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Summary of Public Health Investigation of Cancer Concerns at Santa Monica-Malibu Unified School District: Malibu High School & Cabrillo Elementary School

In October 2013, the Los Angeles County Department of Public Health was contacted by Sandra Lyon, Superintendent of Santa Monica-Malibu Unified School District to investigate cancer concerns raised by the faculty and staff at Malibu High School and Cabrillo Elementary School. The following is a summary of our findings and recommendations that were presented at a meeting with the faculty and staff on February 7, 2014.

Results of Voluntary Cancer Case Questionnaire

1. Malibu High School
33 surveys were received from faculty and staff (27 current staff and 6 retired staff). The age range was 30-75 years old and the primary ethnicity was Caucasian. There were few reports of a cancer diagnosis, which consisted of different types of cancers. The exact number of cases is withheld, because the number is too small to preserve confidentiality.
2. Cabrillo Elementary School
11 surveys were received faculty and staff (10 current staff and 1 retired staff). The age range was 40-77 years old and the primary ethnicity was Caucasian. There were few reports of a cancer diagnosis, which consisted of different types of cancers. The exact number of cases is withheld, because the number is too small to preserve confidentiality.

Implications for Malibu

There was no evidence to suggest an unusual occurrence of cancers at the 2 schools. Reported cancers were common diagnoses occurring in common age groups.

According to the USC Cancer Registry, there is a known thyroid cancer cluster in the general Malibu area; however, when cancer data are adjusted for social class, the thyroid cancer cluster is no longer observed, suggesting that social class and demographics are responsible for this mathematical clustering in the region. Factors that influence the significance of social class in such a situation may include improved access to healthcare, more diagnostic screening among the population, and greater awareness in the medical community.

Facts about Thyroid Cancer

Thyroid cancer accounts for approximately 1% of overall cancers in the United States. In 2013, thyroid cancer accounted for 6% of the estimated new cancer cases among women in the United States. There are many variants of thyroid cancer, such as papillary, follicular, medullary, anaplastic and other subtypes. The papillary form is the most common type of thyroid cancer. Incident rates are approximately 3 times higher in women—approximately 45,000 out of 60,000 cases diagnosed per year. The annual incidence of thyroid cancer has been increasing steadily. Higher rates are seen in Iceland, Hawaii, and Philippines (also in the Filipino immigrant population).

Risk factors of thyroid cancer include: (1) High-dose exposure to ionizing radiation, such as radiation received for medical conditions or extensive dental work, (2) Iodine deficiency, or poor intake of iodine in the diet, (3) Obesity, (4) Family history, and (5) History of thyroid conditions, such as goiter, benign thyroid nodules/adenomas, thyroiditis/ Hashimoto's thyroiditis, and Cowden's disease.

Facts about Cancers

Cancers are a group of more than 100 diseases characterized by uncontrolled growth and spread of abnormal cells. The term "cancer" has been used to describe all of these diseases, leading to the viewpoint of cancer as a single disease. However, different types of cancer diagnoses have different set of causes, risk factors, courses of treatment, rates of occurrence, and chances for survival.

Cancers are now the leading cause of death in the United States in people under 80 years old. Approximately 30-40% of Americans will get some form of cancer during their lives.

Facts about PCBs

According to the U.S. Environmental Protection Agency, PCBs (Polychlorinated Biphenyls) were manufactured from 1929 until 1979 in which the chemical was banned in the United States. PCBs were used in hundreds of industrial and commercial applications, such as in electrical equipment. Although PCBs are no longer manufactured in the U.S., the chemical may be present in products or materials produced before 1979.

Health Effects of PCB:

There is emerging epidemiological association between PCB exposure and increased risk of melanoma in sun-exposed humans, and there is limited evidence suggesting increased risk of non-Hodgkin's lymphoma

and breast cancer. The most consistent human disease finding with PCB exposure is chloracne, which is a rare non-cancerous skin condition that appears similar to acne.

In occupational settings, chronic inhalation in workers is associated with respiratory tract symptoms, such as cough and tightness of the chest. Other symptoms include gastrointestinal effects, i.e. anorexia, weight loss, nausea, vomiting, and abdominal pain, mild liver effects and effects on the skin and eyes (such as chloracne, skin rashes, and eye irritation).

Studies are based on plausible mechanisms of exposure, such as ingestion with potential accumulation of PCBs over time. In general, more research needs to be conducted on PCBs to determine potential human health impacts.

Implications for Malibu Regarding PCBs

Environmental testing at Malibu High School has revealed the presence of PCBs in caulking of the windows in a classroom. There is lack of data noting any measureable exposure to faculty, staff, or students; further, there is a lack of data noting the potential contribution of PCB in caulking to a person's overall PCB exposure. Any association between PCB in the caulking and human disease at Malibu can not and should not be determined via environmental testing.

Recommendations

The Los Angeles County Department of Public Health did not find evidence of unusual cancer rates or occurrences at Malibu High School and Cabrillo Elementary School. The data obtained in the investigation relating to cancers and PCBs were based on the current evidence and existing studies. In general, the study of cancers always warrants further research to determine the causes and risk factors of various cancers. Based on current data, the Los Angeles County Department of Public Health does not recommend additional testing of the school environment with the intent of establishing correlations or associations with human disease.

For further questions or inquiries, please contact us at (213)738-3220.

Cancer Resources

American Cancer Society:

<http://www.cancer.org/>

National Cancer Institute:

<http://www.cancer.gov/>

USC Cancer Registry:

http://uscnorriscancer.usc.edu/about/programs/la_county.html

California Teachers Study:

<http://calteachersstudy.org/>

Resources for PCB

U.S. Environmental Protection Agency:

<http://www.epa.gov/osw/hazard/tsd/pcbs/pubs/about.htm>