



QUESTIONS AND ANSWERS

Massachusetts Department of Public Health

Ashland Nyanza Health Study April 2006

What is the Ashland Nyanza Health Study?

The Ashland Nyanza Health Study is a retrospective cohort study which attempted to recreate the population of Ashland children between the ages 10 and 18 during the years 1965 to 1985. The study was conducted to determine whether cancer incidence among former Ashland residents is related to contact with the former Nyanza Chemical Dump.

Who conducted the study?

The Ashland Nyanza Health Study was conducted by the Massachusetts Department of Public Health, Center for Environmental Health with partial funding from the U.S. Agency for Toxic Substances and Disease Registry (ATSDR).

How much did the study cost?

The study cost approximately \$760,000 in state funding and was supplemented with \$75,000 in federal funds.

Why was the Ashland Nyanza Health Study conducted?

The Ashland Nyanza Health Study was conducted at the request of residents of the Ashland community and the Ashland Board of Health. In 1998, residents of Ashland reported to the MDPH that children who lived in the town and had played on the Nyanza site in the past developed similar types of rare cancers as young adults. Of greatest concern was the report of five men in their early 20's that developed various types of soft tissue sarcomas. These individuals were in the general age range identified in a previous MDPH study (1994 Public Health Assessment*) as the population with the greatest opportunities for exposure to the Nyanza site.

What were the goals of the study?

The objective of the study was to determine the possibility that exposure to the Nyanza Chemical Dump in the past had contributed to cancer among current and former Ashland residents. The study examined specific locations of the Nyanza site where contamination had been detected in the past.

How was the study conducted?

The study followed a protocol which was reviewed and approved by the MDPH, Human Research Review Committee as well as an external peer review committee.

Who participated in the study?

Ashland residents who were between the ages of 10 and 18 during the years 1965 to 1985 were eligible to participate in the study. A total of 1,387 individuals participated in the Ashland Nyanza Health Study.

How were study participants contacted to enroll in the study?

Study participants were identified primarily from public school records and lists of graduates from Ashland High School. Graduate lists of Ashland residents who attended Marian High School and Keefe Technical High School were also obtained. Using current address information obtained from high school class listings and class reunion lists, each member of the target study population was mailed a letter requesting their participation in the Ashland Nyanza Health Study. The MDPH also established an interactive web site for the study, which allowed potential study participants to contact MDPH to enroll in the study. In addition, potential study participants to contact MDPH researchers to enroll by using a toll free telephone number.

What data were used in the study?

Each study participant was interviewed by trained researchers to collect detailed information on residential history, contact/activities at Nyanza site locations, recreational activities in Ashland, swimming or fishing activity in Ashland water bodies, occupational history, personal and family medical history including any diagnosis of cancer. This data was then analyzed to compare the incidence of cancer among study participants who reported contact with the Nyanza site (the exposed group) and study participants who did not report contact with the Nyanza site (the non-exposed group).

How was exposure to the Nyanza Chemical site determined?

Exposure to the Nyanza Chemical site was determined based on responses from study participants who reported contact with and activities specific areas of the Nyanza site. The study used a standardized map of the Nyanza site that depicted areas of contamination and was based upon environmental data from MDEP and USEPA remedial investigations of the site as well as historical aerial photographs.

What did the study find?

The study found that study participants who reported activities involving any type of water contact in the Megunko Hill area or the Sudbury River near Myrtle Street had a statistically significant increase in cancer risk. The increased risk of cancer was two to three times greater among study participants who reported these types of activities compared to those who did not. Further, the risk of cancer increased to nearly four times greater for study participants who reported water contact in these areas and a family history of cancer. The study also found that study participants who reported a family history of cancer and contact with three areas of the Nyanza site (the Eastern Wetlands, The Sudbury River near High Street and near Mill Pond) had an increased risk of cancer.

What does the MDPH believe the findings show with regard to family history of cancer?

The MDPH believes that the results demonstrate a consistent pattern of an increased cancer risk for individuals in the study who reported water contact exposures in specific locations both on and off the Nyanza site property. The MDPH concluded that as a result of this information, the findings suggest that a gene-environment interaction may exist among some individuals who reported water contact exposures in certain areas of the Nyanza site in the past.

Did the study find an association between certain cancer types and exposures from the Nyanza Chemical Site?

Although the study was not able to conduct analyses for specific cancer types, there was an association between certain reported exposures at the Nyanza site and individuals in the study who reported a rare cancer diagnosis. Seventy-three individuals with a variety of cancer types were included in the study.

Am I at risk of developing cancer if I grew up in Ashland, MA during the study period?

The study found an association between the incidence of cancer among study participants who reported water contact exposures in certain areas of the Nyanza site. The risk of cancer increased significantly among study participants who reported these types of exposures and a family history of cancer.

If I attended Ashland High School during the study period but had no contact with water in the Megunko Hill area or the Sudbury River area, is my risk of developing cancer increased?

No, the study found no association with attendance at Ashland High School during the study period and an increased risk of cancer.

Are there any recommendations based on the study findings?

Based on the study findings, the MDPH recommends that individuals who may have come in contact with specific areas of the Nyanza site (especially water contact) consult with their medical provider about their individual cancer risk. This is particularly important for those with a family history of cancer who engaged in activities during the 1960s through the 1980s that may have brought them in contact with the Eastern Wetlands of the Nyanza site and portions of the Sudbury River near Mill Pond and High Street. The MDPH also recommends that the USEPA consider the findings of the Ashland Nyanza Health Study in their risk assessment for the site.

The MDPH additionally recommends that the Environmental Education Program of the Center for Environmental Health design and conduct grand rounds at area hospitals to increase awareness of the study findings among the local medical community.

Was the study peer reviewed?

Yes. The Ashland Nyanza Health Study was reviewed by an External Peer Review Committee composed of three experts in the fields of epidemiology and biostatistics, medicine, and environmental exposure assessment. The study was also reviewed and approved by the Agency for Toxic Substances and Disease Registry (ATSDR).

Where can I obtain a copy of the Final Report for the Ashland Nyanza Health Study?

The full report is available on the MDPH web site at www.mass.gov/dph/ceh. In addition, a copy of the report is available at the Ashland Public Library.

Who should I contact for more information about the Nyanza Chemical Waste Dump?

For more information about contamination and cleanup at the Nyanza Chemical Site, please contact:

The US Environmental Protection Agency, Region 1
1 Congress Street, Suite 1100
Boston, MA 02114-2023

Phone: (888) 372-7341

www.epa.gov/region1

Who should I contact for more information about the Ashland Nyanza Health Study?

For more information on the Ashland Nyanza Health Study, please contact:

The Massachusetts Department of Public Health
Center for Environmental Health
250 Washington Street, 7th Floor
Boston, MA 02108

Phone: (617) 624-5757

Fax: (617) 624-5777

www.mass.gov/dph/ceh