Whitfield County CCI
June 29, 2007

In September 2005, a resident of Dalton requested that the Georgia Division of Public Health (GDPH) investigate whether a cluster of cases of glioblastoma multiforme (GBM) cancer exists in Dalton, Georgia. The resident documented three cases of this type of brain cancer diagnosed in people associated with Dalton State College. There were also concerns from other residents about air and water quality in Dalton. In response, GDPH conducted a cancer cluster investigation and an environmental health education needs assessment to investigate residents' concerns and assist with community health education.

The city of Dalton is located approximately 60 miles north of Atlanta, Georgia and 20 miles south of Chattanooga, Tennessee. Dalton is the government seat for Whitfield County (population of approximately 90,000 in 2005) and home to many industries and businesses. Carpets and other textiles and associated chemicals are produced locally.

Known releases of hazardous substances to air, soil, and water are listed in the Georgia Environmental Protection Division's (GEPD) Hazardous Site Inventory (HSI). GDPH reviewed the 2006 Inventory and the U.S. Environmental Protection Agency's (USEPA) list of "Superfund" sites and Toxic Release Inventory data. This environmental data was compared to information provided about the cancer cases reported, including location and length of residency, and no commonalities were found. In addition, there was concern that there may be a link between three cases of GBM in people associated with Dalton State College.

In October 2005, Dalton State College hired an environmental consulting company, Durbin Environmental Consultants, Inc, to perform a limited Indoor Air Environmental Quality Assessment of the areas of concern. The assessment focused on identifying potential indoor and/or environmental agents that could have the potential for adverse health effects based on acute and long term exposures. The assessment included air, ground, and spore trap sampling, physical inspections, chemical inventory, maintenance review, and occupant interviews. Measurements for ambient air, asbestos, carbon dioxide (CO_2), carbon monoxide (CO), relative humidity, temperature, volatile organic compounds (VOCs), mercury, formaldehyde, organics, pesticides, and radon gas were analyzed and no environmental contamination was found.

GDPH communicated with several residents with GBM and their family members and representatives. These individuals helped to develop and implement the needs assessment project to ensure community participation, by assisting with survey development and distribution. GDPH contacted Dalton State College and the University System of Georgia Board of Regents to inform them of, and gather support for, the investigation and to ask them to encourage participation by their faculty and staff. Volunteers collected many of the surveys and GDPH provided postage-paid mailers to return the surveys to GDPH. No reports of additional concerns were received from the community.

Approximately 550 surveys were distributed between January and May 2006. An effort was made to notify residents about the survey though an article in the *Dalton Daily Citizen* and a column of the *Carpet and Rug Institute Newsletter* (1/06). Surveys were collected by GDPH by return mail and fax as directed on the survey. GDPH distributed approximately 550 surveys, and collected 298 surveys for a 54% return rate.

The Georgia Comprehensive Cancer Registry (GCCR) is a population-based registry that collects, maintains, and analyzes cancer incidence data in Georgia. GDPH consulted with the GCCR to determine if indeed a cancer cluster existed in Dalton and/or Whitfield County. GCCR verified that, after adjusting for age, GBM rates in Whitfield county (3.8 per 100,000) and Dalton (3.3 per 100,000) were not significantly different from Georgia (3.0 per 100,000).

GDPH issued a press release to the Dalton newspaper on May 11, 2007 describing the needs assessment process and summarizing the results. A public comment release version of the Environmental Health Education Needs Assessment was released on June 1, 2007.

Conclusions

GDPH has determined that this site poses ***no public health hazard***. There has been sufficient HOD documented that would have indicated the potential for a completed human exposure pathway.

After careful consideration and analysis of the information collected, it was determined that no cancer cluster currently exists in the area.

- The survey had a 54% return rate.
- No previously undocumented cases of GBM were reported by the community.
- No statistically significant rates of other types of brain cancer were found.
- GBM cases were not clustered geographically or in a pattern similar to HSI sites.
- The respondents were primarily White, non-Hispanic, and educated, which does not reflect the general population of Dalton or Whitfield County.
- 70 respondents (23%) have been tested for cancer, and 70% of those tested for cancer were women and 27% were men.
- About half (53%) of the respondents reported concerns with air quality and less than half (45%) were concerned about water quality. No specific source of environmental contamination of concern was identified.
- Most respondents prefer to receive information through newspaper ads/articles and fact sheets; however, 69% of respondents prefer a variety of methods.
- Most common health complaints reported were respiratory problems, headaches/migraines, and lightheadedness/dizziness.
- For 2003 and 2004, there were four and three confirmed GBM cases diagnosed per year--an excess of two and one case each year, respectively. The GDPH will continue surveillance for GBM, and other brain and nervous system cancer in Dalton and Whitfield County.
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GDPH will continue to monitor GBM and other brain and nervous system cancers in Dalton and Whitfield County.