

**Anencephaly Advisory Committee Meeting (webinar)
Minutes
January 15, 2015**

Advisory Committee Members present:

Kathy Lofy, MD, Chair
Susie Ball, MS LCGC
Sara Barron, RN,
Jessica Black, PhD
Nora Coronado, PhD, MPH, MSW
Lisa Galbraith, DO, MPH
Philip Halvorsen, MD
Peter Langlois, PhD
Jennie McLaurin, MD, MPH
Richard Olney, MD, MPH
Amy Person, MD
Christopher Spitters, MD
Vickie Ybarra, PhC, MPH, BSN

WA Dept of Health Staff present:

Lillian Bensley, PhD
Mandy Stahre, PhD, MPH
Cathy Wasserman, PhD

Interested parties were sent information about the meeting and asked if they wanted to participate. There were several interested parties on the call, including representatives from the media.

I. Welcome and Introductions

Cathy Wasserman began the meeting a few minutes past 8:00 am with a quick introduction.

Cathy Wasserman gave presentation (attached) Some main points of slides are listed below.

Surveillance Updates:

- Data presented included cases confirmed through January 9, 2015. There have been three cases confirmed since the last update in October. The total in the 3-county investigation area is 53 confirmed neural tube defect (NTD) cases, including 38 cases of anencephaly.
- Previously presented tables were updated to include data on the 53 cases. With respect to cases concentrated in time, there is now a maximum of 4 cases in one month (May 2014). However, we do not see a strong peak in time when cases occurred. They occurred across the entire time frame. Similarly, no strong seasonality. Continue to see similar rates between Hispanics and Non-Hispanic whites (race information is missing from some cases).
- Statewide data (slides 8 and 9) are from linked hospitalization and vital statistic (birth and fetal death) data. Previously, we had presented data from vital statistics only. We found additional cases compared to the prior presentation. There were some additional anencephaly and spina bifida cases, but most of the increase was in encephalocele cases which are not reported on vital statistics. Note that these cases are not confirmed and may include false positive cases. On the other hand, this file will miss cases that were terminated prior to 20 weeks gestation. Using these data, the anencephaly rate in the 3-county area is statistically higher than in the rest of Washington. We don't know whether this is a true difference. It could also be a reflection of differences in

termination of pregnancy after a diagnosis of anencephaly, a difference in demographics, or both.

Investigation Updates:

- Continue to prepare for the interview study using the National Birth Defects Prevention Study questionnaire.
- We sent letters to primary care providers of mothers. Many women have already agreed to participate and we're currently scheduling interviews.
- We have approached mothers of all infants with anencephaly and spina bifida with a due date after Dec 2012.
- Continue to work to gain access to comparison data from NBDPS.

Prevention Activities Update

- Provider outreach continues through grand rounds, conference in Yakima at end of February, and trainings in partnership with UW Pediatric Environmental Health Specialty Unit.
- January is Birth Defects Prevention Month – CDC has helpful materials on their website
- Spanish language radio show held in November in collaboration with the Hispanic Commission. It was hosted in Seattle and broadcast only in Seattle. We have a tape of the broadcast and have shared it with KDNA in Yakima and asked them to air it.
- We are exploring the development of materials for providers to use with women of reproductive age to encourage folic acid use. It is a challenge to convince women to take folic acid to prevent NTDs.

End of presentation

Questions from Advisory Committee members:

Advisory Committee (AC): When you are interviewing the women are you getting detailed occupational histories from them?

DOH: Yes, we are using the National Birth Defects Prevention Study Interview which lasts over an hour. The interview does include an occupational history of both the mother and father. These are open ended fields and we are hoping to use the same coders from national study to help code the interviews.

AC: Are we strictly interviewing or are there lab tests or genetic tests?

DOH: We are interviewing only. Does the Advisory Committee have specific lab tests they want us to collect?

AC: I was thinking about the MTHFR test or about fumonisins?

DOH: The fumonisins are hypothesized to affect corn and corn products. We have a food frequency questionnaire included in the interview which captures tortilla consumption. We have broken that down into corn tortilla and flour tortilla consumption. We are not exploring that hypothesis further at this time.

AC: Will you continue to follow-up after you get the initial responses in case there is a certain type of food or occupation, and pursue lab testing?

DOH: We are collecting contact information for the women if we need to recontact them. We could go back to ask for additional information if we were to see a common exposure across

cases. For example, if all cases reported a similar occupation or a high frequency of corn tortilla consumption we could go back and ask where they got their tortillas. With respect to occupation, coders will complete a job exposure matrix based on the types of activities they were doing, and who the employer was to determine possible exposures. We could follow up to look more in-depth at potential exposures if we didn't collect that information initially.

AC: Before you said you didn't see a difference between farm residents and next to farm residents. Has the zip code data changed your interpretation of differences between dwellings?

DOH: The data presented previously about pesticides was based on the medical records study (Jan 2010-2013) This was a case-control study with information from the clinics where women were seen. We mapped those cases and controls and looked at distances of residences to agricultural fields and did not see a difference. We didn't explore the data further. Recently, we looked at the distribution of distances that the mothers lived from agriculture and noticed that both case and control mothers lived within a certain distance from agricultural fields

AC: So, they are one group and you could compare women in rural areas versus urban areas. Are you asking where they lived around the time of conception?

DOH: Women live close to agricultural fields. We want to compare cases from the national study to our cases to see if there are differences, although we're not sure if the national study has detailed information about residence and proximity to fields. We are asking about where they lived at conception.

AC: MTHFR was the genetic defect that makes metabolizing folic acid problematic. You need to take a special kind of folic acid. The initial investigation showed folic acid was not beneficial.

DOH: We did find lower levels of folic acid use in the 3-county area compared with the state. I am not an expert on MTHFR and would like to hear from other advisory members.

CDC: You can measure the MTHFR polymorphisms, but more important is folic acid level in the blood. That level is problematic to measure because measuring it now does not reflect the levels during pregnancy.

AC: A question about the distance. Living within a quarter mile of farm increased the risk of NTD was reported at Teratology meetings.

AC: I didn't provide that presentation, but yes, there was some association with proximity to agricultural fields.

AC: Some small cluster reports have shown the same.

AC: Is there any information about the national efforts around fortification of corn masa flour?

DOH: We do not have additional information. I have asked for contact information for other researchers who helped with the original fortification efforts to understand why the March of Dimes must fund the stability studies instead of the federal government.

AC: I have a question about sacral dimples. You don't see them on the birth defect sheet and I am curious if those will be studied?

DOH: We are not investigating them.

AC: We did notice a cluster of these and were curious if further investigation was needed.

CDC: I think you're saying there are some undetected spina bifida occulta, but this is a common condition and it's not the type of spinal abnormality that we are concerned about. I want to add one more thing about MTHFR and folic acid use. There is not a different type of folic acid for people who have certain genetic polymorphisms.

AC: How did the presentation with the State Board of Health go? Was there any feedback that would be useful to share?

DOH: There was interest in the investigation and some questions. One question which acknowledged the limitations of the statewide data, asked if we could look at that data and carve it up to look at other agricultural areas of the state like Douglas and Skagit counties. We will follow up on that suggestion.

AC: Is there a plan to prospectively either in the 3-county area or in the state, to gather more detailed data than we already have to look at some of the prenatal diagnostics and live births?

DOH: We are continuing the stimulated passive surveillance in the 3-county area at least until next summer, and the Advisory Committee can make recommendations about whether we should continue that. We do not have plans to follow up with all hospitals in the state at this time.

AC: It appears that Hispanics and whites are at higher risk in those counties which is not what we see elsewhere. Migrant clinician network is getting information out about anencephaly prevention.

DOH: That is true and we don't know why we are seeing that here. We greatly appreciate any efforts to get information out about NTD prevention.

AC - Is it possible for the advisory committee to see the variables collected on the interview.

DOH - Yes, we can get that to members. [Note: See list below of topics being explored with the interview data]

CDC - The public health grand rounds on birth defects next week will be archived on the CDC website.

Public questions/comments:

Public: Why are we not asking the mom if we can test folic acid or folate levels?

DOH: We wouldn't know if the current folate levels pertain to the affected pregnancy.

Public: FA task force on FA recommendation. (Not sure of the question)

DOH: We are trying to promote folic acid consumption and tell women to take folic acid daily because most pregnancies are unintended and women may not realize they are pregnant for several weeks.

Public: Why has there been such a long time lag in interviewing women?

DOH: The time lag is due to the logistics of getting things set up - getting interviewers trained on the instrument, developing some additional questions and getting them translated. Setting up the system takes time and we have had to adapt the survey from a computer assisted telephone interview to hard copy interview which is requiring more training.

Dr Lofy – Have you had a chance to compare data (passive surveillance) with data collected from vital statistics. Do you have sensitivity and specificity of the data? I also want to add that prepping the interview questions takes time. We have to verify all the questions are being asked in the same way they are asked on the National Survey so we get information that is comparable.

DOH: I looked at the sensitivity and specificity of the data in the 3-county area 6 months ago and there was high sensitivity and specificity. But we don't know if that is representative of the state overall. It may vary by the size of the hospital and numbers of births.

AC: We still have much higher rates of NTD even with appropriate levels of FA and prevention.

Public: You are going to start interviews soon. You said many moms expressed interest in an interview. I don't understand why you're waiting?

DOH: We identified cases that meet the protocol timeframe from the National Birth Defects Prevention Study. We approached the women's primary care physician first and asked them to approach the women. We felt having the primary care provider contact the mother first might get a better response from the mothers, and the providers could answer questions the mothers may have. We have heard back from several physician's offices who have indicated that their patients are interested in participating. We are still following up with physician's offices we haven't heard back from. In addition, we sent letters to the women whose providers told us they were interested in being interviewed and are following up by phone to schedule interviews.

Public: You said an additional 11 cases were identified since June. That seems like a lot. Can you characterize the level of concern of seeing those cases?

DOH: We didn't identify 11 cases that occurred since June, we confirmed the cases. Some of the cases that we confirmed actually occurred earlier in the time period but we weren't able to identify them previously. For example, some cases were delivered outside of the area and were overlooked in the original data collection.

Adjourned 9:00 am

Topics studied in National Birth Defects Prevention Study include:

- Maternal health
- Pregnancy history
- Nutrition and diet
- Substance use
- Demographics
- Water use
- Occupation
- Residence

In addition, DOH has added household pesticide use.