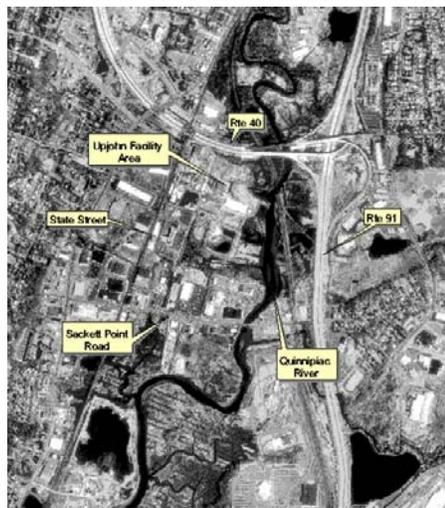


NORTH HAVEN CANCER REVIEW SUMMARY

BACKGROUND

This fact sheet is a summary of a recent review of bladder cancer and leukemia data in North Haven, Connecticut by the Connecticut Department of Public Health (DPH). The main goal of this review was to analyze the incidence of bladder cancer and leukemia in the North Haven community. This review was requested by the North Haven First Selectman's office after a report, published by Upjohn's consultants (SRA Technologies), presented evidence of a high bladder cancer rate among Upjohn workers.



WHY BLADDER CANCER & LEUKEMIA WERE SELECTED FOR REVIEW

Bladder cancer was selected for study because the consultant's report showed that the standardized incidence ratio for male bladder cancer was high among workers at the facility in the past. A standardized incidence ratio (SIR) compares the **actual number** of cases for a given place and time to the number that would be **expected** based on cancer rates in a comparison group. The comparison rate used in the SRA study was the statewide male bladder cancer rate. The male bladder cancer SIR reported in the SRA Technologies study was 8.3. This means that for Upjohn workers, the number of bladder cancer cases was estimated to be 8.3 times greater than the expected number, based on state wide bladder cancer rates.

Leukemia was also looked at because there were past releases of benzene from the Upjohn facility at levels of health concern. Exposure to benzene has been linked to leukemia in other health studies. There was no other documented evidence of contamination at or above levels of health concern released into the environment. Therefore, no other tumor sites were selected for review.

STUDY METHODS

Odds Ratios (ORs) were calculated for male and female bladder cancer and leukemia for various age groups. An odds ratio is the odds of the event (for instance, having bladder cancer) with exposure, divided by the odds of the event with no exposure. Odds ratios were calculated for two five-year periods and one four-year time period (1983 -1987, 1988 - 1992, 1993 - 1996). 1996 was the last full year that tumor data was available from the Connecticut Tumor Registry when this work started. The odds ratio is similar to the SIR in that it measures excess risk of cancer within the study group. Since exposure information for everyone in North Haven was not available, distance from the Upjohn facility (1/4 mile buffers) was used as an indicator of exposure.

STUDY RESULTS

Although workers at the Upjohn facility in North Haven experienced a higher rate of bladder cancer as reported in the consultant's study, the community did not experience a higher incidence of bladder cancer or leukemia.

This review looked closely at the geographic pattern of cancer within the community. Because there are small numbers of cases, the results show fluctuations in rates. However, there was no consistent pattern of cancer occurrence within the community that indicated a higher risk for residents who lived closer to the Upjohn (and possibly exposed to more emissions from the facility) than those persons who lived further away from the facility.

UNDERSTANDING THE RESULTS

Better exposure information is necessary to make the most informed statement about potential health impacts from living near the Upjohn facility. Without good individual exposure information, the analyses have to use estimates of exposure. Care needs to be taken when reviewing the results of the study because we don't really know which people were exposed, for how long, and at what levels of exposure. Additionally, we don't know how other sources of pollution or contamination may have affected the area of concern. We can say with some confidence that living near the Upjohn facility did not significantly affect a person's risk of developing bladder cancer or leukemia.

There were no major findings for male and female bladder cancer. There were also no major findings for male and female leukemia. There also does not appear to be a relationship between living near the North Haven Upjohn facility and leukemia or bladder cancer.

FOR MORE INFORMATION:

CT Department of Public Health
EEOH Division, MS # 11CHA
410 Capitol Ave, P.O. Box 340308
Hartford, CT 06134-0308
(860) 509-7742
www.state.ct.us/dph

Quinnipiack Valley Health District
1151 Hartford Turnpike
North Haven, CT 06473
(203) 248-4528
www.qvhd.org/



This factsheet is funded, in part, by funds from the Comprehensive Environmental Response, Compensation, and Liability Act trust fund through a cooperative agreement with the Agency for Toxic Substances and Disease Registry, U. S. Public Health Service.