



# Center for Environmental Health Information Sheet October 9, 2013

## **Tonawanda Study Area Health Outcomes Review: Birth Outcomes and Cancer, Erie County, NY** Final Report including Summary of Public Comments and Responses

**BACKGROUND:** The New York State Department of Health (NYS DOH) conducted a health outcomes review for Tonawanda and surrounding areas in Erie County in response to community concerns about potential health effects from exposures to emissions from the area's industries and motor vehicle traffic. Concerns were heightened after the New York State Department of Environmental Conservation (NYS DEC) released results from an air quality monitoring study in 2009 (<http://www.dec.ny.gov/chemical/59464.html>). Working with community members and NYS DEC, NYS DOH developed a Tonawanda health outcomes study area, with several sub-areas, during 2010 - 2012.

**METHODS:** A health outcomes review examines a particular group of people as a whole to see how the group compares to a group not living in the area of concern. It cannot prove that a specific environmental exposure caused a specific health effect and it cannot tell us anything about individual health problems. This health review included data from 1990 to 2009. We looked at cancer as well as birth defects and other birth outcomes such as low birth weight and preterm births for people who lived in the area when the health problems were diagnosed. We compared the rates of these health outcomes in the Tonawanda study area to the rates for people in NYS, excluding New York City (NYC), and also to rates for people in Erie and Niagara Counties.

### **RESULTS:**

**Cancer:** Total cancers as well as 18 separate types of cancer for women and 16 types for men were reviewed. In the overall study area, using NYS, excluding NYC, as the comparison, lung cancer, bladder cancer, and total cancers were elevated among both males and females; esophageal cancer was elevated among males and uterine cancer was elevated among females. Two additional types of cancer were elevated, each in just one sub-area: oral cavity/pharynx cancer among males, and leukemia among females. Using Erie and Niagara Counties as the comparison area, the same cancer types showed elevations, but the elevations were reduced, and some were no longer statistically significant.

Although the kinds of chemical compounds that were detected in the air in the Tonawanda exposure area have been associated with some of these types of cancer (leukemia and pharynx) in other studies, there are many other factors that may also contribute to the development of these types of cancer. These factors include smoking, family history, and occupational exposures, as well as others. In the general population, smoking is the most important risk factor for both lung and bladder cancer. We do not know the individual medical and exposure histories for the people included in this study.

**Birth Outcomes:** The analyses of birth outcomes in the study area compared to birth outcomes in NYS (excluding NYC) showed some elevations that were relatively smaller than the cancer elevations. Preterm births were elevated in the overall study area. Total heart defects as a group were also elevated, but major heart defects were not elevated. When we compared the birth outcomes in the study area to birth outcomes in Erie and Niagara Counties, the elevations declined substantially. This is consistent with other evidence suggesting this area has more complete reporting than elsewhere in the state, particularly for relatively minor adverse outcomes that do not generally require medical intervention.

**RECOMMENDATION:** This final report includes responses to public comments received after the draft report was released in February 2013. In this final version, a recommendation has been added for NYS DOH to work with the community to develop a proposal for a biomonitoring project to address ongoing concerns about exposures among residents of the study area.

*The full report is available online at <http://www.health.ny.gov/>*

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