



Surveillance Epidemiology and End Results

providing information on cancer statistics to help reduce the burden of this disease on the U.S. population

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SEER Stat Fact Sheets: All Sites

Cancer:

Warning posted October 20, 2011: An error in the SEER incidence data was identified that affects the SEER research data files and many statistics published on the web site ([View Details](#)).

Mortality statistics through 2008 are now available.

It is estimated that 1,596,670 men and women (822,300 men and 774,370 women) will be diagnosed with and 571,950 men and women will die of **cancer of all sites** in 2011 ¹.

The following information is based on NCI's SEER Cancer Statistics Review ². Use the links on this page to learn more about each statistic type:

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Incidence & Mortality

SEER Incidence

From 2004-2008, the median age at diagnosis for cancer of all sites was 66 years of age ³. Approximately 1.1% were diagnosed under age 20; 2.7% between 20 and 34; 5.6% between 35 and 44; 14.1% between 45 and 54; 22.7% between 55 and 64; 24.7% between 65 and 74; 21.4% between 75 and 84; and 7.8% 85+ years of age.

The age-adjusted incidence rate was 464.4 per 100,000 men and women per year. These rates are based on cases diagnosed in 2004-2008 from 17 SEER geographic areas.

Incidence Rates by Race

Race/Ethnicity	Male	Female
All Races	541.0 per 100,000 men	411.6 per 100,000 women
White	543.6 per 100,000 men	423.0 per 100,000 women
Black	626.1 per 100,000 men	400.9 per 100,000 women
Asian/Pacific Islander	347.7 per 100,000 men	297.0 per 100,000 women
American Indian/Alaska Native ^a	338.0 per 100,000 men	309.0 per 100,000 women
Hispanic ^b	360.2 per 100,000 men	287.5 per 100,000 women

US Mortality

From 2004-2008, the median age at death for cancer of all sites was 73 years of age ⁴. Approximately 0.4% died under age 20; 0.8% between 20 and 34; 2.5% between 35 and 44; 9.0% between 45 and 54; 18.0% between 55 and 64; 24.8% between 65 and 74; 29.3% between 75 and 84; and 15.2% 85+ years of age.

The age-adjusted death rate was 181.3 per 100,000 men and women per year. These rates are based on patients who died in 2004-2008 in the US.

Death Rates by Race

Race/Ethnicity	Male	Female
All Races	223.0 per 100,000 men	153.2 per 100,000 women
White	220.0 per 100,000 men	152.8 per 100,000 women
Black	295.3 per 100,000 men	177.7 per 100,000 women
Asian/Pacific Islander	134.7 per 100,000 men	94.1 per 100,000 women
American Indian/Alaska Native ^a	190.0 per 100,000 men	138.4 per 100,000 women
Hispanic ^b	149.1 per 100,000 men	101.5 per 100,000 women

Trends in Rates

Trends in rates can be described in many ways. Information for trends over a fixed period of time, for example 1996-2008, can be evaluated by the **annual percentage change (APC)** . If there is a negative sign before the number, the trend is a decrease; otherwise it is an increase. If there is an asterisk after the APC then the trend was significant, that is, one believes that it is beyond chance, i.e. 95% sure, that the increase or decrease is real over the period 1996-2008. If the trend is not significant, the trend is usually reported as stable or level. **Joinpoint analyses** can be used over a long period of time to evaluate when changes in the trend have occurred along with the APC which shows how much the trend has changed between each of the joinpoints.

The joinpoint trend in SEER cancer incidence with associated APC(%) for cancer of all sites between 1975-2008, All Races

Male and Female		Male		Female	
Trend	Period	Trend	Period	Trend	Period
1.2*	1975-1989	1.3*	1975-1989	-0.3	1975-1979
2.8	1989-1992	5.2*	1989-1992	1.6*	1979-1987
-2.4	1992-1995	-4.8*	1992-1995	0.1	1987-1995
0.8	1995-1999	0.4	1995-2000	1.3	1995-1998
-0.6*	1999-2008	-1.0*	2000-2008	-0.4*	1998-2008

The joinpoint trend in US cancer mortality with associated APC(%) for cancer of all sites between 1975-2008, All Races

Male and Female		Male		Female	
Trend	Period	Trend	Period	Trend	Period
0.5*	1975-1984	1.0*	1975-1979	0.6*	1975-1991
0.3*	1984-1991	0.3*	1979-1990	-0.6*	1991-2001
-0.5	1991-1994	-0.5	1990-1993	-1.5*	2001-2008
-1.3*	1994-1998	-1.5*	1993-2001		
-0.8	1998-2001	-1.8*	2001-2008		
-1.6*	2001-2008				

Survival

Survival can be calculated by different methods for different purposes. The survival statistics presented here are based on **relative survival**, which measures the survival of the cancer patients in comparison to the general population to estimate the effect of cancer. The overall 5-year relative survival for 2001-2007 from 17 SEER geographic areas was 65.3%. Five-year relative survival by race and sex was: 66.5% for white men; 65.6% for white women; 61.1% for black men; 54.0% for black women.

Lifetime Risk

Lifetime risk statistics for 2006-2008 are not currently available. They will be updated at a later date.

Based on rates from 2005-2007, 40.77% of men and women born today will be diagnosed with cancer of all sites at some time during their lifetime. This number can also be expressed as 1 in 2 men and women will be diagnosed with cancer of all sites during their lifetime. These statistics are called the **lifetime risk** of developing cancer. Sometimes it is more useful to look at the **probability of developing** cancer of all sites between two age groups. For example, 20.59% of men will develop cancer of all sites between their 50th and 70th birthdays compared to 15.39% for women.

Prevalence

On January 1, 2008, in the United States there were approximately 11,957,599 men and women alive who had a history of cancer of all sites -- 5,505,862 men and 6,451,737 women. This includes any person alive on January 1, 2008 who had been diagnosed with cancer of all sites at any point prior to January 1, 2008 and includes persons with active disease and those who are cured of their disease. **Prevalence** can also be expressed as a percentage and it can also be calculated for a specific amount of time prior to January 1, 2008 such as diagnosed within 5 years of January 1, 2008.

References

All statistics in this report are based on SEER incidence and NCHS mortality statistics. Most can be found within:

Howlander N, Noone AM, Krapcho M, Neyman N, Aminou R, Waldron W, Altekruse SF, Kosary CL, Ruhl J, Tatalovich Z, Cho H, Mariotto A, Eisner MP, Lewis DR, Chen HS, Feuer EJ, Cronin KA, Edwards BK (eds). *SEER Cancer Statistics Review, 1975-2008*, National Cancer Institute. Bethesda, MD, http://seer.cancer.gov/csr/1975_2008/, based on November 2010 SEER data submission, posted to the SEER web site, 2011.

Footnotes

1 Table I-1 (http://seer.cancer.gov/csr/1975_2008/results_single/sect_01_table.01.pdf)

2 All Sites Section (http://seer.cancer.gov/csr/1975_2008/results_merged/sect_02_all_sites.pdf)

3 Table I-11 (http://seer.cancer.gov/csr/1975_2008/results_single/sect_01_table.11_2pgs.pdf)

4 Table I-13 (http://seer.cancer.gov/csr/1975_2008/results_single/sect_01_table.13_2pgs.pdf)

* The APC is significantly different from zero ($p < .05$).

a Incidence data for Hispanics is based on NHIA and excludes cases from Alaska Native Registry. Hispanic death rates exclude deaths from the District of Columbia and North Dakota.

b Incidence and mortality data for American Indians/Alaska Natives is based on the CHSDA (Contract Health Service Delivery Area) counties.

Definitions

Annual percent change (APC)

The average annual percent change over several years. The APC is used to measure trends or the change in rates over time. For information on how this is calculated, go to [Trend Algorithms](#) in the SEER*Stat Help system. The calculation involves fitting a straight line to the natural logarithm of the data when it is displayed by calendar year.

Joinpoint analyses

A statistical model for characterizing cancer trends which uses statistical criteria to determine how many times and when the trends in incidence or mortality rates have changed. The results of joinpoint are given as calendar year ranges, and the annual percent change (APC) in the rates over each period.

Survival

Survival examines how long after diagnosis people live. Cancer survival is measured in a number of different ways depending on the intended purpose.

Relative survival

A measure of net survival that is calculated by comparing observed (overall) survival with expected survival from a comparable set of people that do not have cancer to measure the excess mortality that is associated with a cancer diagnosis.

Stage distribution

Stage provides a measure of disease progression, detailing the degree to which the cancer has advanced. Two methods commonly used to determine stage are AJCC and SEER Summary Stage. The AJCC method (see Collaborative Staging Method) is more commonly used in the clinical settings, while SEER has strived to provide consistent definitions over time with their Local/Regional/Distant staging.

Lifetime risk

The probability of developing cancer in the course of one's lifespan. Lifetime risk may also be discussed in terms of the probability of developing or of dying from cancer. Based on cancer rates from 2005 to 2007, it was estimated that men had about a 44 percent chance of developing cancer in their lifetimes, while women had about a 38 percent chance.

Probability of developing cancer

The chance that a person will develop cancer in his/her lifetime.

Prevalence

The number of people who have received a diagnosis of cancer during a defined time period, and who are alive on the last day of that period. Most prevalence data in SEER is for limited duration because information on cases diagnosed before 1973 is not generally available.