ADDENDUM

Assessment of the Occurrence of Cancer
East Harris County, Texas
1995–2012

Background

Citizen concern prompted the Texas Department of State Health Services (DSHS) to examine the occurrence of cancer in east Harris County, Texas. DSHS followed the Centers for Disease Control and Prevention (CDC) and Council of State and Territorial Epidemiologists (CSTE) 2013 guidelines to investigate the occurrence of childhood and adult cancers. Observed numbers of several of the 17 cancers analyzed were statistically significantly greater than expected, while others were statistically significantly less than expected. The full report, "Assessment of the Occurrence of Cancer in East Harris County, TX, 1995-2012," is available at http://www.dshs.state.tx.us/epitox/CancerClusters.shtm.

In accordance with the CDC and CSTE 2013 guidelines, DSHS convened a group of eight subject matter experts to review the results of the assessment and evaluate the feasibility of follow-up epidemiologic study. Feasibility refers to the ability to design a study that can test a specific hypothesis given the data available.

The group represented a wide array of relevant experience, and included members of academia, government, health care, and the community. The group was comprised of experienced scientists, including epidemiologists, toxicologists, a physician, a statistician, and environmental health scientists. Additionally, a local representative participated in the group in order to represent the east Harris County community.

A meeting was held by conference call on July 24, 2015. The purpose of the meeting was to determine the feasibility of a follow-up epidemiologic study of the associations between specific cancers and environmental contaminants in the area.

DSHS staff facilitated the meeting, while participants provided expert opinion and discussed issues such as development of a testable hypothesis, study design requirements, environmental exposures in the area investigated, and community concerns.

Subject Matter Expert Meeting Outcome

Based on the information discussed during the meeting, the subject matter experts determined that an epidemiologic study of the associations between specific cancers and environmental contaminants in the area investigated is not feasible. Some factors identified by the expert group include the following points:

- The two cancers of concern, childhood retinoblastoma and glioma, appear at many times the expected rate in a few census tracts. However, there are a very small number of observed cases (five or fewer).

- The very small number of cancer cases means that it would be impossible for an epidemiologic study to detect associations between environmental exposures and these cancers.

- There are no environmental exposures that have been consistently linked to these childhood cancers of concern in the scientific literature.

- The experts did not see any trends emerge in the data in terms of location, distribution, or frequency of cases that would indicate the need for additional studies to attempt to identify specific environmental causes.

A full summary of the subject matter expert meeting, which includes additional discussion points, is available at http://www.dshs.state.tx.us/epitox/CancerClusters.shtm.

DSHS Response to Items Suggested for Additional Consideration

Based on the conclusion of the subject matter experts, DSHS will not pursue additional epidemiological study related to the community's concerns about the occurrence of cancer in east Harris County.

In addition to its conclusions about the feasibility of additional epidemiological study, the expert group provided suggestions for DSHS consideration. Since the time of the meeting, DSHS has evaluated each suggestion, and now provides the following response:

1. *Calculate SIRs for leukemia and lymphoma subtypes for all ages.*

   DSHS will calculate these SIRs and make them available on the DSHS website.

2. *Reconsider the geographic area and timeframe selected for analysis.*

   The timeframe and geographic area were selected according to community concern about environmental contamination that was present in this area prior to the time period analyzed (1995-2012). Without a clear proposal of an alternate exposure timeframe and population at risk, conducting analyses with alternate geographic and temporal parameters would not provide productive data. Additionally, there would be fewer cases included in the analysis, so the same limitations to conducting further epidemiologic studies would exist. Therefore, DSHS will not conduct additional SIR analyses of a different timeframe or geographic area at this time.

3. *Analyze cancers among adults only, in addition to children and all ages combined.*

   DSHS staff will calculate these SIRs and make them available on the DSHS website.

4. *Investigate the possibility of conducting biomonitoring of dioxin levels in adipose tissue.*

   While biomonitoring could potentially be informative, DSHS does not have the resources to carry out a biomonitoring project. However, DSHS would consider providing technical

support for such an endeavor.

5. *Conduct a small area estimation analysis of hospital discharge data for autoimmune disorders.*

   DSHS does not have resources at this time to conduct such an analysis. However, DSHS could consider it in the future if resources become available.

6. *Establish a health registry or distribute a questionnaire to the community.*

   DSHS collects data on many health outcomes for the entire state through its legislatively-mandated registries and surveillance systems (i.e., cancer, trauma, infectious diseases). Self-reported information on a non-specific list of health outcomes from one area would not provide useful data by which to inform public health measures. Likewise, collection of specific health outcomes data from only one community would not be informative because there would be no comparison group data available. Such efforts would require substantial resources, and would not necessarily provide answers to the community's concerns. This item will not be pursued. However, DSHS could consider providing technical support to academic researchers proposing to conduct studies related to the health of east Harris County residents.

Given the experts' suggestions, DSHS will calculate the following standardized incidence ratios for east Harris County and make them available publicly: leukemia and lymphoma subtypes for all ages, and cancer incidence among adults only for all 17 assessed cancers.