

Cancer Brief

What is Cancer?

Cancer is a term used to describe a group of diseases that cause the uncontrolled growth, invasion, and spread (metastasis) of abnormal cells. Cancer is caused by external factors such as environmental conditions, radiation, infectious organisms, poor diet and lack of exercise, and tobacco use, as well as internal factors such as genetics, mutations, and hormones.

Risk Factors for Cancer

Demographic Risk Factors

- *Age*
 - 77% of all cancers are diagnosed in individuals 55 and older.¹
- *Genetics and Family History*
 - About 5% of all cancers are strongly hereditary.¹
 - Individuals with family members who have had cancer may have a higher risk for that same type of cancer.²
- *Race/Ethnicity*
 - Certain races/ethnicities are at higher risk of developing and dying from cancer.
- *Gender*
 - Although some cancers are only seen in men (prostate cancer), or women (uterine, ovarian, or cervical cancer), some cancers are more likely to occur in men or in women.
 - Males have a 45% chance of developing cancer, while females have a 38% chance.³

Social and Behavioral Risk Factors

- *Tobacco use*
 - The American Cancer Society estimates 169,000 cancer deaths in 2009 will be the result of tobacco use.¹
 - Lung cancer is the leading cause of cancer death among both men and women in the United States.¹
 - Smoking causes an estimated 90% of all lung cancer deaths in men and 80% of all lung cancer deaths in women.⁴
 - Smoking causes many other types of cancer, including cancers of the throat, mouth, nasal cavity, esophagus, stomach, pancreas, kidney, bladder, and acute myeloid leukemia.⁵
 - Male smokers are about 23 times more likely to develop lung cancer than male nonsmokers.¹
 - Those who chew tobacco risk of contracting oral, esophageal, and pancreatic cancers.⁶

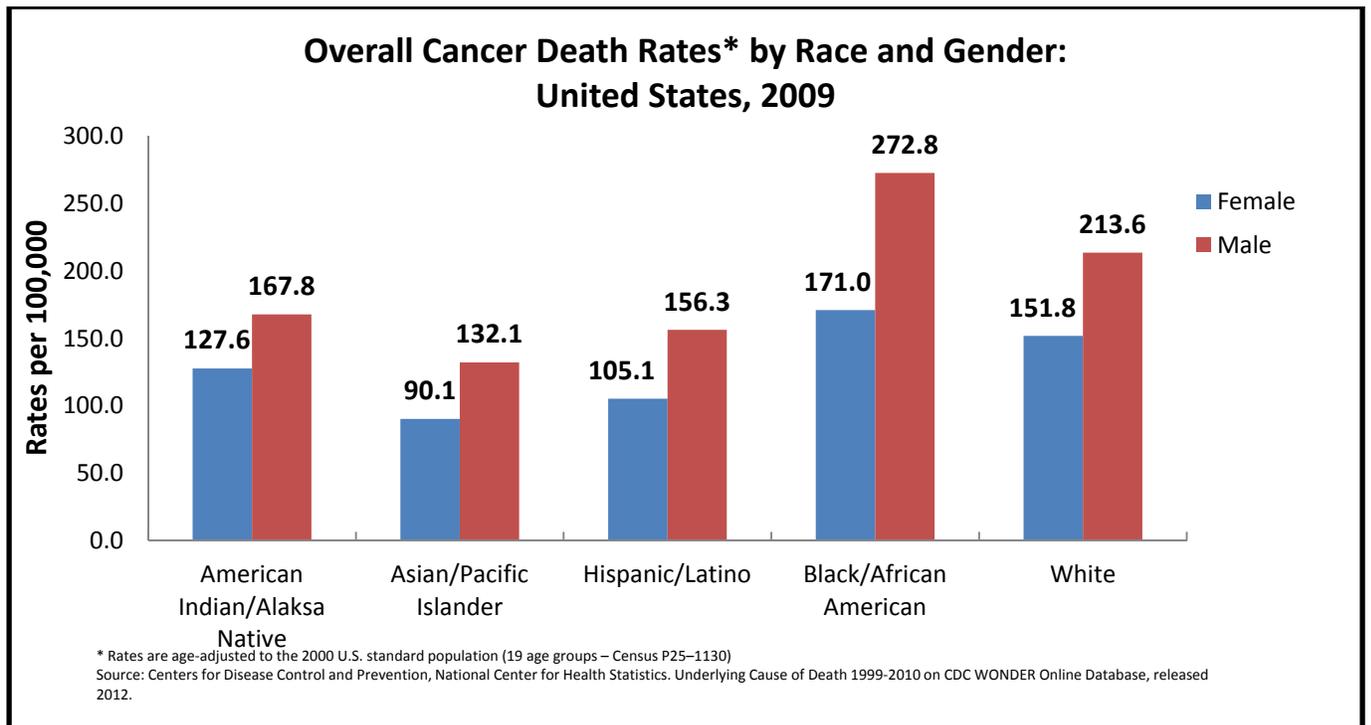
- Nonsmokers who are exposed to secondhand smoke at home or in the workplace increase their risk of developing lung cancer by 20-30%.⁷
- Secondhand smoke causes approximately 3,400 lung cancer deaths among nonsmokers in the United States each year.⁷
- *Nutrition, Physical Activity, and Obesity*
 - Up to 30% of cancers in developed countries may be related to poor nutrition.⁸
 - In the United States, an estimated 20-30% of the most common cancers are related to being overweight or lack of physical activity.⁹
 - An estimated 34,000 new cases of cancer in men and 50,500 new cases in women were due to obesity in 2007.¹⁰
 - Regular physical activity and a diet rich in vegetables, poultry, fish, and low-fat dairy products have been linked to a lower risk of breast cancer.¹¹
 - Consumption of red and processed meat is associated with an increased risk of colorectal cancer.¹¹
 - A high intake of salt and processed meat is associated with a higher risk of stomach cancer, whereas a high intake of fresh fruits and vegetables lowers risk.¹¹
 - Studies show that people whose diet is high in fat have an increased risk of cancers of the colon, uterus, and prostate.²
- *Alcohol Abuse*
 - Having more than two drinks daily increases the risk of cancers of the mouth, throat, larynx, esophagus, liver, and breast.²
 - The risk of developing cancer increases with the amount of alcohol that a person drinks.²
- *Environmental Risks*
 - Most (65% to 90%) melanomas, the most serious form of skin cancers, are due to exposure to ultraviolet (UV) light or to sunlight.¹²
 - Cancer can be caused by exposure to radon gas, asbestos, benzidine, cadmium, nickel, vinyl chloride, and other materials.²
 - Infectious agents account for 15-20% of cancers worldwide.¹³ Human papillomavirus, hepatitis B virus, and Helicobacter pylori bacterium cause 18% of cancers worldwide.⁸

National Statistics and Disparities

Statistics

- As of January 2009, an estimated 12.6 million Americans had a history of cancer.¹⁴
- Nearly 568,000 deaths were due to cancer in 2009.¹⁵
- Cancer is the second leading cause of death, after heart disease, in the United States.¹⁵
- Nationally, cancer accounts for nearly 1 of every 4 deaths.¹

Disparities



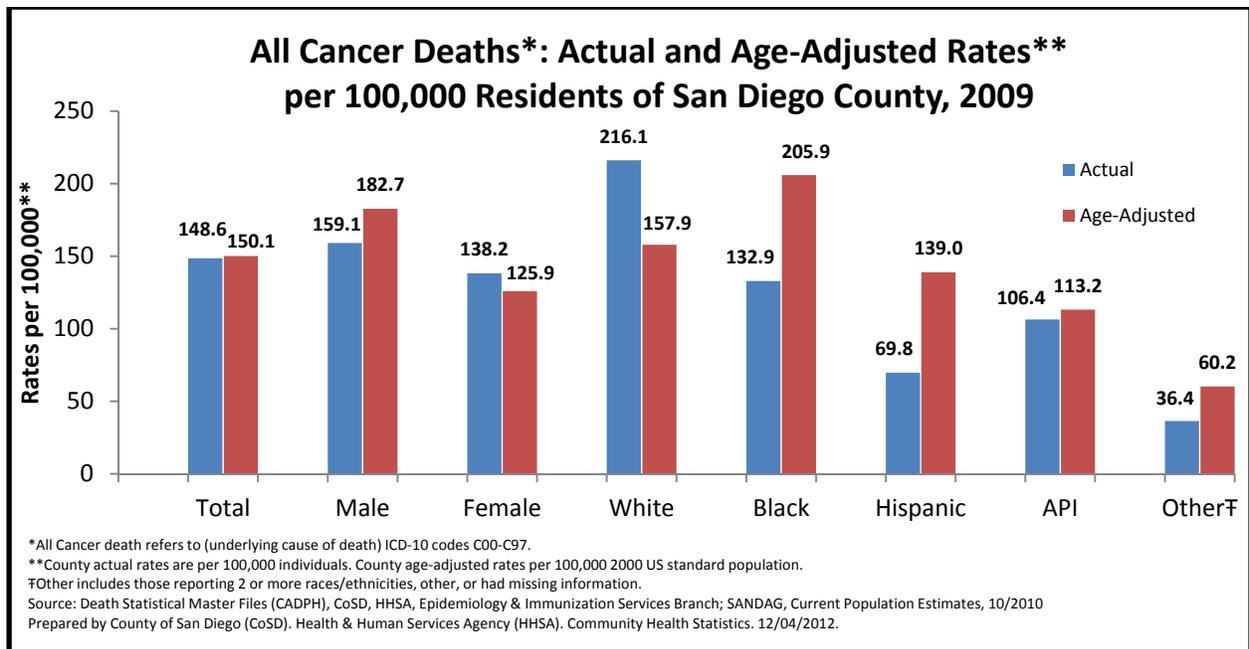
- In the United States, men have approximately a 1 in 2 lifetime risk of developing cancer, while women have a 1 in 3 lifetime risk. Lifetime risk is the probability that an individual, over the course of a lifetime, will develop and/or die from cancer.¹
- Black Americans are more likely to develop and die from cancer compared to any other racial or ethnic group.¹
- Black men have the highest incidence rate for prostate cancer in the United States, and are more than twice as likely as white men to die of the disease.¹⁶
- White women have the highest incidence of breast cancer, but black women are more likely to die from the disease.¹⁶

Cost

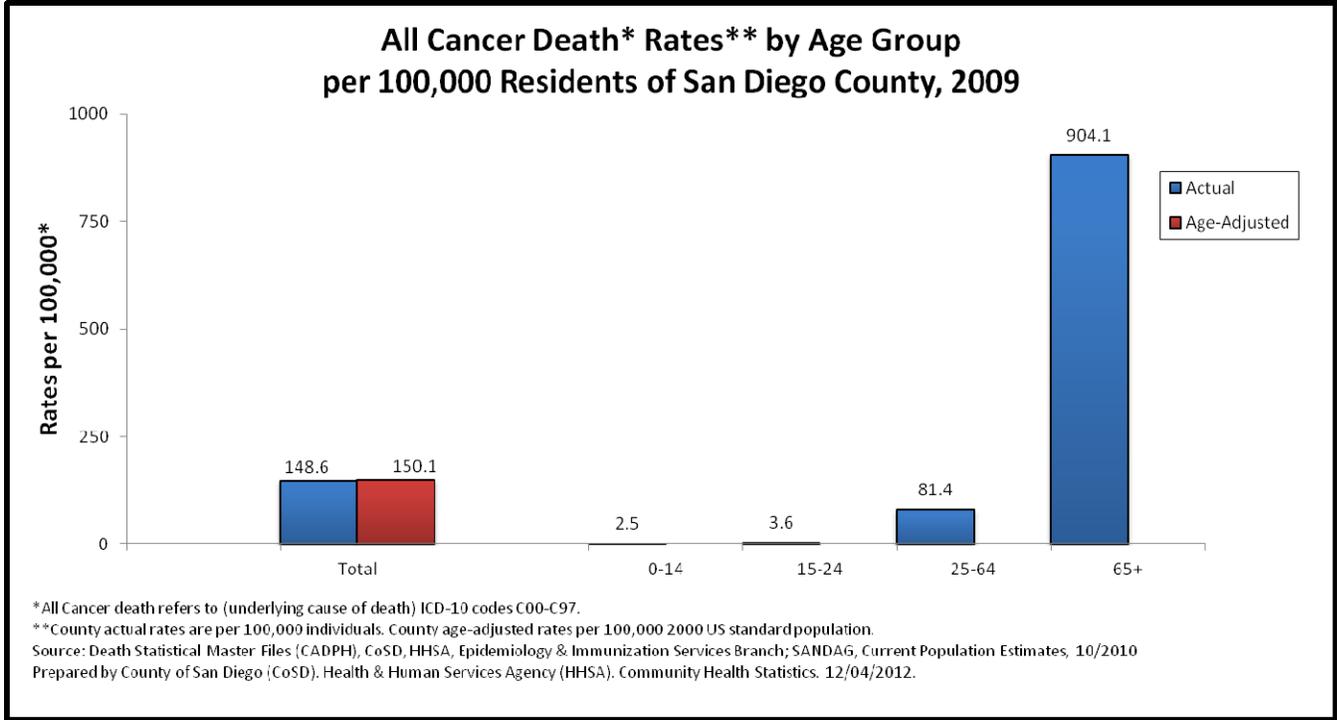
- In 2010, cancer cost the United States an estimated \$263.8 billion: \$102.8 billion in direct medical costs, and \$161.0 billion in lost productivity (indirect).¹⁷

Local Statistics and Disparities

- As of 2005, about 10% of San Diego County residents had ever been diagnosed with cancer.¹⁸

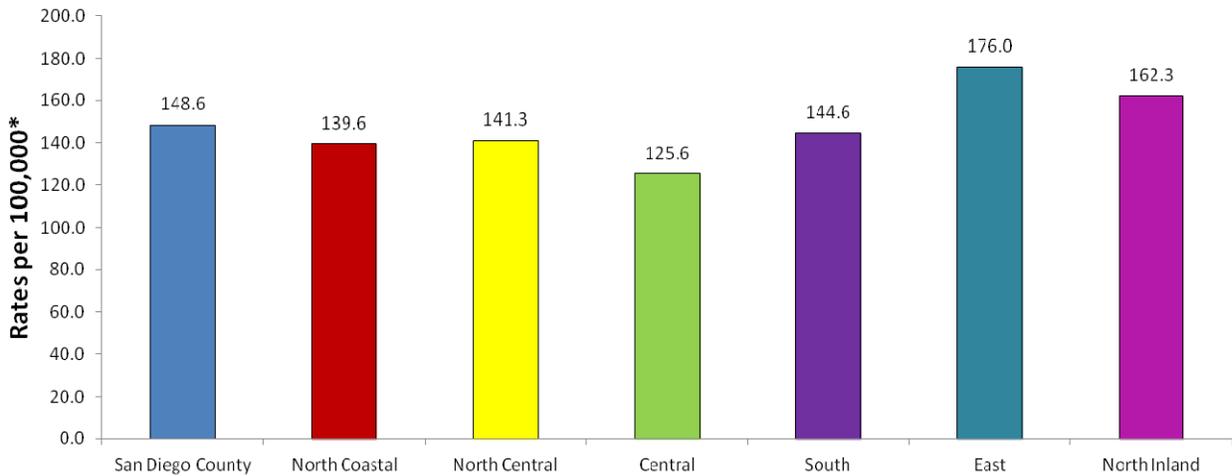


- The actual all-cancer death rate among residents of San Diego County was 148.6 per 100,000 in 2009.¹⁹
- Men had a higher death rate than women (159.1 per 100,000 versus 138.2 per 100,000).¹⁹
- Whites had the highest cancer death rate (216.1 per 100,000) in 2009.



- The cancer death rate among residents aged 65 years and older was 904.1 per 100,000, approximately 11 times the death rate for residents aged 25-64 years.

All Cancer Deaths*: Actual Rates** per 100,000 San Diego County Residents, by Region, 2009



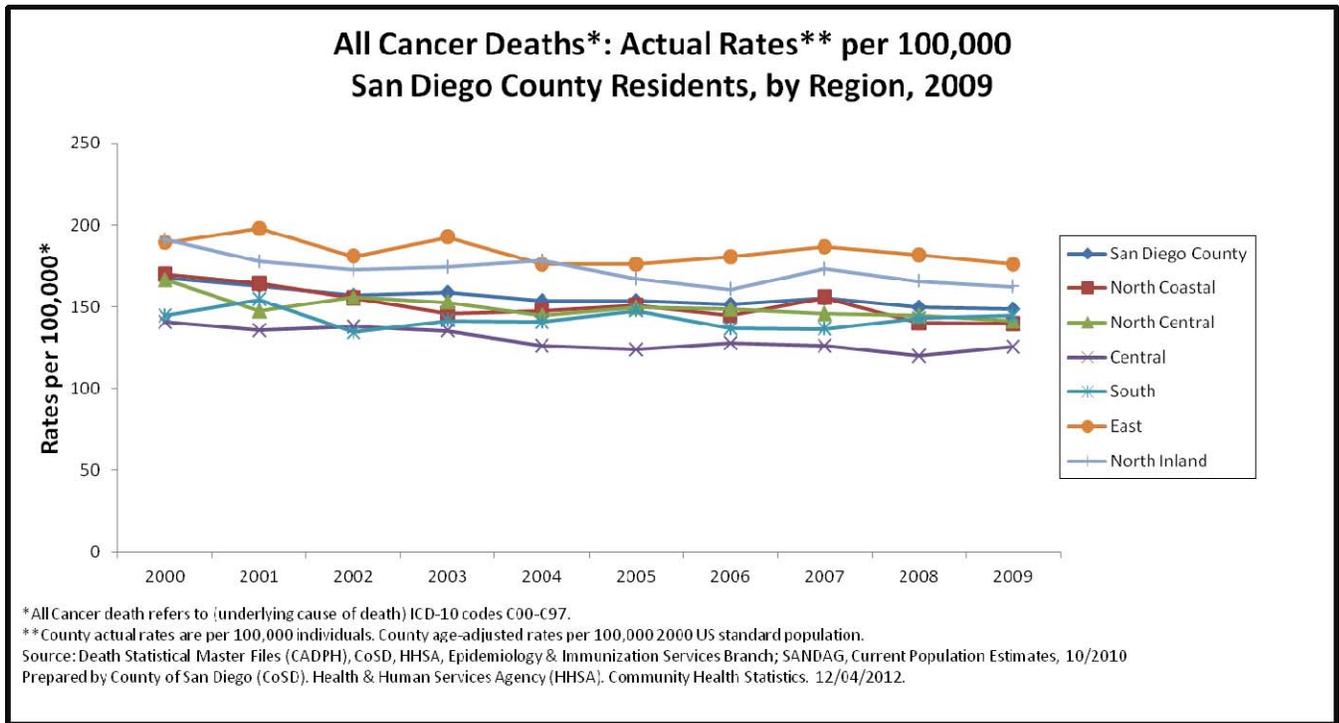
*All Cancer death refers to (underlying cause of death) ICD-10 codes C00-C97.

**County actual rates are per 100,000 individuals. County age-adjusted rates per 100,000 2000 US standard population.

Source: Death Statistical Master Files (CADPH), CoSD, HHSA, Epidemiology & Immunization Services Branch; SANDAG, Current Population Estimates, 10/2010

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics. 12/04/2012.

- In 2009, the East Region of San Diego County had the highest rate of overall cancer deaths.
- In 2009, the Central Region had the lowest rate of overall cancer deaths and was lower than the countywide cancer death rate.



- From 2000-2009, the East and North Inland Regions of San Diego County had the highest overall cancer death rates.

Cancer and Its Complications: Prevention for Individuals

- *Early Detection and Screening Programs*
 - Mammograms
 - A mammogram performed every one to two years for women aged 40 years and over can reduce mortality by 20-25% during a 10-year period.¹⁹
 - In 2009, 8.4% of women in San Diego County over the age of 40 had never had a mammogram.¹⁸
 - Colorectal Cancer Screening
 - There are several tests for colorectal cancer; having one or more of them annually after the age of 50 increases the chance that cancers will be discovered early while they are more easily treated.¹
 - In 2009, 20.8% of San Diego County residents over the age of 50 had never had a colonoscopy, sigmoidoscopy or fecal occult blood test.¹⁸
 - Pap Test
 - Cervical cancer death rates can drop by 20-60% after screening programs begin.¹⁹
 - Pap test can detect precancerous lesions so they can be treated before cervical cancer develops.¹⁹

- *Abstain from Tobacco Use*
 - The longer the duration and higher the level of exposure to tobacco smoke, the greater the risk of developing lung cancer.¹
- *Protect Skin From the Sun*
 - It is recommended to use sunscreen with at least SPF 15 from the hours 10 a.m. to 4 p.m. during daylight savings time (9 a.m. – 3 p.m. during standard time) when UV exposure is the most hazardous in the United States.²⁰
- *Cancer Vaccines*
 - The number of new cervical cancer cases can be reduced with the human papilloma virus vaccine, which targets the viruses causing 70% of cervical cancers.²¹
- *Maintain a Healthy Diet and Get Regular Physical Activity*
 - Consumption of nutritious foods (i.e. fruits, nonstarchy vegetables) may protect against some cancers, while consumption of foods high in fat and calories may increase the risk of cancer.²²

Prevention Tools for Public Health Professionals: Cancer Critical Pathway

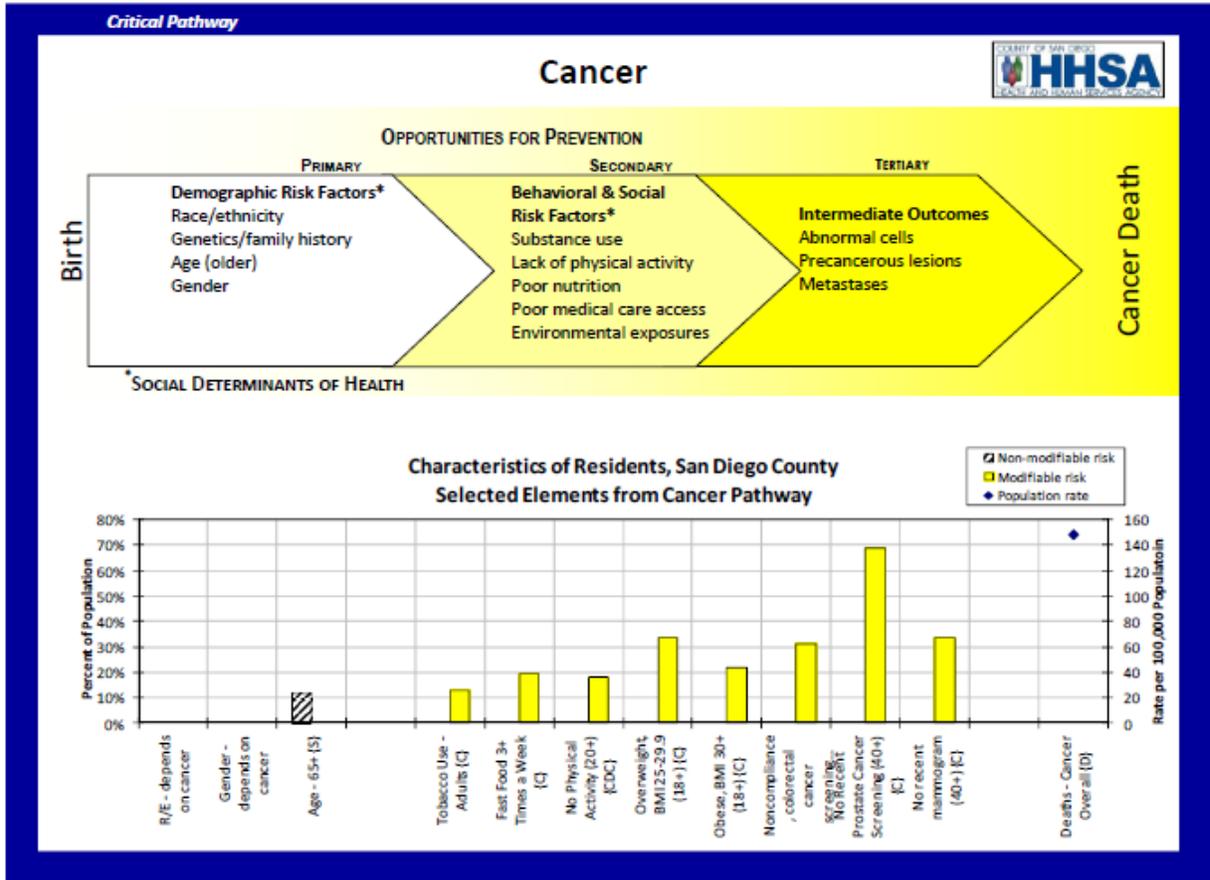
There are many opportunities for public health professionals in the community to help reduce the risk of cancer and to improve the health outcomes of individuals who already have the disease. To assist in community health efforts, a *Cancer Critical Pathway* was developed.

The *Cancer Critical Pathway* is a tool to be used in health promotion and disease prevention efforts. Its purpose is to identify populations at greater risk for cancer, and to identify prevention and early intervention opportunities. The *Cancer Critical Pathway* displays a diagram of the major risk factors and intermediate outcomes or related diseases that have an impact on, or result from, cancer. Risk factors are marked as non-modifiable (black striped bars) such as race/ethnicity or gender and modifiable (solid colored bars) such as physical activity or high blood pressure.

Beneath the risk factors diagram is a data grid describing the San Diego resident population in relation to selected elements of the pathway. The data grid is designed to assist in quick identification of opportunities for interventions that might have a high impact on a particular disease. The data represent all San Diegans, not only those with a particular disease. The left axis (bar) indicates the percent of the population with a known risk factor or intermediate outcome. The right axis (diamond) indicates the rate of a particular medical encounter within the population that is specified. The data are described fully in the complete version of the *Critical Pathways*.²³

In addition, the Community Health Statistics Unit website (www.SDHealthStatistics.com) provides detailed demographic, health and facility data including maps of geographically formatted health data. Also available are links to other County data sources, state and national sites of interest. For further assistance with data or interpretation, please contact the Community Health Statistics Unit.

Cancer Critical Pathway to Disease



Data Sources

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