



New York State Department of Health
Center for Environmental Health
Center for Community Health

Information Sheet

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Health Outcomes Review: Hospitalization Rates for Selected Outcomes and Cancer Incidence, Van der Horst Area, City of Olean Cattaraugus County, New York

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Background: In response to community health concerns about chemicals released from the former Van der Horst electroplating facilities in Olean, Cattaraugus County, the New York State Department of Health (NYS DOH) conducted investigations of hospitalizations and cancer incidence among residents living near the facilities. The facilities operated from the 1940s until 1987 and during this time released chromium, arsenic and other chemicals to air and people may have had inhalation exposures to these chemicals. Chemicals released to air also deposited onto nearby surface soils and people who worked or played in soil (e.g., gardeners and children) may also have had exposures to the chemicals. Actions to clean up residential soils were taken and most of these activities were completed by 1997.

Methods: Hospitalization data for 1982 through 2005 were evaluated to see if hospitalization rates among residents near the facilities appeared to be similar, higher or lower than rates among residents of the rest of Cattaraugus County. Cattaraugus County was used as the comparison area because socio-economic and other local factors influence hospitalization rates, and a review of Census data showed that Cattaraugus County was more appropriate as the comparison area than the more general upstate population. The review assessed a set of nine broad groupings of diseases by organ system and eleven more specific categories of diseases associated with chromium or arsenic exposures in published studies of other populations. Most of the published studies are of occupational groups with relatively high-level exposures.

Cancer incidence for 1993 through 2002 was evaluated to see if numbers of cancer diagnoses among residents near the facilities were similar, higher or lower than the expected numbers, based on rates among residents of upstate NY, which includes all of NYS except New York City. The investigation assessed total cancers, as well as 17 of the most common types of cancer among males and 19 of the most common types among females.

The timeframes for the two reviews differ because the cancer incidence data were acquired in 2004, when 2002 was the most recent year of complete cancer data. The hospitalization data, although requested in 2004, were not acquired until 2007, and included hospitalizations through 2005.

Findings: Our evaluation of the hospitalization data found some statistically significantly elevated hospitalization rates for the broad organ system categories of endocrine, nervous system and respiratory disease during the latter years of facility operation (1982 – 1987). However, we did not see a similar pattern of elevations when we evaluated the specific disease categories. The cancer review identified a total of 50 cases diagnosed among males compared to 41 cases expected, and 52 cases among females compared to 51 cases expected. These differences were not statistically significant. No specific type of cancer among males or females showed numbers that were statistically significantly higher or lower than expected.

Limitations: The data and methods for both the hospitalization and cancer investigations have limitations that are discussed in the individual reports. Most importantly, there is no individual-level information about specific exposure types or levels, nor was there individual-level information available about disease risk factors, such as occupation or tobacco use. These group-level studies cannot link causes, such as specific exposures, with effects, such as specific diseases, but they do provide information about the relative level of disease in a community that may be useful to residents.

Conclusions: The cancer investigation detected no statistically significantly higher or lower numbers of cancer diagnoses than expected. The hospitalization analyses produced some statistically significantly elevated hospitalization rates, but limitations associated with the use of hospitalization data prevent us from drawing conclusions about the causes of these elevations.

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