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NEVADA STATE HEALTH DIVISION

NEWS RELEASE

CDC tests reveal that none of the results of tests on biologic or environmental samples suggest a link between an environmental exposure and increased risk for leukemia

(For Immediate Release)

Carson City – Results released today from the Centers for Disease Control and Prevention (CDC) at a Town Hall Meeting in Churchill County revealed levels of most substances analyzed in the Churchill County Leukemia Cluster investigation were no different from levels found elsewhere and none of the results were associated with childhood leukemia. The study did show elevated levels of arsenic, tungsten and six additional metals as well as six nonpersistent pesticides and one persistent pesticide.

The CDC's cross-sectional results are from the analysis of biologic specimens focusing on blood and urine samples, which were collected from the case families in the Churchill County Leukemia Cluster and randomly selected comparison families in the community. Samples were collected from a total of 205 people – which included 55 from the 14 families stricken with the disease.

Environmental samples were also taken from all study participant homes. This included indoor air, play yard soil, household dust and tap water samples.

Selected Study Findings

Metals

Arsenic and tungsten, as previously reported August 20, 2002, have been found in elevated levels in both case and control families. Tungsten levels are not known to be associated with adverse health outcomes. CDC and the Nevada State Health Division are currently working on an additional tungsten study, involving two Nevada communities. This additional study is being implemented in order to investigate whether tungsten is unique to Churchill County or if tungsten is present in other Nevada communities.

"The arsenic results confirm an ongoing environmental concern for the community," said Randall Todd, State Epidemiologist. "The new water treatment facility that is being built will remove

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arsenic, and in the meantime, we recommend that the community take advantage of alternative sources of drinking water."

Six additional metals (antimony, barium, cesium, cobalt, molybdenum and uranium) were either slightly elevated or had more than 10% of their results above the 95th percentile level of the reference population or health-based value. Although individual homes had environmental samples with detectable levels of these metals, they were not elevated community wide.

Pesticides

The cross-sectional analysis also identified five nonpersistent pesticides (out of 31 nonpersistent pesticides analyzed) that were each above their respective 95th percentile national reference value in more than 10% of the Churchill County urine samples. These pesticides include two organophosphate pesticides, two chlorinated phenolic pesticides, and a fungicide. An aromatic hydrocarbon pesticide was also found to be slightly higher than the reference. There were not any community wide elevations of any of these nonpersistent pesticides in the environmental samples.

Among 11 persistent pesticides analyzed, CDC found only DDE to be above the National Report on Human Exposure to Environmental Chemicals, a report that provides levels for a sample of the U.S. population. CDC did not find elevated levels of DDT in environmental samples, but levels in humans can reflect historical exposure because these chemicals are stored in body fat.

"Although the biologic results showed some elevation in pesticide exposure in the community, environmental testing did not identify any sources of ongoing exposure," said Carol Rubin, DVM, the CDC lead scientist on the investigation. "We are recommending conservative use of personal household pesticides in an effort to limit exposure."

Volatile Organic Compounds

Volatile organic compounds (VOCs) were not found to be elevated. Levels were similar among case and comparison families. VOCs were not elevated in air samples.

Next Steps

Tungsten

In mid-February, the epidemiological investigation examining tungsten in two geologically similar Nevada cities will begin. Results are expected in the summer. In addition, the National Toxicology Program of the National Institutes of Health is reviewing the existing literature before beginning toxicologic research of tungsten and tungsten compounds to determine their potential link to cancer in humans.

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Genetics

The study involved an extensive, collaborative effort between numerous state and federal agencies. Throughout the process, CDC has consulted with statistical, genetic and environmental advisory groups for external peer review.

Having found elevated levels of several contaminants, CDC, with the input of a panel of nationally recognized hematologic oncologists and cytogeneticists, will conduct genetic testing to try to determine whether differences exist between case families and comparison families in genes that are responsible for the way these environmental contaminants are metabolized by the body or the way such contaminants may affect proteins these genes are responsible for producing. To obtain this information on genetic differences, CDC will study normal genetic variation that may make people slightly more susceptible than others to potentially toxic contaminants.

Persons may contact the Community Information Line if they have additional inquiries or questions. The telephone number is 1-888-608-4623.

Please direct all media inquiries to Martha Framsted, Public Information Officer, Nevada State Health Division, (775) 684-4014.

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