



Epidemiological Investigation of concerns regarding cases of breast cancer in women working at Milpera State High School, Chelmer

Background

Concerns regarding cases of breast cancer in women working at Milpera State High School were raised with Department of Education, Training and the Arts and Queensland Health by the school staff. In response, the Department of Education, Training and the Arts has undertaken an extensive range of investigations and requested Queensland Health to assess the pattern of disease occurrence.

The investigation was divided into two distinct aspects. One involved an epidemiological assessment conducted by Queensland Health of the occurrence of breast cancer in past and current staff members at the school. This investigation aimed to determine whether the incidence of breast cancer in the female workforce at Milpera State High School during the period 1984 to 2007 was higher than expected, in comparison with the observed incidence of breast cancer in Queensland. This aspect is described in the current report.

The other aspect of this Department of Education, Training and the Arts investigation involved considering past and current exposures to carcinogens while working at the school. Stage 1 of an Environmental Site Assessment of the Milpera State High School was undertaken by Parsons Brinckerhoff Australia Pty Ltd, with Stage 2 ongoing. The purpose of the Stage 1 investigation was to understand the site history and environmental condition of the site with respect to potential contamination, in order to determine potential health risk. The results of the exposure assessment will be reported separately. However, it is important to keep in mind that proper consideration of a potential cluster involves consideration of both the exposure and the epidemiological aspects of the investigation.

Methods

Breast cancer case information (diagnostic and other personal details) was collated by the Principal at Milpera State High School and provided to Queensland Health. The case list was based on self-reporting by staff members as well as the Principal's extensive knowledge of the school, having worked at the school since it opened in 1984. Case list details were checked against the Queensland Cancer Registry. The employment history of staff was supplied to Queensland Health by the Department of Education, Training and the Arts.

Results

Eight cases of breast cancer were identified amongst current and former staff members. Uncertainties in the number of women who had ever worked at the school, and in their dates of employment, meant there were uncertainties in the estimated rate of breast cancer in women at the school.

The analysis did not suggest that there was a real increase in the rate of breast cancer in women who had worked at the school, compared to the average rate expected for Queensland women of similar age. The estimated rate for school workers was between 1.25 and 2.0 times higher than the average Queensland rate. However, the statistically small number of cases, uncertainties in the data, restraints on the analysis due to lack of data, limitations of standard statistical tests in cluster investigations and known variation in breast cancer rates in Queensland means that there is little evidence of a truly increased rate of breast cancer in female workers at the school.

Conclusions

The epidemiological investigation provides little evidence that the rate of breast cancer in female workers at Milpera State High School is meaningfully higher than expected, based on the average rate for Queensland women of the same age.

The final results of the exposure investigation in this study are not yet available. However, the results to date appear not to have identified any exposures of concern from a cancer occurrence point of view. More specifically, there has not been any report of exposures that are known or suspected of increasing the risk of breast cancer. On the assumption that this is correct, and taking into account the epidemiological results, it appears highly unlikely that the cases of breast cancer diagnosed in workers at the Milpera State High School were related to exposures experienced whilst working at the School.

Recommendations

The Department of Education, Training and the Arts should interpret the findings of this epidemiological study in light of the results from the environmental assessments. To date, the Stage 1 assessment has found no evidence of elevated contamination from environmental agents.

1. No further epidemiological investigation is currently required.
2. The findings of this epidemiological study should be communicated to the staff members with breast cancer, the school community, Department of Education, Training and the Arts, and the broader community.
3. The investigation may be re-opened if new information relevant to this situation becomes available in the scientific literature about the causes of breast cancer, or if there are new concerns about an environmental exposure.
4. Education on breast cancer risk factors and breast cancer screening programs should be made available to Education Queensland staff, including awareness of key websites such as the online breast cancer risk calculator from the National Breast Cancer Centre (www.nbcc.org.au/).