2	1.21	0.59, 2.5
> 4	1.51	0.58, 3.9	1.90	0.82, 4.4
special diet*:				
no	1.0	-	1.0	-
yes	1.18	0.52, 2.6	2.37	1.18, 4.7
emotional stress:				
no	1.0	-	1.0	-
"low"	1.06	0.46, 2.5	0.92	0.41, 2.0
"medium"	1.55	0.71, 3.4	1.32	0.63, 2.7
"high"	0.92	0.40, 2.1	0.95	0.44, 2.1
high fevers*:				
no	1.0	-	1.0	-
yes	1.78	0.82, 3.8	2.18	1.06, 4.5
diabetes:				
no	1.0	-	1.0	-
yes	-	-	2.25	0.64, 7.9
epilepsy or seizures:				
no	1.0	-	1.0	-
yes	0.72	0.06, 8.0	0.62	0.06, 6.9
infections:				
no	1.0	-	1.0	-
yes	1.01	0.54, 1.9	1.21	0.67, 2.2
blood compatibility:				
no	1.0	-	1.0	-
yes	0.71	0.23, 2.1	1.13	0.44, 2.9

* during most of the pregnancy

<u>VARIABLE</u>	<u>VERY LOW BIRTHWEIGHT</u>		<u>INTERMEDIATE LOW BIRTHWEIGHT</u>	
	<u>OR</u>	<u>95% CI</u>	<u>OR</u>	<u>95% CI</u>
toxemia:				
no	1.0	-	1.0	-
yes	1.82	0.78, 4.2	2.22	1.00, 4.9
medications:				
no	1.0	-	1.0	-
yes	0.70	0.42, 1.2	0.81	0.49, 1.3
high blood pressure*:				
no	1.0	-	1.0	-
yes	9.74	2.13, 44.6	3.34	1.40, 7.9
serious accident:				
no	1.0	-	1.0	-
yes	0.96	0.33, 2.8	1.41	0.55, 3.6
dental or other x-rays*:				
no	1.0	-	1.0	-
yes	0.61	0.15, 2.4	0.70	0.20, 2.4
use of oral contraceptives:				
no	1.0	-	1.0	-
yes	1.65	0.74, 3.7	1.38	0.62, 3.1
use of spermicides:				
no	1.0	-	1.0	-
yes	0.41	0.18, 0.9	0.71	0.37, 1.4
mother had a birth defect:				
no	1.0	-	1.0	-
yes	0.06	0.01, 0.5	0.40	0.16, 1.0
father had a birth defect:				
no	1.0	-	1.0	-
yes	1.81	0.54, 6.1	2.10	0.67, 6.6
sex of the child:				
male	1.0	-	1.0	-
female	0.76	0.45, 1.3	1.67	1.01, 2.8

* during most of the pregnancy