Leukemia

NDSCR
NORTH DAKOTA STATEWIDE CANCER REGISTRY

Cancer Fact Sheet
Updated June 2011

What is leukemia?

Leukemia is a malignant disease of the bone marrow and blood. It is characterized by the uncontrolled accumulation of blood cells. Leukemia is divided into four categories: (1) acute myelogenous leukemia; (2) chronic myelogenous leukemia; (3) acute lymphocytic leukemia and (4) chronic lymphocytic leukemia. The terms myelogenous or lymphocytic denote the cell type involved. Acute leukemia is a rapidly progressing disease that results in the accumulation of immature, functionless cells in the marrow and blood. Chronic leukemia progresses more slowly and allows greater numbers of more mature, functional cells to be made.

What are the risk factors?

Incidence rates for all types of leukemia are higher among males than females. Persons with Down syndrome and certain other genetic abnormalities have higher leukemia rates. Cigarette smoking and certain chemical exposures are risk factors for myelogenous leukemia. Exposure to ionizing radiation is a risk factor for several leukemia types. Leukemia also may occur as a radiation side effect.

What are the signs and symptoms?

Symptoms may include bruising easily, itching, night sweats, fatigue, weight loss, paleness, nosebleeds, and intermittent fever. Chronic leukemia can progress slowly with few symptoms.

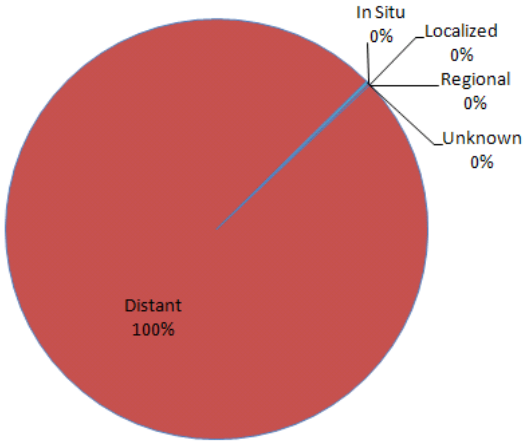
How is it diagnosed?

Leukemia can be difficult to diagnose early because symptoms often resemble other less serious conditions. Diagnosis can be made through blood tests and bone marrow biopsy.

Diagnosis

All leukemias are diagnosed at the the distant stage of disease progression.

Leukemia is a leading type of childhood cancer.



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What are the common treatments?

The most effective treatment is chemotherapy. Under appropriate conditions, bone marrow transplantation may be useful.

What are the survival outcomes?

Overall leukemia survival rates are about 53% but vary by specific type of disease. Using 1999-2007 SEER data the national 5-year relative survival rates range from 20 percent for acute myeloid leukemia to 63 percent for chronic lymphocytic leukemia.

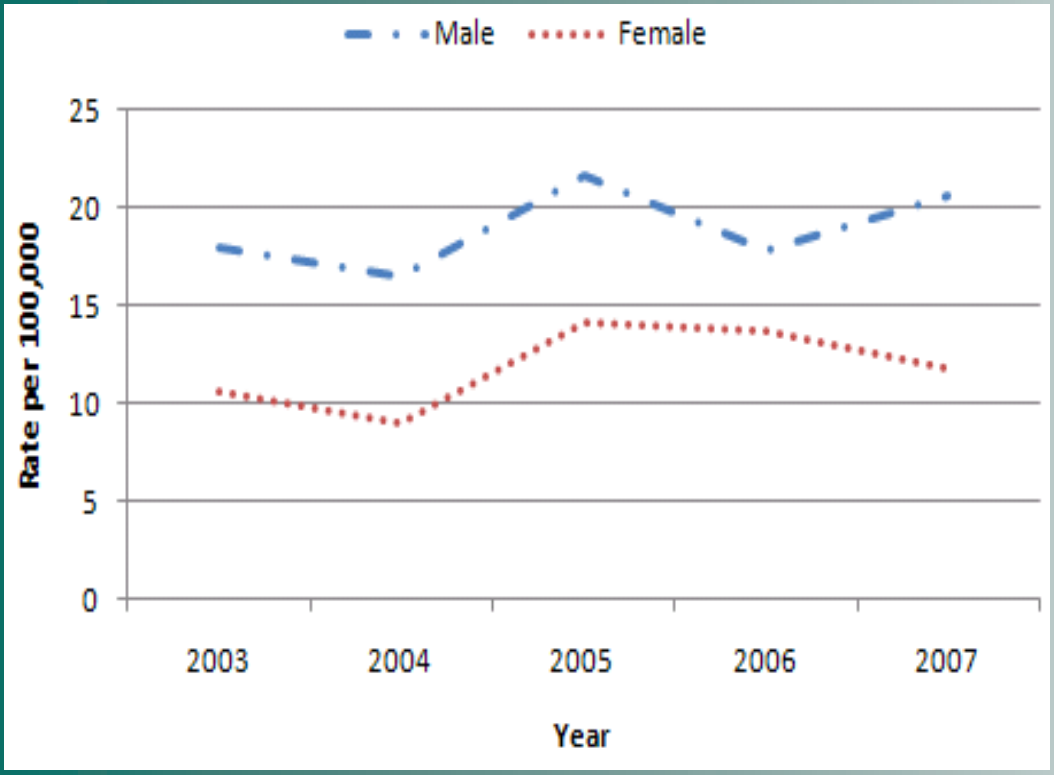
What can you tell me about this cancer in North Dakota?

Summary Statistics 2003-2007	ND	WNC	US
INCIDENCE			
Annual age-adjusted incidence rates*	*14.7*	*13.8*	*12.3*
Average number of new cases	*106*	*2,906*	*37,673*
Percent of all new cancers	*3.16*	*2.90*	*2.61*
MORTALITY			
Annual age-adjusted mortality rates*	*7.1*	*7.9*	*7.2*
Average number of deaths each year	*56*	*1,697*	*21,748*
Percent of all cancer deaths	*4.24*	*4.29*	*3.89*
** Rates per 100,000 and standardized to U.S. year 2000 population.*	***WNC and US data source:*** ***http://apps.nccd.cdc.gov/uscs***		

☞The West North Central (WNC) regions include the following states: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota.

INCIDENCE:

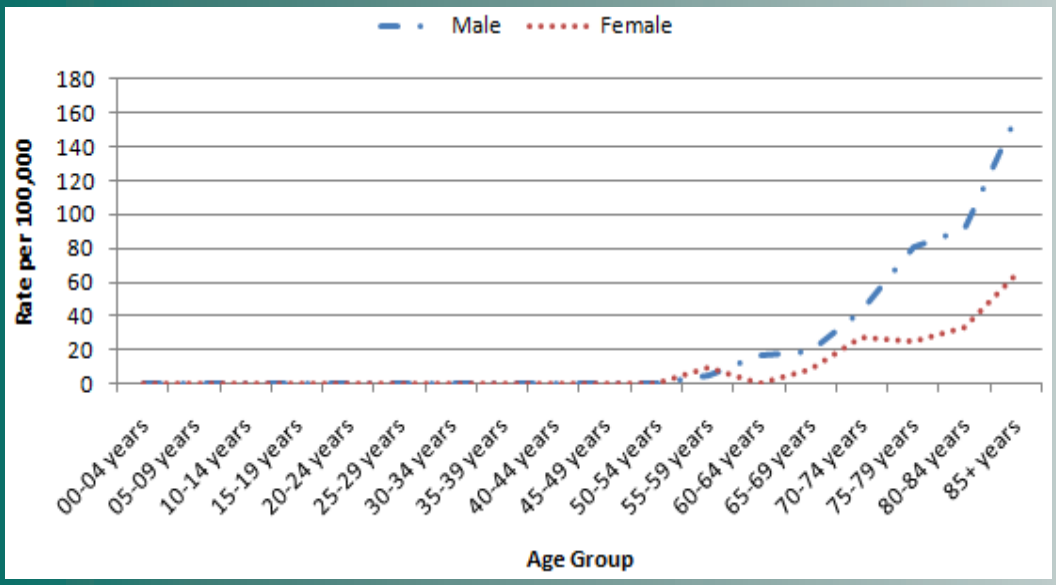
Incidence Rates by Gender, North Dakota 2003-2007



☞ An average of 106 new cases of leukemia are diagnosed each year in North Dakota, which is about 3 percent of all cancers diagnosed in the state.

☞ The average annual incidence rate for men is 18.9 per 100,000 men, and the average annual incidence rate for women is 11.9 per 100,000 women.

Age-Specific Incidence Rates, North Dakota 2003-2007



☞The annual incidence rate increases with age.

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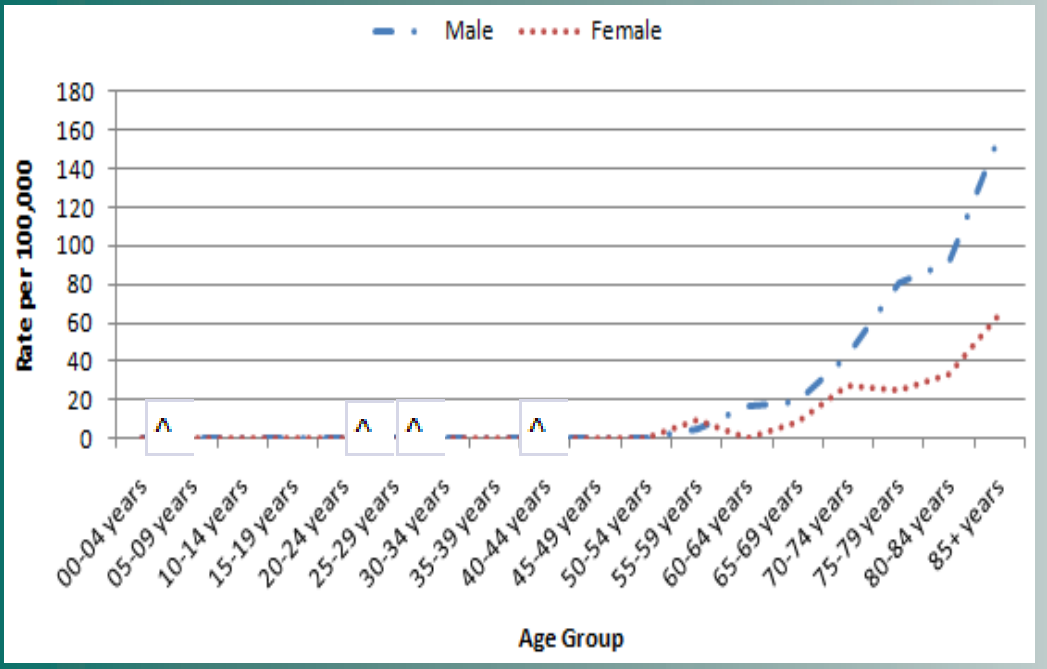
Age-Specific Mortality Rates, North Dakota 2003-2007



- An average of 56 deaths due to leukemia occur each year in North Dakota, which is about 4 percent of all cancer deaths in the state.
- The average annual death rate for men is 10.2 per 100,000 men, and for women it is 5.1 per 100,000 women.
- Death rate increases with age.

^ Statistic not displayed due to fewer than five cases.

Glossary of Cancer Terminology

- **Age-adjusted rate:** Since cancer rates tend to vary with age, and since populations vary with respect to their age-distribution, incidence and mortality rates are age-adjusted to allow comparison of rates between different populations (i.e. county or regional boundaries).
- **Age-specific rate:** The number of new cases diagnosed per 100,000 individuals over a specified time period for a specified age-group.
- **Incidence:** The number of new cases of a given type of cancer diagnosed during the year.
- **Mortality:** The number of deaths attributed to the particular type of cancer that occurred during the year. Includes deaths of patients diagnosed in earlier years, individuals newly diagnosed during the year, and patients for whom a diagnosis of cancer is made only after death.
- **Risk factor:** Anything that increases a person's chance of getting a disease.
- **Stage at diagnosis:** How far a cancer has spread from its site of origin when it is diagnosed. There are several different systems for the staging of cancers. This report uses the general summary stage system. The stages, in order of increasing spread, are in situ, localized, regional and distant. Cancers diagnosed at the localized, regional or distant stage are referred to as invasive.

NORTH DAKOTA DEPARTMENT of HEALTH

For more information, visit
www.ndhealth.gov/cancerregistry/
or call 701.328.2306

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