Acreage Community Case-Control Data Analysis

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Executive Summary

A case-control study was conducted in the Acreage Community to determine if there is an association between potential risk factors and pediatric brain tumors among study participants. Cases included individuals under the age of 20 at the time of diagnosis living in the study area who developed a brain tumor between 1994 and 2008. Controls were identified from the same community and matched to the case participants by gender and age (+/- 24 months). A detailed questionnaire was administered to the cases and controls. The questionnaire covered a variety of topics related to potential risk factors picked from the scientific literature, other similar studies, and concerns from residents in the study area. Data from the questionnaire responses were entered into a database. One hundred seventy-one categorical variables and one continuous variable were constructed and analyzed in response to two study questions:

1. Is exposure to the potential risk factors outlined in the questionnaire associated with the development of pediatric brain tumors among study participants?
2. Is the amount of time exposed to the study area ("duration of residency" or "exposure time") associated with the development of pediatric brain tumor among study participants?

Among 171 categorical variables investigated in this study, the percentage of children exposed to seven variables was identified as statistically different between study participants without brain tumors (controls) and participants with pediatric brain tumors (cases) using two tests of statistical significance. For all seven variables, a higher proportion of controls reported the exposure in question compared to cases. Therefore, although the associations observed were statistically significant based on at least one of the two tests, the findings of greater exposures to potential risk factors among controls are not relevant.

The control participants had a much longer average time living in the Acreage area compared to the case participants. Therefore, having a longer duration of residency was not a risk factor for development of a pediatric brain tumor in the Acreage area. Including gestational exposure time did not change this conclusion.

The findings from the analysis of the case-control data do not indicate any significant and relevant associations between the potential risk factors and the development of pediatric brain tumors among study participants. None of the 172 factors investigated in the study was identified as a risk factor of pediatric brain tumor among study participants in the Acreage Community.

Background

A case-control study is an epidemiological study design used to identify factors that may contribute to an outcome (in this case, pediatric brain tumor) by comparing information from those with the outcome ("cases") to those without the outcome ("controls"). The term "brain tumor" used in this report includes both malignant tumors (also known as brain cancer) and benign or borderline tumors. Case-control studies compare the occurrence of disease among those who were and were not exposed to a suspected risk factor and measure the association between exposure to a suspected risk factor and the disease outcome in question. Controls can be "matched" to cases based on specific criteria. For the Acreage Community (AC) case-control study, cases and controls were matched on gender and age (+/- about 24 months). This type of study is used frequently and, as with any study design, has advantages and disadvantages. Case-control studies can be conducted relatively inexpensively and are ideally suited for studying rare events. In addition, multiple exposures potentially associated with the outcome can be examined using case-control studies. However, using a case-control study design does not permit a calculation of disease risk for a given exposure group.

Cases and Controls

The AC case-control study consisted of all children identified with a childhood brain tumor (N=13, participation rate=100%) and 13 controls. The AC area was defined in the initial report issued by the Florida Department of Health dated August 2009 and is not described in this report. Cases were defined as those with brain tumors diagnosed from 1994 to 2008 who were under the age of 20 at the time of diagnosis, living in the AC area before the diagnosis. Twelve cases were classified as malignant tumor (cancer) and one case was classified as benign or borderline tumor.

The cases consisted of four males and nine females. The average age at diagnosis was 11.3 years of age (median=11.9 years of age) and ranged from six months to 19 years of age.

Controls were matched to the cases based on age (+/- 24 months) and gender. Controls were primarily chosen from two groups within the AC. Group 1, containing 12 addresses, consisted of households that had undergone environmental sampling by the Florida Department of Environmental Protection (FDEP) based on their proximity to case addresses. Group 2 consisted of 51 addresses that had undergone environmental sampling by FDEP in the summer and fall of 2009 as part of the initial sampling plan to describe and detect contaminants in the community. Of the 12 households within Group 1, 10 households could be reached, seven households with a total of 15 children agreed on possible participation, and four households (representing four children) were selected and interviewed based on age and gender of the children in the household. Of the 51 addresses in Group 2, 40 households could be reached, 21 households with a total of 44 children agreed to possible participation and 10 households (representing 10 children) were selected for interviews based on age and gender of the children in the household. Of these initial 10 controls, two declined at the time of the interview and only one additional control could be located who met the case match criteria. No other controls (from households in the sampling frame) could be located that matched the remaining case and this last additional control was chosen from the AC based on knowledge of the age and gender of the family's children. Successful recruitment of 13 controls had been resource intensive and had taken months to complete. Additional controls such as those

needed for a 1:2 or 1:3 match were not pursued given the considerable delays in time needed to recruit matched controls, and the additional delays and resources involved to complete environmental sampling on these new addresses so that all case and control families had undergone similar environmental assessments.

Questionnaire Items and Variable Construction

The case and control families were asked to complete a lengthy questionnaire to assess a number of potential risk factors. Responding to each item of the questionnaire was voluntary and participants could chose to respond or not respond to any item on the questionnaire. A copy of the questionnaire is included Appendix I of this report.

From this questionnaire, one continuous risk variable and 171 categorical risk variables were created. The categorical risk variables had two response options: (1) yes, there was a known exposure; (2) no, there was not a known exposure. The continuous risk variable had a numeric value based on the number of months of residency in the AC area. The variables were created to respond to two main questions:

1. Is exposure to the potential risk factors outlined in the questionnaire associated with the development of pediatric brain tumors among study participants?
2. Is the amount of time exposed to the study area ("duration of residency" or "exposure time") associated with the development of pediatric brain tumors among study participants?

Some variables were created from a single item, such as 'the child received the MMR vaccine', while other variables were created from multiple items, such as 'the child was exposed to solvents via any adult living in the household or any adult to which the child has significant contact' (typically up to three adults).

The length of residency is defined as the length of time the cases and controls lived in and were exposed to the environment of the AC. We compared the length of residency in the AC between cases and controls to examine if living in the AC is a risk factors associated with brain tumors. The length of residency was expressed in months. The length of residency was calculated from the time when a child began to live in the AC area (for some children, this was the date of birth) to the time when the child was diagnosed with a brain tumor (for cases). For controls the length of residency was calculated from the time when the child began to live in the AC (for some children, this was the date of birth) to December 2008 when the last case was diagnosed and the study period ended.

Three cases and three controls had gestational exposure to the Acreage area. Adding the months of gestational exposure to the total exposure time did not change the conclusion based on evaluating the association between duration of exposure to the AC area and development of a pediatric brain tumor.

It should be noted that not all case and control families responded to all items on the questionnaire. "Unknown", "don't know" and "refused" responses were considered as "missing" and not included in the analyses. Therefore, some analyses had fewer than 13 responses from the cases and controls. Items for which responses were not given were categorized as missing because the assumption that there was no known exposure cannot be made. Similarly, if a response is not given, the assumption that there was an exposure cannot be made.

Categorical Data Analysis

The results of the analysis of the 171 categorical variables are included in Appendix II. The variables were constructed to indicate whether there is any known exposure to the potential risk factor in question and are based on responses to the case-control study questionnaire. If an association is found using the categorical variables, further analyses are warranted to better describe this association. To determine if further analyses are warranted, one must determine whether the association observed is relevant.

Relevance of an observed association is judged based upon current scientific knowledge. For example, if the odds of exposure to substance X is higher among cases compared to controls and the current science indicates that there is a plausible relationship between exposure and the development of disease, then the finding is relevant.

Statistical Calculations

For a case-control study, investigators identify individuals with the disease (cases) and those without the disease (controls). Investigators then go back in time to determine whether the exposures in question were present or absent for each individual. Typically, odds ratios (OR) are calculated if there are sufficient numbers of matched pairs of cases and controls (usually 25 or more matched pairs). The small number (13) of matched case-control pairs limits our ability to calculate statistically reliable ORs. Increasing the number of controls was not possible given the limitations in finding adequate matches for cases in the existing pool of addresses in the AC with children matching case age and gender and addresses which had been environmentally sampled to date.

Chi-square tests are used to test for statistically significant association between two variables. Chi-square compares the observed frequencies in each category of the variables with the expected frequencies and assesses whether the deviations between the observed and the expected counts are too large to be attributed to chance. Each chi-square value has a corresponding p-value. The p-value quantifies the degree of certainty. Typically, a p-value of less than 0.05 is considered statistically significant. The chi-square p-value is the probability of obtaining a chi-square value as extreme as the calculated chi-square, based on the observed ORs. Using a cut-point of 0.05 means there is a less than 5% chance of obtaining an OR as extreme as the observed OR by chance.

The analysis approach for the AC case-control study used two types of chi-square analyses: chi-square and McNemar's chi-square. Chi-square is the test of significance typically used for categorical data. McNemar's chi-square is a type of chi-square test used for matched data and has a slightly different mathematical formula and is preferred for small sample sizes. The AC case-control study used matched cases and controls; therefore, McNemar's chi-square is the preferred statistical test. However, low numbers of matched responses prevented the calculation of the McNemar chi-square and p-value for some variables. The chi-square test was performed to provide some insight when the McNemar's chi-square was unable to provide a meaningful test due to the small number of matched pairs.

Appendix II contains the full report of all variables and calculated chi-square p-values. Columns where the chi-square p-values or the McNemar's chi-square p-values are missing indicate that these statistics could not be calculated either due to missing data

or due to 100% of cases or controls having the same response. The table in Appendix II contains the percentage of cases responding positively to the exposure, the percentage of controls responding positively to the exposure, the chi-square p-value, and McNemar's chi-square p-value. All statistically significant p-values are indicated with yellow highlight. The variables were grouped into categories for display purposes.

Statistically Significant Results

In total, statistically significant associations between seven potential risk factors and the development of pediatric brain tumor were found among study participants, based on either non-preferred or McNemar's p-values. Each of these associations is explained in detail below. Please note that, for each potential risk factor, a higher proportion of the controls, not cases, were exposed. Relevance is discussed where appropriate.

1. **Any known child exposure to natural bodies of water (not including swimming pools) for swimming**
    a. Percentage of cases exposed: 8.3
    b. Percentage of controls exposed: 50.0
    c. Chi-square p-value: 0.0247
    d. McNemar's p-value: 0.0625

    For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. The non-preferred chi-square p-value is less than 0.05, indicating statistical significance. McNemar's chi-square p-value is greater than 0.05, indicating that the association is not statistically significant for matched cases and controls. Given that the preferred measure of statistical significance is available, we conclude that a statistically significant association was not observed between this potential risk factor and the development of pediatric brain tumors among study participants.

2. **Any known child exposure to rodenticides**
    a. Percentage of cases exposed: 0.0
    b. Percentage of controls exposed: 33.3
    c. Chi-square p-value: 0.0285
    d. McNemar's p-value: unable to calculate

    For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. The non-preferred chi-square p-value is less than 0.05. McNemar's chi-square could not be calculated because no cases had a known exposure. Although this association is statistically significant using the non-preferred chi-square, the association is not relevant. The existing pediatric tumor literature does not indicate that exposure to rodenticides is protective for the development of pediatric brain tumors.

3. **Child received Salk polio vaccine**
    a. Percentage of cases exposed: 50.0
    b. Percentage of controls exposed: 100.0
    c. Chi-square p-value: 0.0455
    d. McNemar's p-value: unable to calculate

For this variable, the proportion of controls who had the exposure is higher than the proportion of cases with the exposure. The non-preferred chi-square p-value is less than 0.05. McNemar's chi-square could not be calculated because no cases had a known exposure. Although this association is statistically significant using the non-preferred chi-square, the association is not relevant. The existing pediatric tumor literature does not indicate that receiving Salk polio vaccine is protective for the development of pediatric brain tumors.

4. Any known gestational herbicide exposure

a. Percentage of cases exposed: 8.3
b. Percentage of controls exposed: 45.5
c. Chi-square p-value: 0.0428
d. McNemar's p-value: 0.3750

For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. The non-preferred chi-square p-value is less than 0.05, indicating statistical significance. McNemar's chi-square p-value is greater than 0.05, indicating that the association is not statistically significant for matched cases and controls. Given that the preferred measure of statistical significance is available, we conclude that a statistically significant association was not observed between this potential risk factor and the development of pediatric brain tumors among study participants.

5. Any known gestational exposure to natural bodies of water

a. Percentage of cases exposed: 50.0
b. Percentage of controls exposed: 92.3
c. Chi-square p-value: 0.0186
d. McNemar's p-value: 0.0625

For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. The non-preferred chi-square p-value is less than 0.05, indicating statistical significance. McNemar's chi-square p-value is greater than 0.05, indicating that the association is not statistically significant for matched cases and controls. Given that the preferred measure of statistical significance is available, we conclude that a statistically significant association was not observed between this potential risk factor and the development of pediatric brain tumors among study participants.

6. Child ever had an MRI (prior to diagnosis for cases)

a. Percentage of cases exposed: 0.0%
b. Percentage of controls exposed: 27.3%
c. Chi-square p-value: 0.0441
d. McNemar's p-value: unable to calculate

For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. The non-preferred chi-square p-value is less than 0.05. McNemar's chi-square could not be calculated because no cases had a known exposure. Although this association is statistically significant using the non-preferred chi-square, the association is not relevant.

The existing pediatric tumor literature does not indicate that having ever had an MRI is protective for the development of pediatric brain tumors.

7. **Child diagnosed with other medical issue by a physician**
   a. Percentage of cases exposed: 23.1%
   b. Percentage of controls exposed: 69.2%
   c. Chi-square p-value: 0.0183
   d. McNemar's p-value: 0.0313

   For this variable, the proportion of controls who had the exposure is higher than the proportion of cases who had the exposure. Both chi-square p-values are less than 0.05. Although this association is statistically significant based on McNemar's p-value, the association is not relevant. The existing pediatric tumor literature does not indicate that a diagnosis of another medical issue is protective for the development of pediatric brain tumors.

Continuous Data Analysis

Duration of residency was calculated for cases and controls using information from the completed questionnaires. Three cases and three controls had gestational exposure to the study area. The decision was made to quantify post-birth duration of residency only and exclude gestational exposure because (1) equal numbers of cases and controls had gestational exposure, and (2) adding the gestational months to the overall duration of residency did not change the conclusion of the analysis.

The mean duration of residency for cases prior to diagnosis was 65.2 months. The mean duration of residency for controls was 127.5 months. The controls had a statistically significantly longer residency in the study area (p=0.018).

Case/Control	N	Mean (months)	Minimum	Maximum	p-value
Case	13	65.2	2.0	166.7	0.018
Control	13	127.5	26.0	274.4	

The latency period between exposure to environmental factors and diagnosis of a childhood brain tumor is largely unknown. Some studies suggested the latency period could be five years or longer. Two cases lived in the AC six months or less before they were diagnosed with a tumor. In order to test if living longer in the AC contributes to brain tumor occurrence, we removed these two cases in an additional analysis. Removing these two cases from the analysis increased the average length of residency among cases from 65.2 months to 76.3 months. The mean duration of residency was still statistically significantly higher among controls (127.5 months) than that among cases (76.3 months).

The comparisons of length of residency between cases and controls suggest that living longer in the Acreage Community is not associated with brain tumor occurrences among children. Therefore, duration of residency in the AC area is not a risk factor of being diagnosed with a brain tumor among study participants.

Conclusion

The analysis of the case-control data from study participants did not reveal any potential risk factors for which exposure among cases was statistically significantly higher than exposure among controls. Having a longer residency in the AC area was not a risk factor for brain tumors among children.

Part I. Confidential study subject and interviewee information

Interviewer: The first page contains personal information about the study subject and interviewees. This page should not be copied or faxed.

1. Date of Interview: ___ ___/___ ___/___ ___ ___ ___ (mm/dd/yyyy)

2. Start time: ____ ____: ____ ____ a.m./p.m. End time: ____ ____: ____ ____ a.m./p.m.

3. Location of interview: ____

4. Please verify following information:

Study Child's Name:
Study Child's Address:
Study Child's Date of Birth:
Study Child's Sex:
Diagnosis Date:

5. Is this information correct? ❑Yes ❑Don't know/Not sure ❑No ❑Refused to answer

Interviewer: List any changes/corrections below:
____
____
____

6. Now I would like to ask you for some more information about you.

	The first interviewee	The second interviewee
Name		
Relationship with the child (Check one)		
Mother	❑	❑
Stepmother	❑	❑
Maternal grandmother	❑	❑
Maternal grandfather	❑	❑
Maternal aunt	❑	❑
Maternal uncle	❑	❑
Father	❑	❑
Stepfather	❑	❑
Paternal grandmother	❑	❑
Paternal grandfather	❑	❑
Paternal aunt	❑	❑
Paternal uncle	❑	❑
Other	❑	❑
Address		
Phone number		

Interviewer: If information on both biological parents is not captured above, please go to **question 7.**
If information for both biological parents is captured above, please **go to next section.**

7. What is/are the name(s) and phone numbers of the biological mother/father?
Mother _________________________Phone__________________________
Father _________________________Phone__________________________

Part II. Demographic Information

1. Where was the study child born?
(City) ________________________ (State) ____________ (Country) ________

2. Is the study child Spanish/Hispanic/Latino? **Please mark one**
- ❑ No, not Spanish /Hispanic/Latino
- ❑ Yes, Mexican, Mexican Am., Chicano
- ❑ Yes, Puerto Rican
- ❑ Yes, Cuban
- ❑ Yes, other Spanish/Hispanic/Latino _________________ (please specify)

3. What is the study child's race? **Please mark all that apply**
- ❑ White
- ❑ Black or African American
- ❑ American Indian or Alaska Native
- ❑ Asian / Pacific Islander
- ❑ Other

4. Was the study child adopted?
- ❑ Yes
- ❑ No
- ❑ Refuse to answer

5. How old was the child's biological <u>father</u> at the time the study child was born? ______ years

6. Where was the study child's biological father born?
(City) ________________________ (State) ____________ (Country) ________
❑ Don't Know ❑ Refuse to answer

7. What is the highest level of education that (Child's Name) father or male guardian completed?
- ❑ No formal schooling
- ❑ 1-11 years schooling
- ❑ High school graduate or GED (high school equivalent)
- ❑ 1-3 years college
- ❑ 4 years of college or Bachelors degree
- ❑ 1 or more years of graduate or professional school
- ❑ Don't know/Not sure
- ❑ Refused

8. How old was the child's biological <u>mother</u> at the time the study child was born? _____ years

9. Where was the study child's biological mother born?
(City) ________________________ (State) ____________ (Country) ________
❑ Don't Know ❑ Refuse to answer

10. What is the highest level of education that (Child's Name) mother or guardian completed?

- ❑ No formal schooling
- ❑ 1-11 years schooling
- ❑ High school graduate or GED (high school equivalent)
- ❑ 1-3 years college
- ❑ 4 years of college or Bachelors degree
- ❑ 1 or more years of graduate or professional school
- ❑ Don't know/Not sure
- ❑ Refused

11. How many households does the study child currently live (or lived) in (the households where the child routinely spends large amounts of time.) For example, a child who spends one week living in a maternal household and one week living in a paternal household would be considered to live in two households. ____

12. How many adults currently live in the study child's household(s)? _____

13. What language is **usually** spoken at the study child's home? (Please mark only one)

❑ English ❑ Spanish ❑ Other (please specify) ______________

14. How many full siblings does the study child have? Full siblings are brothers and/or sisters who have the same biological mother **and** biological father as the study child. _____

❑ Don't Know ❑ Refuse to answer

15. Please provide the following information about the study child full siblings.

First name	Date of birth (MMDDYYYY)	Sex
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female

16. How many half siblings does the study child have? Half siblings are brothers and/or sisters who have the same mother but different father as the study child, **or** have the same father but different mother as the study child. **(please write number here)** _____

❑ Don't Know ❑ Refuse to answer

17. Please provide the following information about the study child half siblings.

First name	Date of birth (MMDDYYYY)	Sex
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female

18. Please provide the following information about other children who have lived with the study child for 6 months or more:

First name	Date of birth (MMDDYYYY)	Sex
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female
		❑ Male ❑ Female

19. How many children (full or half siblings or unrelated children) currently live in (or lived) the same household as the study child? ___

❑ Don't Know ❑ Refuse to answer

20. Which of the following categories best describes your total household income last year before taxes? Include the income of everyone who is part of your household. If farming is your household's main source of income please give an estimate of the previous year's farm income.

- ❑ Under $20,000
- ❑ $21,000 - $40,000
- ❑ $41,000 – $75,000
- ❑ $76,000 – $100,000
- ❑ More than $100,000
- ❑ Don't know/Not sure
- ❑ Refused

Part III. Residential History

A. Residences of the study child's mother during her pregnancy with the study child

This section should be filled out by the adult who can provide the most complete information about where the study child's mother lived while she was pregnant with him/her.

No.		When did the study child's mother start living here? (mm/yyyy)	When did the study child's mother stop living here? (mm/yyyy)	Did the parents/guardians of the study child own or rent this residence?	How many other adults and children also lived at this residence at this time? Adults (18 yrs or over) Children (less than 18 yrs)
A-1	Street: City: State: Zip: Country: *Residence 1* (during pregnancy)			❑ Own ❑ Rent Landlord's name: ________________	Adults: _________ Children: _________
A-2	Street: City: State: Zip: Country: *Residence 2* (during pregnancy)			❑ Own ❑ Rent Landlord's name: ________________	Adults: __________ Children: ___________
A-3	Street: City: State: Zip: Country: *Residence 3* (during pregnancy)			❑ Own ❑ Rent Landlord's name: ________________	Adults: ___________ Children: ____________

B. Residences of the study child

Please list the address of the homes the study child lived in, for at least 6 months in a row, and the dates he/she lived at these addresses during the time period between (DOB) and his/her date of diagnosis.

No.		When did the study child start living here? (mm/yyyy)	When did the study child stop living here? (mm/yyyy)	Did the parents/guardians of the study child own or rent this residence?	How many adults and children also lived at this residence at this time? Adults (18 yrs or over) Children (less than ≤18 yrs)
B-1	Street: City: State & Zip: Country: *Residence 1*			❑ Own ❑ Rent Landlord's name: ____________	Adults: __________ Children: __________
B-2	Street: City: State & Zip: Country: *Residence 2*			❑ Own ❑ Rent Landlord's name: ____________	Adults: __________ Children: __________
B-3	Street: City: State & Zip: Country: *Residence 3*			❑ Own ❑ Rent Landlord's name: ____________	Adults: __________ Children: __________
B-4	Street: City: State & Zip: Country: *Residence 4*			❑ Own ❑ Rent Landlord's name: ____________	Adults: __________ Children: __________
B-5	Street: City: State & Zip: Country: *Residence 5*			❑ Own ❑ Rent Landlord's name: ____________	Adults: __________ Children: __________

If you need additional space to list your past homes, please use the back of this sheet.

Residence of (Child's Name)'s mother WHILE SHE WAS PREGNANT

Interviewer: Please refer to residence sheet provided in Table A.

No. A- ___	**A1. Street**	**A2. Town or City**

The following questions refer to the source and use of water in this residence.

B. What was the main source of your drinking water while there?
☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system
☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK

B1. Name the water company that provided this water (the place where you sent in your water bill)
____
☐ Don't know/Not sure

B2. If private well, tested?
☐ Yes
☐ No
If no, go to C

B3. If tested, indicate the following on the back of this page:
Date ☐ **DK**
Who did testing ☐ **DK**
Results ☐ **DK**

C. What was the main source of water used for cooking?
☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system
☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK

C1. Name the water company that provided this water (the place where you sent in your water bill)
☐ Same as above
☐ Don't know/Not sure

C2. If private well, tested?
☐ Yes
☐ No
If no, go to D

C3. If tested, indicate the following on the back of this page:
Date ☐ **DK**
Who did testing ☐ **DK**
Results ☐ **DK**

D. What was the main source of the water for bathing?
☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system
☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK

D1. Name the water company that provided this water (the place where you sent in your water bill)
☐ Same as above
☐ Don't know/Not sure

D2. If private well, tested?
☐ Yes
☐ No
If no, go to E

D3. If tested, indicate the following on the back of this page:
Date ☐ **DK**
Who did testing ☐ **DK**
Results ☐ **DK**

E. Did you bathe or shower at this residence? ☐ Yes ☐ No

Now, I am going to ask you about substances that you used in and around this residence. Have you ever used any of the following….

H. Insecticides (e.g., spray to kill bugs) **(not a commercial service)**
H1. Indoor: ☐ Yes ☐ No ☐ DK
H2. Outdoor: ☐ Yes ☐ No ☐ DK

Indoor
H1.1 How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK

Outdoor
H2.1 How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK

I. Commercial pesticides
I1. Indoor: ☐ Yes ☐ No ☐ DK
I2. Outdoor: ☐ Yes ☐ No ☐ DK

Indoor
I1.1 How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK
I1.2 Name of commercial pesticide company:

Outdoor
I2.1 How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK
I2.2 Name of commercial pesticide company:

J. Weed Killer (herbicides)
J2. Outdoor: ☐ Yes ☐ No ☐ DK

Intentionally Blank

Outdoor **J2.1** How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK

K. Poison to kill rodents (e.g., rats mice, etc)
K1. Indoor: ☐ Yes ☐ No ☐ DK
K2. Outdoor: ☐ Yes ☐ No ☐ DK

Indoor **K1.1** How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK

Outdoor **K2.1** How often did you use these products?
(answer one only)
☐ Daily ☐ Weekly ☐ Monthly
☐ Yearly ☐ DK

Now, I am going to ask you about other potential environmental factors around this residence.

L. Mobile phone stations and other sources of low frequency electromagnetic fields within 3 blocks ☐ Yes ☐ No

M. Gas stations within 3 blocks ☐ Yes ☐ No

N. Fill used in the construction of this house? ☐ Yes ☐ No ☐ DK

O. Proximity to storm water drainage channels or ponds ☐ Yes ☐ No If Yes, how far from the house __________ blocks

Places where (Child's Name) lived for at least 6 months in a row

Interviewer: Please refer to residence sheet provided in Table B.

No. B-___	A1. Street	A2. Town or City

The following questions refer to the source and use of water in this residence.

B. What was the main source of your drinking water while there? ☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system ☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK	B1. Name the water company that provided this water (the place where you sent in your water bill) ____________ ☐ Don't know/Not sure	**B2. If private well, tested?** ☐ Yes ☐ No If no, go to C	B3. If tested, indicate the following on the back of this page: **Date** ☐ **DK** **Who did testing** ☐ **DK** **Results** ☐ **DK**
C. What was the main source of water used for cooking? ☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system ☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK	C1. Name the water company that provided this water (the place where you sent in your water bill) ☐ Same as above ☐ Don't know/Not sure	**C2. If private well, tested?** ☐ Yes ☐ No If no, go to D	C3. If tested, indicate the following on the back of this page: **Date** ☐ **DK** **Who did testing** ☐ **DK** **Results** ☐ **DK**
D. What was the main source of the water for bathing? ☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system ☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK	D1. Name the water company that provided this water (the place where you sent in your water bill) ☐ Same as above ☐ Don't know/Not sure	**D2. If private well, tested?** ☐ Yes ☐ No If no, go to E	D3. If tested, indicate the following on the back of this page: **Date** ☐ **DK** **Who did testing** ☐ **DK** **Results** ☐ **DK**

E. Did you bathe or shower at this residence? ☐ Yes ☐ No	F. Did (Child's Name) bathe or shower at this residence? ☐ Yes ☐ No

G. Did (Child's Name) drink formula at this residence? ☐ Yes ☐ No (if no, go to H) ☐ DK/NA	G1. How often did you make the formula with water? ☐ Always ☐ Occasionally ☐ Never	G2. What was the main source of the water used for the formula? ☐ City or County ☐ Private Well ☐ Private well w/ a water treatment system ☐ Community Well ☐ Spring Bottled ☐ Other specify ________ ☐ DK	G3. If you made the formula with water, did you boil it before you used it? ☐ Yes ☐ No

Now, I am going to ask you about substances that you used in and around this residence. Have you ever used any of the following….

H. Insecticides (e.g., spray to kill bugs) **(not a commercial service)** **H1. Indoor** ☐ Yes ☐ No ☐ DK **H2. Outdoor** ☐ Yes ☐ No ☐ DK	Indoor **H1.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK	Outdoor **H2.1** how often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK
I. Commercial pesticides **I1. Indoor** ☐ Yes ☐ No ☐ DK **I2. Outdoor** ☐ Yes ☐ No ☐ DK	Indoor **I1.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK **I1.2 Name of commercial pesticide company:**	Outdoor **I2.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK **I2.2 Name of commercial pesticide company:**
J. Weed Killer (herbicides) **J2. Outdoor** ☐ Yes ☐ No ☐ DK	**Intentionally Blank**	Outdoor **J2.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK
K. Poison to kill rodents (rats mice, etc) **K1. Indoor** ☐ Yes ☐ No ☐ DK **K2. Outdoor** ☐ Yes ☐ No ☐ DK	Indoor **K1.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK	Outdoor **K2.1** How often did you use these products? **(answer one only)** ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ DK

Now, I am going to ask you about other potential environmental factors around this residence.

L. Mobile phone stations and other sources of low frequency electromagnetic fields within 3 blocks (or a quarter miles) ☐ Yes ☐ No

M. Gas stations within 3 blocks (or a quarter miles) ☐ Yes ☐ No

N. Fill used in the construction of this house? ☐ Yes ☐ No ☐ DK

O. Proximity to storm water drainage channels, or ponds or holding ponds ☐ Yes ☐ No If Yes, how far from the house ________ blocks. Did the child play there? ☐ Yes ☐ No

Part IV. List of Jobs and Military Service

In this section, we would like to get information about the current occupation of each adult who currently lives with the study child. We are interested in paid and volunteer work as well as part-time and full-time jobs, jobs at home and/or jobs on a farm.

Please complete questions 1 through 4 below for each adult, including yourself, who lives in the same household with the study child. Begin by identifying the relationship of each adult to the study child.

===

Interviewer: **Please include the child's father and mother in this part**

Adult 1

What is the relationship of Adult 1 to the study child: ___________________________________

(for example, mother, father, stepmother/father, mother's boyfriend/father's girlfriend, family friend, etc.)

1. Does Adult 1 have an occupation at present? (This includes paid and volunteer work as well as part-time and full-time jobs, jobs at home and/or jobs on a farm)

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please fill in the table below.
If subject answers "no", don't know, or refused to answer **please skip to Question 3**

2. Adults 1's job

What is Adult 1's present job(s) title (please list all current occupations)	**What is the name of the company or employer?**	**Where is this job located?** City, state. Give country if not in the U.S.	**How long has Adult 1 worked/volunteered here?**

Please continue this table on the back of this page if you need more space.

2. Did Adult 1 serve in the U.S. Armed Forces between (date) and the study child's date of diagnosis?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please fill in the table below.
If subject answers "no", don't know, or refused to answer **please skip to next adult** or **skip to Part V** (if no other adults in the household)

Country of service	**Date service began** (mm/yyyy)	**Date service ended** (mm/yyyy) (if current, enter "present")	**Branch of the Armed Forces**	**Type of job**	**Please indicate if Adult 1 worked with or had contact with chemical or biological agents**
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: ________ ________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: ________ ________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: ________ ________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: ________ ________

Please continue this table on the back of this page if you need more space.

End of Adult 1

Adult 2
What is the relationship of Adult 2 to the study child: __________________ (for example, mother, father, stepmother, stepfather, uncle, grandmother, family friend, etc)

1. Does Adult 2 have an occupation at present?
   (This includes paid and volunteer work as well as part-time and full-time jobs, jobs at home and/or jobs on a farm)

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please **fill in the table below**, otherwise **skip to Question 3**

2. Adults 2's job

What is Adult 2's present job(s) title	**What is the name of the company or employer?**	**Where is this job located?** City, state. Give country if not in the U.S.	**How long has Adult 2 worked/volunteered here?**

Please continue this table on the back of this page if you need more space.

3. Did Adult 2 serve in the U.S. Armed Forces between (date) and the study child's date of diagnosis?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please fill in the table below. If subject answers "no", don't know, or refused to answer **please skip to next adult** or **skip to Part V** (if no other adults in the household)

Country of service	**Date service began** (mm/yyyy)	**Date service ended** (mm/yyyy)	**Branch of the Armed Forces**	**Type of job**	**Please indicate if Adult 2 worked with or had contact with chemical or biological agents**
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________

Please continue this table on the back of this page if you need more space.

End of Adult 2

Adult 3

What is the relationship of Adult 3 to the study child: __________________ (for example, mother, father, stepmother, stepfather, uncle, grandmother, family friend, etc)

1. Does Adult 3 have an occupation at present?
   (This includes paid and volunteer work as well as part-time and full-time jobs, jobs at home and/or jobs on a farm)

   ❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please fill in the table below, otherwise **skip to Question 3**

2. Adults 3's job

What is Adult 3's present job(s) title	**What is the name of the company or employer?**	**Where is this job located?** City, state. Give country if not in the U.S.	**How long has Adult 3 worked/volunteered here?**

Please continue this table on the back of this page if you need more space.

3. Did Adult 3 serve in the U.S. Armed Forces between (date) and the study child's date of diagnosis?

   ❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", please fill in the table below.
If subject answers "no", don't know, or refused to answer **please skip to next adult** or **skip to Part V** (if no other adults in the household)

Country of service	**Date service began** (mm/yyyy)	**Date service ended** (mm/yyyy)	**Branch of the Armed Forces**	**Type of job**	**Please indicate if Adult 3 worked with or had contact with chemical or biological agents**
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________
				❑ Desk ❑ Mechanical ❑ Munitions ❑ Fueling ❑ Chemical specialist ❑ Combat zone ❑ Other	❑ None ❑ Don't know If yes, specify: __________ __________

Please continue this table on the back of this page if you need more space.

End of Adult 3

Part V. Hobbies and Recreational Activities

This section of the questionnaire is about any hobbies and recreational activities that adults in the study child's household may have done during the time between mother's pregnancy with the study child and date of child's diagnosis of brain tumor. There are separate tables for the hobbies/activities of each adult who has lived in the study child's household during the time between mother's pregnancy and date of child's diagnosis of brain tumor.

Part a. Adult 1: (please specify relationship with the study child): ______________________
The next few pages ask about Adult 1's hobbies and recreational activities during the time between mother's pregnancy with the study child and date of child's diagnosis of brain tumor.

Hobbies and Recreational Activities
1. Below is a table listing several hobbies and activities. For each hobby and activity listed, please indicate if Adult 1 did the hobby/activity and how often on average that hobby/activity was done.

	Did Adult 1 do this hobby or activity?	**On average, how frequently did Adult 1 do this hobby or activity during the between mother's pregnancy child's diagnosis**		
		Daily	Weekly	Monthly
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of model? ____________________			
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of art? ____________________			
Gardening				
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, specify ____________________			

2. Please think about any chemicals or substances that Adult 1 may have used for hobbies or recreational activities during the time between mother's pregnancy and date of child's diagnosis. Below is a table that lists some commonly used chemicals and substances. For each chemical/substance listed, please indicate if Adult 1 used that chemical/substance for hobbies or activities. For each chemical/substance that was used, please indicate how often on average it was used.

Chemicals/Substances used for hobbies or recreational activities	**Did Adult 1 use this chemical for hobbies or recreational activities?** If yes, go to the next column	**On average, how frequently did Adult 1 use this chemical for hobbies or activities during the time between mother's pregnancy and date of child's diagnosis?** (please mark only one)		
		Daily	Weekly	Monthly
Solvents/degreasers used to clean mechanical parts	❑ Yes ❑ No ❑ Don't know or Not sure			
Glues/adhesives	❑ Yes ❑ No ❑ Don't know or Not sure			
Varnishes/lacquers	❑ Yes ❑ No ❑ Don't know or Not sure			
Pesticides (for example, insect repellant, lawn treatment)	❑ Yes ❑ No ❑ Don't know or Not sure			
Plastics	❑ Yes ❑ No ❑ Don't know or Not sure			
Rust preventatives (for example, Rustoleum)	❑ Yes ❑ No ❑ Don't know or Not sure			
Rubber cement	❑ Yes ❑ No ❑ Don't know or Not sure			
Dyes and pigments	❑ Yes ❑ No ❑ Don't know or Not sure			
Petroleum products (for example, hydraulic fluid, motor oil)	❑ Yes ❑ No ❑ Don't know or Not sure			
Metals	❑ Yes ❑ No ❑ Don't know or Not sure			
Paints, paint thinners or paint strippers	❑ Yes ❑ No ❑ Don't know or Not sure			
Other chemicals or substances used for hobbies or recreational activities not listed above. If yes, specify ____________________ ____________________	❑ Yes ❑ No ❑ Don't know or Not sure			

End of Adult 1
If no other Adults in household, please go to Part VI.

Part b. **Adult 2:** (please specify relationship with the study child): ______________________
The next few pages ask about Adult 2's hobbies and recreational activities during the time between mother's pregnancy with the study child and date of child's diagnosis of brain tumor.

Hobbies and Recreational Activities

1. Below is a table listing several hobbies and activities. For each hobby and activity listed, please indicate if Adult 2 did the hobby/activity and how often on average that hobby/activity was done.

	Did Adult 2 do this hobby or activity?	**On average, how frequently did Adult 2 do this hobby or activity during the tween mother's pregnancy child's diagnosis** (please one)		
		Daily	Weekly	Monthly
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of model? __________________			
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of art? __________________			
Gardening				
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, specify __________________			

2. Please think about any chemicals or substances that Adult 2 may have used for hobbies or recreational activities during the time between mother's pregnancy and date of child's diagnosis. Below is a table that lists some commonly used chemicals and substances. For each chemical/substance listed, please indicate if Adult 2 used that chemical/substance for hobbies or activities. For each chemical/substance that was used, please indicate how often on average it was used.

Chemicals/Substances used for hobbies or recreational activities	**Did Adult 2 use this chemical for hobbies or recreational activities?** If yes, go to the next column	**On average, how frequently did Adult 2 use this chemical for hobbies or activities during the time between mother's pregnancy and date of child's diagnosis?** (please mark only one)		
		Daily	Weekly	Monthly
Solvents/degreasers used to clean mechanical parts	❑ Yes ❑ No ❑ Don't know or Not sure			
Glues/adhesives	❑ Yes ❑ No ❑ Don't know or Not sure			
Varnishes/lacquers	❑ Yes ❑ No ❑ Don't know or Not sure			
Pesticides (for example, insect repellant, lawn treatment)	❑ Yes ❑ No ❑ Don't know or Not sure			
Plastics	❑ Yes ❑ No ❑ Don't know or Not sure			
Rust preventatives (for example, Rustoleum)	❑ Yes ❑ No ❑ Don't know or Not sure			
Rubber cement	❑ Yes ❑ No ❑ Don't know or Not sure			
Dyes and pigments	❑ Yes ❑ No ❑ Don't know or Not sure			
Petroleum products (for example, hydraulic fluid, motor oil)	❑ Yes ❑ No ❑ Don't know or Not sure			
Metals	❑ Yes ❑ No ❑ Don't know or Not sure			
Paints, paint thinners or paint strippers	❑ Yes ❑ No ❑ Don't know or Not sure			
Other chemicals or substances used for hobbies or recreational activities not listed above. If yes, specify ____________________ ____________________	❑ Yes ❑ No ❑ Don't know or Not sure			

End of Adult 2
If no other Adults in household, please go to Part VI.

Part c. **Adult 3:** (please specify relationship with the study child): ____________________
The next few pages ask about Adult 3's hobbies and recreational activities during the time between mother's pregnancy with the study child and date of child's diagnosis of brain tumor.

Hobbies and Recreational Activities

1. Below is a table listing several hobbies and activities. For each hobby and activity listed, please indicate if Adult 3 did the hobby/activity and how often on average that hobby/activity was done.

	Did Adult 3 do this hobby or activity?	**On average, how frequently did Adult 3 do this hobby or activity during the tween mother's pregnancy child's diagnosis** (please one)		
		Daily	Weekly	Monthly
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of model? ________________			
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, what type of art? ________________			
Gardening				
	❑ Yes ❑ No ❑ Don't know or Not sure If yes, specify ________________			

2. Please think about any chemicals or substances that Adult 3 may have used for hobbies or recreational activities during the time between mother's pregnancy and date of child's diagnosis. Below is a table that lists some commonly used chemicals and substances. For each chemical/substance listed, please indicate if Adult 3 used that chemical/substance for hobbies or activities. For each chemical/substance that was used, please indicate how often on average it was used.

Chemicals/Substances used for hobbies or recreational activities	**Did Adult 3 use this chemical for hobbies or recreational activities?** If yes, go to the next column	**On average, how frequently did Adult 3 use this chemical for hobbies or activities during the time between mother's pregnancy and date of child's diagnosis?** (please mark only one)		
		Daily	Weekly	Monthly
Solvents/degreasers used to clean mechanical parts	❑ Yes ❑ No ❑ Don't know or Not sure			
Glues/adhesives	❑ Yes ❑ No ❑ Don't know or Not sure			
Varnishes/lacquers	❑ Yes ❑ No ❑ Don't know or Not sure			
Pesticides (for example, insect repellant, lawn treatment)	❑ Yes ❑ No ❑ Don't know or Not sure			
Plastics	❑ Yes ❑ No ❑ Don't know or Not sure			
Rust preventatives (for example, Rustoleum)	❑ Yes ❑ No ❑ Don't know or Not sure			
Rubber cement	❑ Yes ❑ No ❑ Don't know or Not sure			
Dyes and pigments	❑ Yes ❑ No ❑ Don't know or Not sure			
Petroleum products (for example, hydraulic fluid, motor oil)	❑ Yes ❑ No ❑ Don't know or Not sure			
Metals	❑ Yes ❑ No ❑ Don't know or Not sure			
Paints, paint thinners or paint strippers	❑ Yes ❑ No ❑ Don't know or Not sure			
Other chemicals or substances used for hobbies or recreational activities not listed above. If yes, specify ____________________ ____________________	❑ Yes ❑ No ❑ Don't know or Not sure			

End of Adult 3

Part VI. Other Possible Exposures

1. Has anyone else, other than the adults listed on the previous pages, who has lived with the study child during the time between mother's pregnancy and date of child's diagnosis of brain tumor, had a hobby or activity that routinely involved the use of chemicals/substances?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 2,** otherwise go to **question 3**

2. Which chemicals/substances were used and how often?

	Name of chemical/substance	How often was this used?
1		☐ Daily ☐ Weekly ☐ Monthly
2		☐ Daily ☐ Weekly ☐ Monthly
3		☐ Daily ☐ Weekly ☐ Monthly

3. During the year before the study child was diagnosed with brain tumor, did any of his/her household members have an illness with fever and/or a rash over a large part of the body that lasted longer than 4 days?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 4**, otherwise go to **question 5**

4. Relationship to study child? What was their diagnosis if known?

Person A ________________________________ ________________________________
Person B ________________________________ ________________________________
Person C ________________________________ ________________________________

5. During the year before the study child was diagnosed with brain tumor, did any playmates of the study child have an illness with fever and/or a rash over a large part of their body that lasted longer than 4 days?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 6**, otherwise go to **question 7**

6. What was their diagnosis if known?

Person A ________________________________
Person B ________________________________
Person C ________________________________

7. During the year before the study child was diagnosed with brain tumor, did the child routinely play in areas other than in his/her own yard or at school (for example, public playground, agricultural field, dumpsite or landfill)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 8**, otherwise go to **question 9**

8. Please specify where the study child played other than his/her own yard or at school.

____

9. During the year before the study child was diagnosed with brain tumor did the study child ever swim in a natural body of water such as streams, ponds or lakes near the Acreage, not including swimming pools?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 10**, otherwise go to **question 11**

10. If yes, please describe the body(s) of water that the study child swam in.

____

____

11. During the year before the study child was diagnosed with brain tumor did the study child have any household or outdoor pets, or contact any animals when you lived, worked or visited the farm or ranch?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 12**, otherwise go to **question 13**.

12. If yes, please fill this table

Location where the child contacted animals		Type of animal contacted	How many days did you contacted this kind of animal
County	State		

13. Did the mother use hair dyes before the date of child's diagnosis?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 14**, otherwise go to **Part VII**

14. Length and frequency of use of hair dyes

	During pregnancy	After pregnancy
When used hair dyes	Trimester: ☐ 1st ☐ 2nd ☐3rd	From ___ (year) to _____ (year)
Frequency	☐ monthly ☐ quarterly	☐ monthly ☐ quarterly ☐ yearly

Part VII. School Attendance

The adult who can provide the most complete information about the study child's schooling history should complete this section. This includes all public or private day care, pre-school, nursery school, grade or elementary school, and junior high and high school.

1. Please complete the table below, starting with the school or day care center that the study child attended first.

What was the name of the school or daycare the study child attended?	**What city and state was the school/day care located?** If not U.S., please give country	**What dates did the study child attend this school/day care?**		**Approximately how many children were in the study child's class at this school/daycare center?**
		From (mm/yyyy)	**To** (mm/yyyy)	
Name of 1st school/day care				
Name of 2nd school/day care				
Name of 3rd school/day care				
Name of 4th school/day care				
Name of 5th school/day care				
Name of 6th school/day care				
Name of 7th school/day care				
Name of 8th school/day care				
Name of 9th school/day care				
Name of 10th school/day care				

If you need more space to write information about past schooling, please use the back of this sheet.

Part VIII: Immunizations

This section asks for information about all the vaccinations or immunizations the study child has ever received. Please complete this form as accurately as possible – it is important that we have a complete record.

If you are sure that the study child received a particular vaccination/immunization, but you cannot find the record of it, please mark yes and estimate the month and year when he/she received that vaccination/immunization.

	Has the study child ever received this vaccination/ immunization? Please mark one box	**Month(s) and year(s) when the study child received this vaccination/immunization** (mm/yyyy)	**Where did you obtain the information about this vaccination/ immunization?**
DPT or DTaP (Diphtheria, pertussis, tetanus)	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
DT or dT (Diphtheria, tetanus) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
MMR (Combination of measles, mumps, and rubella) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Mumps vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Measles (Rubeola) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Rubella (German measles) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Chicken pox (Varicella) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Polio vaccine (Sabin) (Oral/Drops)	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Polio vaccine (Salk) (IPV/Shot)	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Hib (*Hemophilus influenzae* type b) vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Hepatitis A vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Hepatitis B vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Yellow fever vaccine	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate
Other vaccination /immunization not listed	❑ Yes ❑ No ❑ Don't know/Not sure		❑ Doctor's office ❑ Immunization record ❑ Memory/Estimate

2. Has anyone in the study child's household, other than the study child, received an oral polio vaccine?

- ❑ Yes
- ❑ No
- ❑ Don't know or Not sure

3. If yes, what is the relationship of this person to the study child?

Person A: ______________________

Person B: ______________________

Person C: ______________________

4. Has anyone in the study child's household, other than the study child, received any vaccination in the last 30 days?

- ❑ Yes
- ❑ No
- ❑ Don't know or Not sure

5. If yes …

a. Who? ________________ What immunization(s)? ________________ ❑ Don't know

____

____

b. Who? ________________ What immunization(s)? ________________ ❑ Don't know

____

____

c. Who? ________________ What immunization(s)? ________________ ❑ Don't know

____

____

Part IX: Travel History

In this section, we would like information about any travel, including trips within the United States and to other countries, that the study child may have taken before the study child's date of diagnosis. Please also include any trip the study child's mother took while she was pregnant with him/her.

A. Domestic Trips.

1. During the time period between (date) and the study child's date of diagnosis, has the study child (or the study child's mother during her pregnancy with the study child) taken a trip to another state within the United States that lasted *7 days or longer*? Think about trips that the study child may have taken over the holidays or during vacations. Please consider **only trips that lasted for 7 days or longer**.

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 2**, otherwise go to "**International Trips**".

2. For each of these trips, please complete the following table to provide information about each trip the study child (or the study child's mother during her pregnancy with the study child) took between (date) and the study child's date of diagnosis.

Date of Trip (mm/yyyy)	**Destination** (city, state) If more than one state, please list all	**Total Duration of Trip** (number of days)

If you need additional space, please use the back of this page

B. International Trips.

1. Before the (Child's name) date of diagnosis, has the child (or the mother during her pregnancy with the study child) taken any trips to another country, for any length of time?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 2**, otherwise **go to next Section**

2. For each of these trips, please complete the following table to provide information about each trip the study child (or the study child's mother during her pregnancy with the study child) took between (date) and the study child's date of diagnosis.

Date of Trip (mm/yyyy)	**Destination** (city, country) If more than one country, please list all	**Total Duration of Trip** (number of days)

If you need additional space, please use the back of this page

Part X. Medical History

A. The Child's Medical History

a. Illnesses

Interviewer: Explanations/descriptions of illnesses will follow the illness name. Read the prompt only upon request for explanation.

Was the child diagnosed by a physician with …	**YES**	**NO**	**DK**	**Did illnesses occur more than once?**		**At what age was (Child's Name) first diagnosed with this illness?**
				YES	**NO**	
Arthritis (joint pain with heat/swelling/ inflammation of the joint, or refusal to bear weight/move an arm or leg, or limping for 3 days or more). **NOT due to injury**						
Fever of 101 degrees F or higher lasting for 5 days or more.						
Rash over large areas of the body that stayed for 3 days or greater and **does not** include measles, chicken pox, poison ivy/oak, bites, or allergic reaction.						
Autoimmune disorder for example, Lupus, thyroid disease						
Anemia (low red blood count or hemoglobin)						
Neutropenia or low white blood count						
Thrombocytopenia or low platelets (example: ITP or idiopathic thrombocytopenia purpura)						
Infectious mononucleosis (EBV) (viral illness)						
Diarrhea (3 or more loose stools/day) without blood lasting 5 days or >, or treated with antibiotics by a doctor						
Bloody diarrhea of any duration						
Hepatitis						
Allergic skin rash (example is eczema)						
Hay fever						
Asthma						
Chicken pox (Varicella)						
German measles (Rubella)						
Measles (Rubeola)						
Mumps						
Fifth's disease (infection that gives a "slapped cheek" appearance						
Fever blisters ("cold sores", herpes simplex)						
Urinary tract infection						
Seizures, epilepsy or convulsions						
Severe injury to the head requiring medical attention						
Immune deficiency or immunosuppression (for example: HIV)						
CMV or Cytomegalovirus (congenital infection or infection in children with an immune deficiency)						
Toxoplasmosis (congenital infection or infection in children with an immune deficiency) ("cat litter disease")						
Organ transplant						
Birth defect (diagnosis:)						
Other (specify)						

2. Has a physician, nurse practitioner, or other health professional ever told you that the child had any other serious disease? **Please mark one**

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject does answer "yes", go to **question 3**, otherwise go to next page.

3. If yes, what was the diagnosis(es)?

___

___

b. Medical procedures

I am now going to ask you about medical procedures the child may have received before the date of diagnosis of brain tumor.

1. Before the date of diagnosis with brain tumor, did the child ever have an x-ray or a radiology scan that is not related to his/her diagnosis**.**

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answer "yes", please go to **question 2,** otherwise go to **question 3**

2. Can you tell me what type of x-ray or radiology scan that the child received and when he/she received it? Remember, we are only talking about the time period between the date of birth and the date of diagnosis of brain tumor.

Type	**On what part(s) of the body?**	**How long before the diagnosis of brain tumor did (Child's Name) have this x-ray/scan done?**
❑Regular (diagnostic) x-ray		____ ❑days ❑months ❑years
❑MRI		____ ❑days ❑months ❑years
❑CT or "CAT" scan		____ ❑days ❑months ❑years
❑Upper GI		____ ❑days ❑months ❑years
❑Other		____ ❑days ❑months ❑years
❑Don't know or not sure		____ ❑days ❑months ❑years

3. Has the child had his/her tonsils removed?
   - ❑ Yes, at what age did (Child's Name) have his/her tonsils removed? _________
   - ❑ No
   - ❑ Don't know/Not sure
   - ❑ Refused to answer

4. Has the child had his/her appendix removed?
   - ❑ Yes, at what age did (Child's Name) have his/her appendix removed?
   - ❑ No
   - ❑ Don't know/Not sure
   - ❑ Refused to answer

I am now going to ask you about medications that the child may have taken prior to diagnosis of tumor and then his/her present medications.

c. The child's Medications

1. Let's start with medications used to treat asthma, pain, inflammation or other disease that the child may have taken before the date of diagnosis of brain tumor.

Name of medicine	**For treatment of which Disease?**	**Approximate age that (Child's Name) took the medication**	**Duration** Approximate length of time (in days) that the child took the medication

2. Before the date of diagnosis of brain tumor, did (Child's Name) ever take any home remedies, folk medicines, or herbal products for at least one week?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answer "yes", please go to **question 3,** otherwise go to **question 4**

3. Can you tell me which home remedies, folk medicines, or herbal products (Child's Name) took for at least one week? ____
____

4. **At present**, is (Child's Name) taking any over the counter medications, prescription medications, home remedies, folk medicines, vitamins, or herbal products?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 5,** otherwise **go to the next section**

5. Can you tell me which over the counter medications, prescription medications, home remedies, folk medicines, or herbal products (Child's Name) is taking at present?

____

____

6. For each food item I name, I would like you to tell me if (Child's Name) ate it he/she was diagnosed

Did (Child's Name) eat…	**Interviewer:** If yes, go to next column	**How often did (Child's Name) eat this food?**
Smoked or cured meats, such as ham, bacon, sausage, hot dogs, and lunch meats	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Fresh fish or fresh shellfish	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Soy-based foods, such as tofu, soy milk, and soy burgers (not including soy-based formula)	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Fresh vegetables	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Other fresh fruit	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Diet or artificially sweetened drinks	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly

B. Maternal Pregnancy History Source: ________________

OK. Now I am going to ask you some questions specifically about your pregnancy with (Child's Name) and some questions about (Child's Name) when he/she was a baby.

a. Pregnancy with Participating Child

1. Did you or (Child's Name)'s father take any medications or have any medical procedures to help you become pregnant with (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 2,** otherwise go to **question 3.**

2. Which medications or procedures were used?

____
____
____

3. At the time you became pregnant with (Child's Name), were you using any method of contraception or birth control?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", go to **question 4**, otherwise go to **question 5.**

4. Which method(s) were you using?

____
____

5. When you were pregnant with (Child's Name), how far in your pregnancy were you when you had your first prenatal health care visit? _____ (**months**) of pregnancy

6. We are interested in any illnesses or medical conditions you may have had during your pregnancy with (Child's Name). I am going to read you a list of medical conditions. Please tell me if you had that medical condition when you were pregnant with (Child's Name).

During your pregnancy with (Child's Name), did you have…	If **yes**, go to next column If **no,** go to the next row	**During which month(s) of your pregnancy did you have this condition?** (record the range if applicable)	**Did you take medication(s) for [the condition]?** **Interviewer:** If yes, go to next column	**Which medication(s) did you take?**	**During what month(s) of your pregnancy did you take this medication?** (record the range if applicable)	**Medication 1** **How long was this taken during your pregnancy** (mark only one box)	**Medication 2** **How long was this taken during your pregnancy** (mark only one box)
Diabetes (including gestational diabetes)	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1.________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
High blood pressure	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Heart failure or liver cirrhosis	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Insomnia (sleeplessness)	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Epilepsy or seizures	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Kidney, bladder, or urinary tract infection	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Allergy symptoms (such as itchy eyes, sneezing, and itchy rashes)	❑ Yes ❑ No ❑ Don't know or Not sure	______ month(s) ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK
Flu, or fever more than 3 days	❑ Yes ❑ No ❑ Don't know or Not sure	______ month ❑ Don't know	❑ Yes ❑ No ❑ Don't know or Not sure	1. ________________ 2.________________ ❑ Don't know/Not sure	______ month(s) ______ month(s)	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK	❑ ___ days ❑ ___ weeks ❑ ___ months ❑ DK

7. When you were pregnant with (Child's Name), did you take any other medications that you haven't already mentioned, including over-the-counter medications, prescription medications, home remedies, folk remedies, vitamins, or herbal remedies?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 8**, otherwise go to **question 10**.

8. Which medications or remedies did you take?
   a. ___________________________________
   b. ___________________________________
   c. ___________________________________
   d. ___________________________________
   ❑ Unknown

9. During what trimester did you use those medicines or remedies?
   Trimester 1, 2, and/or 3
   a. ___________________
   b. ___________________
   c. ___________________
   d. ___________________
   ❑ Unknown

OK. I'm now going to ask you some questions about certain medical procedures you may have had while you were pregnant with (Child's Name).

10. During your pregnancy, did you have any x-rays or radiology scans, excluding dental x-rays and ultrasounds?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", go to **question 11**, otherwise go to **question 15**.

11. How many x-rays or radiology scans did you have? __________(**fill in number**)

12. Please consider the x-rays or scans that you had

a. What kind of x-ray or scan did you have?	b. What part of the body was x-rayed or scanned?	c. In which month of pregnancy was it done?
the first x-ray or scan that you had		
❑ Regular (diagnostic) x-ray ❑ CT or "CAT" scan ❑ MRI ❑ Upper GI ❑ Don't know or not sure ❑ Other		
the Second x-ray or scan that you had		
❑ Regular (diagnostic) x-ray ❑ CT or "CAT" scan ❑ MRI ❑ Upper GI ❑ Don't know or not sure ❑ Other		
the third x-ray or scan that you had		
❑ Regular (diagnostic) x-ray ❑ CT or "CAT" scan ❑ MRI ❑ Upper GI ❑ Don't know or not sure ❑ Other		

(Continue on back of page if more than three x-rays/scans.)

The next set of questions also relate to your activities or behaviors during your pregnancy with (Child's Name).

13. Did you have any pets while you were pregnant with (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 14,** otherwise go to **question 15**.

14. What type of pet(s) did you have? ____

The pet(s) are indoor, outdoor or combination? ____________________________________

Did the pet(s) have any illness? ____

15. During your pregnancy with (Child's Name), did you live, work on or visit an agricultural or livestock farm, or a ranch?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 18,** otherwise go to **question 16**.

16. How many days during your pregnancy did you live, work on or visit an agricultural or livestock farm, or a ranch?

_______________ days

17. Did you contact any animals when you lived, worked or visited the farm or ranch?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

If you contacted any animals at the farm, please fill this table

Location of the farm		Type of animal contacted	How many days did you contacted this kind of animal
County	State		

18. During your pregnancy with (Child's Name), did you ever swim in natural bodies of waters, such as streams, ponds, lakes or oceans? **This does not include swimming pools**.

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refused to answer

Interviewer: If subject answered "yes", please go to **question 19,** otherwise go to **question 20**.

19. Can you please tell me which body of water or type of body of water (e.g. pond) you swam in during your pregnancy with (Child's Name).

Name (Type) of body of water *County* *State*

______________________________ ____________ ______

______________________________ ____________ ______

______________________________ ____________ ______

20. Looking at this list, did you use any of these chemicals/substances during your pregnancy?

Chemicals	Mother
Solvents (degreasers) used to clean mechanical parts	❑
Glues/adhesives	❑
Varnishes/lacquers	❑
Pesticides (for example, insect repellant, lawn treatment)	❑
Rust preventatives (for example, Rustoleum)	❑
Rubber cement	❑
Dyes and pigments	❑
Petroleum products (for example, motor oil, gasoline)	❑
Metals (for example, lead, mercury or nickel)	❑
Paint, paint thinners, or paint strippers	❑
Other ____	❑
Refused to answer	❑

21. Have you <u>ever</u> smoked cigarettes?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 22,** otherwise go to **question 27.**

22. Were you smoking cigarettes during the three months before you were pregnant with (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 23**, otherwise go to **question 24.**

23. During the three months prior to your pregnancy with (Child's Name), on average, about how many cigarettes did you smoke per week?
_______(**fill in number**) **[1 pack = 20 cigarettes]**

24. Did you smoke cigarettes at any time during your pregnancy with (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 25**, otherwise go to **question 27.**

25. How many months in total during your pregnancy did you smoke cigarettes? ___

26. During the time you smoked during your pregnancy, on average, about how many cigarettes did you smoke per week? _______(**fill in number**) **[1 pack = 20 cigarettes]**

27. While you were pregnant with (Child's Name), did anyone else regularly smoke cigarettes around you in the house, at your workplace or at your school, if you attended school?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", go to **question 28**, otherwise go to **question 31**

28. During which trimester(s) of your pregnancy, did this person(s) smoke cigarettes around you in the house, at your workplace or at your school?

Trimester 1, 2, and/or 3

Person A _______________________
Person B _______________________
Person C _______________________

29. On average, how many days per month did this person(s) smoke cigarettes around you?

Person A ❑ 0-5 ❑ 6-10 ❑ 11-20 ❑ more than 20 days
Person B ❑ 0-5 ❑ 6-10 ❑ 11-20 ❑ more than 20 days
Person C ❑ 0-5 ❑ 6-10 ❑ 11-20 ❑ more than 20 days

30. How many cigarettes per day did (s)he regularly smoke around you? **[1 pack=20 cigarettes]**
Person A _____ per day
Person B _____ per day
Person C _____ per day

31. Did you drink alcohol during your pregnancy with (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 32**, otherwise go to **question 33**

32. During which months of your pregnancy did you drink alcohol and how much did you drink during these months? One drink is equivalent to one can of beer, one 8oz glass of wine, or one shot of liquor such as whiskey or vodka. **Write number of drinks consumed in the space provided below the months the mother drank.**

Months	1	2	3	4	5	6	7	8	9	10
Number of drinks per month?										

33. Nutrition during mother's pregnancy

For each food item I name, I would like you to tell me if you ate it during the pregnancy.

Did you eat…	**Interviewer:** If yes, go to next column	**How often did eat this food?**
Smoked or cured meats, such as ham, bacon, sausage, hot dogs, and lunch meats	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Fresh fish or fresh shellfish	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Soy-based foods, such as tofu, soy milk, and soy burgers	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Fresh vegetables	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Fresh fruit	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Vitamins	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly
Diet or artificially sweetened drinks	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly

34. Including your pregnancy with the study child, how many times were you pregnant?
______ times

Interviewer: If subject answered "1", go to **question 36**. Otherwise, please go to **question 35**.

35. For each pregnancy, I would like to ask about the outcome

	1st	2nd	3rd	4th	5th	6th
A live birth	❑	❑	❑	❑	❑	❑
A still birth	❑	❑	❑	❑	❑	❑
An induced abortion	❑	❑	❑	❑	❑	❑
A miscarriage	❑	❑	❑	❑	❑	❑
A tubal pregnancy	❑	❑	❑	❑	❑	❑
A molar pregnancy	❑	❑	❑	❑	❑	❑

b. Delivery and Feeding of the Participating Child

Now I am going to ask you some questions about (Child's Name)'s birth and how he/she was fed as an infant.

36. What was the duration of the study child's pregnancy in weeks? ______ ❑ Don't know

37. How much did (Child's Name) weigh at birth? _____ pounds _____ ounces

38. What was (Child's Name) length at birth? ______ inches ❑ Don't know/Not sure

39. Did you ever breastfeed (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refused to answer

Interviewer: If subject answered "yes", please go to **question 40**, otherwise go to **question 46**

40. How long did you breastfeed him/her? _______ weeks ______ months

41. Did you ever have a fever of 101 degrees F or higher lasting 5 days or longer while breastfeeding (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refused to answer

42. We're interested in learning about any medicines or preparations that you may have taken during the time you breastfed (Child's Name); these include injections, and drugs you took by mouth. For each medicine or preparation, please tell me if you took it when you were breastfeeding (Child's Name).

While you were breastfeeding (Child's Name), did you take…	**Interviewer:** If yes, go to next column	**How frequently during this time did you use the medications?**
Multi-vitamin supplements	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily ❑ Weekly ❑ Monthly ❑ Yearly ❑ Don't know
Antibiotics	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily Total # days ____ ❑ Weekly ❑ Monthly ❑ Yearly ❑ Don't know
Steroids (for example, Prednisone, Prelone, Pediapred, Cortisone, Cortef, Hydrocortone, or Medrol) **[Interviewer:** please note Clinical names: prednisolone, methylprednisolone, or hydrocortisone**]** (NOT CREAM)	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily Total # days ____ ❑ Weekly ❑ Monthly ❑ Yearly ❑ Don't know
Were there any other medications/herbal products you took while you were breastfeeding? ______________________________ ______________________________	❑ Yes ❑ No ❑ Don't know or Not sure	❑ Daily Total # days ____ ❑ Weekly ❑ Monthly ❑ Yearly ❑ Don't know

43. Did you receive vaccines for polio, hepatitis B, flu or any other disease while breastfeeding (Child's Name)?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 44**, otherwise go to **question 45**.

44. Which vaccines did you receive while breastfeeding (Child's Name)?

____

____

45. How old was (Child's Name) when you started to supplement breastfeeding with formula or food? _______ months ❑ Don't know/Not sure

46. Did (Child's Name) drink soy-based infant formula?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered "yes", please go to **question 47**, otherwise go to **question 48**.

47. How long did (Child's Name) drink soy-based infant formula? _______ months
❑ Don't know/Not sure

You may consider these next few questions to be sensitive, but I would like to reassure you that this information will be kept completely confidential to the extent allowed by law. Would you be more comfortable answering these questions to me directly, with no one else in the room?

48. During or just before your pregnancy did you or (Child's Name)'s father use any recreational drugs, such as cocaine, marijuana, LSD, amphetamines or heroin?

Mother
❑ Yes ❑ Don't know/Not sure
❑ No ❑ Refused to answer

Father
❑ Yes ❑ Don't know/Not sure
❑ No ❑ Refused to answer

49. **If yes**, please list the drug(s).

Mother
A. Drug 1: ___________________
Drug 2:___________________

Father
B. Drug 1: __________________
Drug 2:___________________

50. Do you **presently** use any recreational drugs, such as cocaine, marijuana, LSD, amphetamines or heroin?

Mother/Guardian 1
❑ Yes ❑ Don't know/Not sure
❑ No ❑ Refused to answer

Father/Guardian 2
❑ Yes ❑ Don't know/Not sure
❑ No ❑ Refused to answer

51. **If yes**, please list the drug(s) and when you last used it.

Mother/Guardian 1
A. Drug 1: ___________________
Drug 2:___________________

B. Drug 1: When last used? __________
Drug 2: When last used? __________

Father/Guardian 2
A. Drug 1: __________________
Drug 2:___________________

B. Drug 1: When last used? __________
Drug 2: When last used? __________

C. Family Medical History

Interviewer: Repeat the questions in each column heading for each relative listed in the first column.

1. Family history of cancer

	Was <u>(this relative)</u> ever diagnosed with any type of cancer or major illness? if "yes" go to next column	**What type of cancer or major illness did <u>(this relative)</u> have?**	**How old was <u>(this relative)</u> when diagnosed?** (years)	**Was <u>(this relative)</u> born with a birth defect?** if "yes" go to next column	**What type of birth defect was <u>(this relative)</u> born with?**
Mother (Biological)	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Father (Biological)	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Sister (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Sister (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Sister (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Brother (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Brother (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Full Brother (with the same parents as the study child's) ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	

	Was (this relative) ever diagnosed with any type of cancer or major illness? if "yes" go to next column	**What type of cancer or major illness did (this relative) have?**	**How old was (this relative) when diagnosed?** (years)	**Was (this relative) born with a birth defect?**	**What type of birth defect was (this relative) born with?**
Maternal half-brother ❑ NA [Brother of (Child's Name) who has the **same mother** but **different father**]	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Maternal half-sister ❑ NA [Sister of (Child's Name) who has the **same mother** but **different father**]	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Paternal half-brother ❑ NA [Brother of (Child's Name) who has the **same father** but **different mother**]	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Paternal half-sister ❑ NA [Sister of (Child's Name) who has the **same father** but **different mother**]	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Maternal Grandmother	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Maternal Grandfather	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Paternal Grandmother	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Paternal Grandfather	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Other (with cancer or birth defect) ____________________ ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Other (with cancer or birth defect) ____________________ ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	
Other (with cancer or birth defect) ____________________ ❑ NA	❑ Yes ❑ No ❑ Don't know/Not sure		❑ DK/Not sure	❑ Yes ❑ No ❑ Don't know/Not sure	

2. Now I want to ask you questions about infections that anyone in (Child's Name)'s household may have had.

Between date of birth and (Child's Name)'s diagnosis, was anyone who lived in his/her household diagnosed with…	If yes, go to next column	**How is this person(s) in your household related to (Child's Name)?**
Hepatitis B	❑ Yes ❑ No ❑ Don't know or Not sure	___________________________
Hepatitis C	❑ Yes ❑ No ❑ Don't know or Not sure	___________________________
Epstein Barr Virus (EBV) (mononucleosis)	❑ Yes ❑ No ❑ Don't know or Not sure	___________________________
Human T-cell lymphotropic virus (HTLV) (Rare non-HIV disease)	❑ Yes ❑ No ❑ Don't know or Not sure	___________________________

3. Has anyone in (Child's Name) household ever tried to donate blood but was told they could not donate?

❑ Yes ❑ No ❑ Don't know/Not sure ❑ Refuse to answer

Interviewer: If subject answered yes, please go to **question 4**, otherwise **thank the interviewees for their time and end the interview.**

4. If yes, how are they related to (Child's Name)? **Mark the appropriate boxes**

❑ Mother/Guardian 1
❑ Father/Guardian 2
❑ Sibling 1
❑ Sibling 2
❑ Other ____

5. Why were they not allowed donating blood?

Mother/Guardian 1 ____
Father/Guardian 2 ____
Sibling 1 ____
Sibling 2 ____
Other ____

THANK YOU VERY MUCH FOR YOUR TIME

Acreage Community Case-Control: Categorical Data Analysis

ADULT VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Any known exposure to animal-related activities/materials via adult	7.7	15.4	0.5393	0.5637
Any known exposure to artwork materials via adult	7.7	15.4	0.5393	0.5637
Any known exposure to auto maintenance materials via adult	38.5	53.8	0.4314	0.4142
Any known exposure to hiking/camping materials via adult	46.2	53.8	0.6949	0.7055
Any known exposure to dyes or pigments via adult	15.4	15.4	1.0000	1.0000
Any known exposure to electronic repair materials via adult	0.0	7.7	0.3078	
Any known exposure to furniture stripping materials via adult	7.7	15.4	0.5393	0.5637
Any known exposure to gardening materials via adult	46.2	61.5	0.4314	0.4795
Any known exposure to leather-work materials via adult	0.0	0.0		
Any known exposure to metals via adult	23.1	15.4	0.6188	0.5637
Any known exposure to metal-work materials via adult	23.1	15.4	0.6188	0.5637
Any known exposure to model-building materials via adult	7.7	15.4	0.5393	0.5637
Any known exposure to other chemicals/substances via adult	23.1	0.0	0.0655	
Any known exposure to paints, thinners, strippers via adult	38.5	38.5	1.0000	1.0000
Any known exposure to pesticides via adult	53.8	46.2	0.6949	0.6547
Any known exposure to petroleum products via adult	46.2	46.2	1.0000	1.0000
Any known exposure to plastics via adult	7.7	0.0	0.3078	
Any known exposure to rubber cement via adult	15.4	23.1	0.6188	0.3173
Any known exposure to rust preventatives via adult	38.5	30.8	0.6802	0.6547
Any known exposure to solvents/degreasers via adult	53.8	30.8	0.2337	0.1797
Any known exposure to varnishes/lacquers via adult	15.4	15.4	1.0000	1.0000
Child consumed artificially sweetened drinks	41.7	15.4	0.1437	0.1797

CHILD VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
The mother took antibiotics while breastfeeding	22.2	0.0	0.0993	
The mother had a fever>=101 for 5+ days while breastfeeding	0.0	8.3	0.3749	
The mother took other medicines/herbal products while breastfeeding	25.0	18.2	0.7189	0.1573
The mother took steroids while breastfeeding	0.0	0.0		
The mother received any vaccine while breastfeeding	0.0	0.0		
The mother took vitamin supplements while breastfeeding	37.5	50.0	0.5820	0.6547
The child was breastfed	69.2	92.3	0.1355	0.0833
Any known child exposure to pesticides	66.7	69.2	0.8908	1.0000
Child consumed smoked or cured meats	92.3	100.0	0.3078	
Child received DPT or DTaP vaccine	100.0	100.0		
Any known child exposure to storm water drainage	100.0	100.0		
Child received DT or dT vaccine	66.7	100.0	0.2733	
Any known child exposure to EMR sources within 3 blocks	46.2	30.8	0.4201	0.4795
Any known child exposure to construction fill	92.3	100.0	0.3268	
Any known child exposure to formula	84.6	69.2	0.3519	0.3173
Child consumed fresh fish or shellfish	53.8	61.5	0.6914	0.6547
Child consumed fresh fruit	92.3	92.3	1.0000	1.0000
Child consumed fresh vegetables	92.3	84.6	0.5393	0.5637
Any known child exposure to gas station within 3 blocks	30.8	38.5	0.6802	0.6547
Child received Hepatitis A vaccine	33.3	0.0	0.2733	
Child received Hepatitis B vaccine	85.7	81.8	0.8288	0.3173
Any known child exposure to herbicides	69.2	58.3	0.5706	0.5637
Child received Hib vaccine	85.7	100.0	0.2179	
Any known child exposure to insecticides	61.5	76.9	0.3954	0.4142

CHILD VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
The child was less than 2,500 grams at birth	0.0	0.0		
Child received MMR vaccine	100.0	92.3	0.3944	
Child received mumps vaccine	66.7	0.0	0.2482	
Any known child exposure to natural bodies of water for swimming	8.3	50.0	0.0247	0.0253
Child received other vaccine/immunization	100.0	60.0	0.1138	
Any known exposure to indoor or outdoor pets	83.3	100.0	0.1396	
The child was born before 37 weeks of gestation	0.0	7.7	0.3268	
Any known child exposure to rodenticides	0.0	33.3	0.0285	
Child received rubella (German measles) vaccine	33.3	0.0	0.5050	
Child received rubeola (measles) vaccine	33.3	0.0	0.5050	
Child received Sabin polio vaccine	100.0	70.0	0.1366	
Child received Salk polio vaccine	50.0	100.0	0.0455	
Child consumed soy-based products	23.1	23.1	1.0000	1.0000
The child drank soy-based infant formula	23.1	33.3	0.5683	0.5637
Child received varicella (chicken pox) vaccine	60.0	54.5	0.8385	
Any known child exposure to well-water used for bathing	100.0	100.0		
Any known child exposure to well-water used for cooking	100.0	100.0		
Any known child well-water consumption	69.2	61.5	0.6802	0.7055
Child received yellow fever vaccine	0.0	0.0		
Any known exposure to play area other than yard	66.7	58.3	0.6733	0.7055
Any family history of any type of cancer	76.9	84.6	0.6188	0.6547
Any family history of any type of birth defect	7.7	15.4	0.5393	0.5637
Any family history of any type of major illness	84.6	92.3	0.5393	0.5637
Anyone in household diagnosed with Epstein Barr Virus	7.7	7.7	1.0000	1.0000

FAMILY VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Anyone in household diagnosed with Hepatitis B	0.0	0.0		
Any known gestational exposure to Acreage area	25.0	23.1	0.9104	1.0000
Any known gestational exposure to alcohol	8.3	38.5	0.0780	0.1025
Mother had allergy symptoms while pregnant	8.3	7.7	0.9529	
Mother took allergy medication while pregnant	0.0	0.0		
Mother/father used meds or procedures to assist with pregnancy	0.0	7.7	0.3268	
Any known gestational exposure to artificially sweetened drinks	25.0	7.7	0.2383	0.3173
Any known gestational pesticide exposure	9.1	38.5	0.0978	0.1025
Mother used contraception or birth control at time of pregnancy	25.0	15.4	0.5482	0.5637
Any known gestational CT or CAT scan exposure	0.0	0.0		
Any known gestational exposure to smoked or cured meats	83.3	84.6	0.9304	1.0000
Mother had diabetes or gestational diabetes while pregnant	0.0	7.7	0.3268	
Mother took diabetes medication while pregnant	0.0	0.0		
Any known gestational exposure to storm water drainage	83.3	84.6	0.9304	1.0000
Any known gestational exposure to recreational drugs	10.0	0.0	0.2437	
Any known gestational exposure to dyes or pigments	0.0	0.0		
Any known gestational exposure to EMR sources within 3 blocks	8.3	16.7	0.5371	0.5637
Mother had epilepsy or seizures while pregnant	0.0	0.0		
Mother took seizure medication while pregnant	0.0	0.0		
Any known gestational exposure to agricultural areas	16.7	7.7	0.4903	0.5637
Any known gestational exposure to farm animals	16.7	0.0	0.2535	
Any known gestational exposure to construction fill	50.0	66.7	0.5982	0.3173
Mother had flu or fever >=3 days while pregnant	0.0	23.1	0.0761	
Mother took flu medication while pregnant	0.0	23.1	0.0761	

GESTATIONAL VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Any known gestational exposure to fresh fish or shellfish	58.3	53.8	0.8213	0.7055
Any known gestational exposure to fresh fruit	100.0	100.0		
Any known gestational exposure to fresh vegetables	100.0	100.0		
Any known gestational exposure to gas station within 3 blocks	16.7	38.5	0.2253	0.1797
Any known gestational upper GI exposure	0.0	0.0		
Any known gestational exposure to glues/adhesives	11.1	15.4	0.7740	1.0000
Any known gestational exposure to hair dye	60.0	66.7	0.7462	0.5637
Mother had hypertension while pregnant	8.3	15.4	0.5878	0.3173
Mother took hypertension medication while pregnant	8.3	0.0	0.2881	
Any known gestational herbicide exposure	8.3	45.5	0.0428	0.1797
Mother had heart failure or cirrhosis while pregnant	0.0	0.0		
Mother took heart/liver medication while pregnant	0.0	0.0		
Any known gestational insecticide exposure	36.4	69.2	0.1074	0.1573
Mother had insomnia while pregnant	0.0	15.4	0.1566	
Mother took insomnia medication while pregnant	0.0	0.0		
Any known gestational exposure to metals	11.1	0.0	0.2186	
Any known gestational MRI exposure	0.0	0.0		
Any known gestational exposure to natural bodies of water	50.0	92.3	0.0186	0.0253
Mother took any other medications while pregnant	100.0	100.0		
Any known gestational exposure to other chemical substances	33.3	8.3	0.1488	0.1573
Any known gestational exposure to paint, thinners, strippers	0.0	15.4	0.2172	
Any known gestational exposure to pesticides	0.0	30.8	0.0658	
Any known gestational exposure to pets	50.0	69.2	0.3268	0.1797
Any known gestational exposure to petroleum products	11.1	15.4	0.7740	1.0000

GESTATIONAL VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Any known gestational rodenticide exposure	8.3	7.7	0.9529	1.0000
Any known gestational exposure to rubber cement	0.0	0.0		
Any known gestational exposure to rust preventatives	0.0	0.0		
Any known gestational exposure to tobacco smoke	25.0	15.4	0.5482	0.1573
Any known gestational exposure to solvents/degreasers	0.0	0.0		
Any known gestational exposure to soy-based products	0.0	7.7	0.3268	
Mother had kidney, bladder or urinary tract infection while pregnant	0.0	23.1	0.0761	
Mother took urinary infection medication while pregnant	0.0	16.7	0.1396	
Any known gestational exposure to varnishes/lacquers	0.0	7.7	0.3944	
Any known gestational exposure to vitamins	100.0	100.0		
Any known gestational well-water bathing	41.7	23.1	0.3195	0.3173
Any known gestational well-water cooking	33.3	23.1	0.5683	0.5637
Any known gestational well-water consumption	25.0	15.4	0.5482	0.5637
Any known gestational x-ray exposure	0.0	7.7	0.3268	
Child diagnosed by a physician with an allergic skin rash	25.0	30.8	0.7482	0.7055
Child diagnosed by a physician with anemia	15.4	7.7	0.5393	0.5637
Child had an appendectomy	0.0	0.0		
Child diagnosed by a physician with arthritis	0.0	0.0		
Child diagnosed by a physician with asthma	7.7	15.4	0.5393	0.5637
Child diagnosed by a physician with an autoimmune disorder	0.0	0.0		
Child diagnosed by a physician with a birth defect	0.0	0.0		
Child diagnosed by a physician with bloody diarrhea	0.0	0.0		
Child diagnosed by a physician with CMV	0.0	0.0		
Child ever had CT or CAT scan	23.1	25.0	0.9104	1.0000

MEDICAL VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Child currently takes any medications, vitamins, or other medicines	66.7	53.8	0.5476	0.5637
Child diagnosed by a physician with diarrhea>=5 days	8.3	30.8	0.1612	0.1797
Child diagnosed by a physician with fever>=101 for 5+ days	0.0	23.1	0.0761	
Child diagnosed by a physician with Fifth's disease	0.0	0.0		
Child ever had an upper GI	0.0	8.3	0.2881	
Child diagnosed by a physician with hay fever	7.7	7.7	1.0000	1.0000
Child diagnosed by a physician with a severe head injury	7.7	15.4	0.5393	0.5637
Child diagnosed by a physician with hepatitis	0.0	0.0		
Child diagnosed by a physician with herpes simplex	7.7	0.0	0.3268	
Child took home/folk remedies before diagnosis	0.0	15.4	0.1566	
Child diagnosed by a physician with an immune deficiency	0.0	0.0		
Child took medications before diagnosis	50.0	84.6	0.0638	0.1025
Child diagnosed by a physician with infectious mononucleosis	7.7	23.1	0.2770	0.3173
Child ever had an MRI	0.0	27.3	0.0441	
Child diagnosed by a physician with mumps	0.0	0.0		
Child diagnosed by a physician with neutropenia	15.4	8.3	0.5878	0.5637
Child received an organ transplant	7.7	0.0	0.3078	
Child diagnosed by a physician with other medical issue	23.1	69.2	0.0183	0.0143
Child ever had any other radiology scan	7.7	0.0	0.3474	
Child diagnosed by a physician with rash for 3+ days	18.2	15.4	0.8546	1.0000
Child diagnosed by a physician with German measles	0.0	0.0		
Child diagnosed by a physician with measles	0.0	0.0		
Child diagnosed by a physician with seizures, epilepsy, etc.	7.7	0.0	0.3078	
Child diagnosed by a physician with thrombocytopenia	15.4	0.0	0.1566	

MEDICAL VARIABLES

Variable Description	% of Cases	% of Controls	Chi-Square p-value	McNemar p-value
Child had a tonsillectomy	0.0	15.4	0.1566	
Child diagnosed by a physician with toxoplasmosis	0.0	0.0		
Child diagnosed by a physician with a urinary tract infection	23.1	15.4	0.6188	0.5637
Child diagnosed by a physician with chicken pox	38.5	53.8	0.4314	0.4142
Child ever had a diagnostic x-ray	30.8	50.0	0.3268	0.1573