

Multiple Myeloma

What is multiple myeloma?

Multiple myeloma is a form of cancer that affects the white blood cells called plasma cells. Plasma cells reside mainly in the bone marrow. Their role is to produce and release antibodies to attack germs. When cancer involves plasma cells, the body keeps producing more and more of these cells.

What are the risk factors?

Age is the most significant multiple myeloma risk factor. Other risk factors include gender, race, radiation exposure, family history, occupation, obesity and other plasma cell diseases.

What are the signs and symptoms?

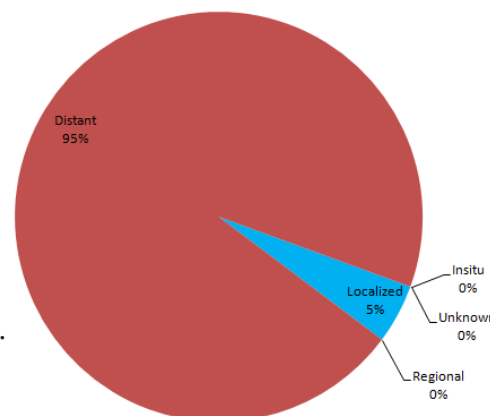
It is difficult to diagnose multiple myeloma early as there may be no symptoms until it has reached an advanced stage. Sometimes there are no symptoms at all. The most common symptoms include bone pain, blood problems, weakness, fatigue, weight loss and repeated infections.

How is it diagnosed?

Laboratory tests, bone x-rays and a bone marrow biopsy are used to diagnose multiple myeloma.

Diagnosis

In the 2003-2007 time period, five percent were diagnosed at localized stage, none at regional, stage, 95 percent at distant stage and none were of unknown stage of progression.



What are the common treatments?

Treatment depends upon the extent of the cancer and the patients' symptoms, age and general health. Treatment may include chemotherapy, radiation therapy, stem cell transplant and plasmapheresis.

What are the survival outcomes?

Using 1999-2007 SEER data, the national 5-year relative survival rate estimate is 38 percent. When diagnosed at localized stage, the 5-year relative survival rate is 69 percent. For distant stage, the 5-year relative survival rate is 37 percent.

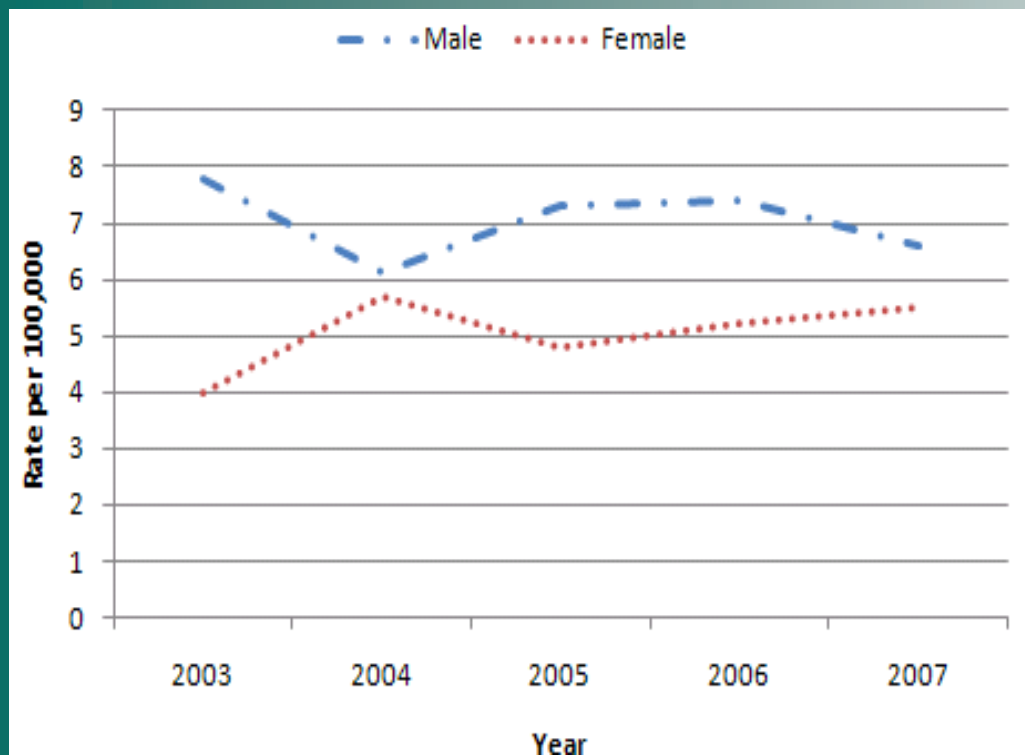
What can you tell me about this cancer in North Dakota?

Summary Statistics 2003-2007	ND	WNC	US
INCIDENCE			
Annual age-adjusted incidence rates*	5.7	5.7	5.6
Average number of new cases	41	1,200	17,268
Percent of all new cancers	1.22	1.20	1.20
MORTALITY			
Annual age-adjusted mortality rates*	3.7	3.7	3.6
Average number of deaths each year	29	797	10,746
Percent of all cancer deaths	2.21	2.02	1.92
* 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

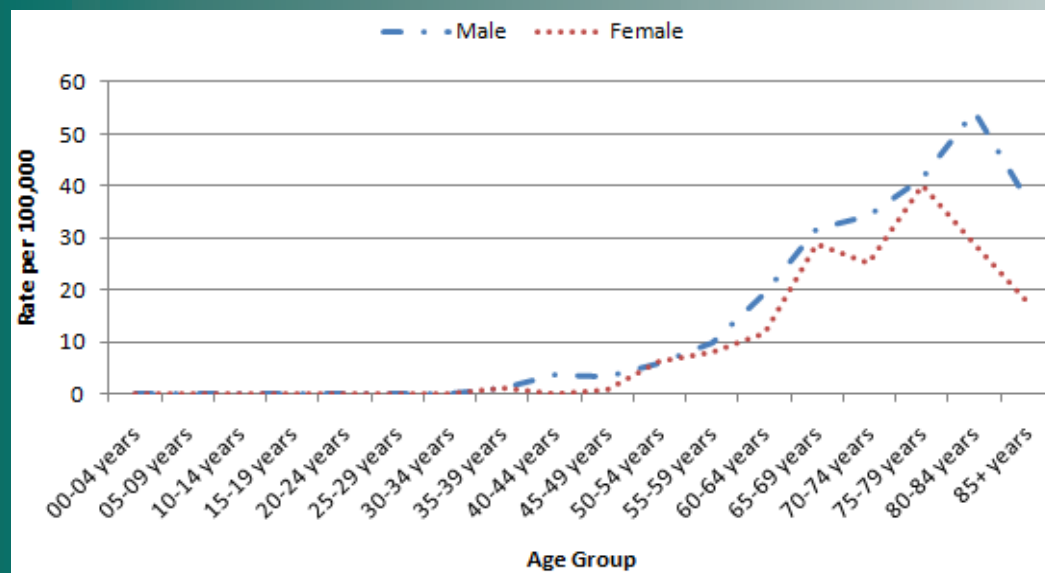


☞ An average of 41 new cases of multiple myeloma are diagnosed each year in North Dakota, which is about 1 percent of all cancers diagnosed in the state.

☞ The incidence of multiple myeloma is slightly higher among men than women.

☞ The average annual incidence rate for men is 7.1 per 100,000 men, and the average annual incidence rate for women is 5 per 100,000 women.

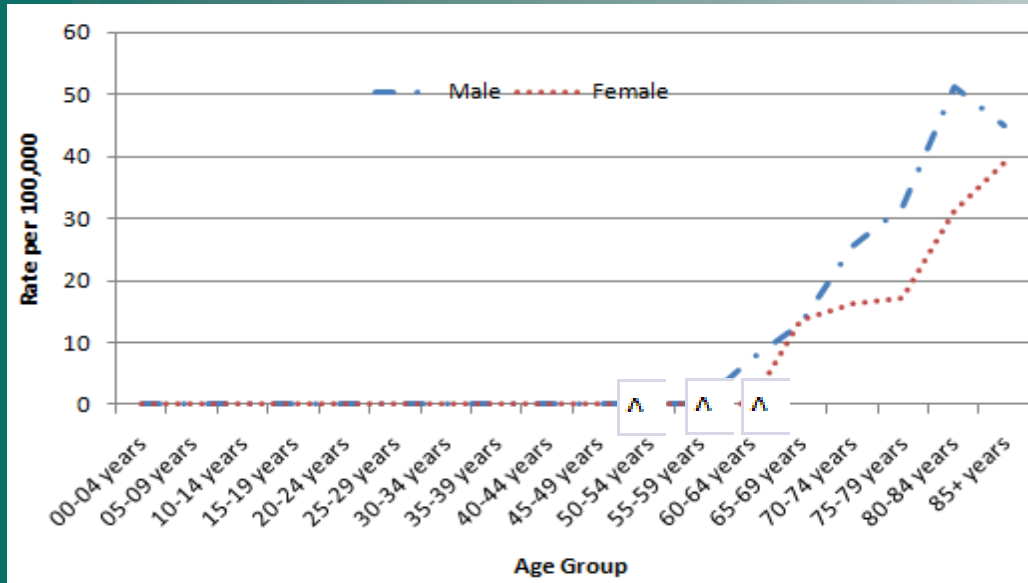
Age-Specific Incidence Rates, North Dakota 2003-2007



☞ Since the incidence is higher among men than women, the age-specific rates for men are higher.

☞ The annual incidence rate increases with age.

Age-Specific Mortality Rates, North Dakota 2003-2007



☞ An average of 29 deaths due to multiple myeloma occur each year in North Dakota, which is about 2 percent of all cancer deaths in the state.

☞ The average annual death rate for men is 4.6 per 100,000 men, and for women is 3 per 100,000 women.

☞ Myeloma's 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.



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

