

Health Segment

September 2000

A Profile of

CANCER TRENDS

in Oakland County

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Healthy People, Healthy Oakland (HPHO) has two goals: to assess health and to improve health for all residents in Oakland County. This document is an example of HPHO's efforts to assess the community's health status. Health assessment can involve examining existing health data, as was done for this document, as well as the collection and analysis of new data on health and community perceptions. Health assessment provides the foundation for health improvement efforts by helping to define health problems, pointing to ways to address health problems, and monitoring progress towards achieving health-related goals.

Cancer is a leading cause of death in Oakland County. An initial health assessment conducted by HPHO in 1996 indicated that cancer was a leading cause of death for Oakland County residents. Residents also recognize cancer as a leading health problem as indicated by the results of a community health perceptions survey completed by more than 1,600 county residents in 1996. Cancer was identified as the third leading health issue in the county.

This Health Segment is a more in-depth look at how cancer affects residents of Oakland County. Highlighted in this segment are the five leading cancers (in terms of incidence rates) in Oakland County with comparisons made to Michigan and the United States. The data describe who is affected by cancer in Oakland County, what risk factors are related to these cancers and what resources exist in our community that target cancer.

This Health Segment serves to increase awareness about the types of cancer affecting our community, and mobilize communities for change. Prevention is the key for improved health in Oakland County. Together we can take action and make great strides in achieving the national Healthy People 2010 objectives relating to cancer that are described in this document. We invite you to use this Health Segment to make a difference in Oakland County.

Healthy People, Healthy Oakland can be contacted at:

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Our website address is: www.co.oakland.mi.us under health department

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REFERENCE BOOK

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Technical Notes

The data presented in this document should be interpreted with some caution. As explained in the Michigan Department of Community Health's Critical Health Indicators document, "all rates are subject to variation and this variation is directly related to the number of events used to calculate the rate. Rates based on small numbers of events over a specific time period or for small populations vary considerably and should be viewed with caution."¹ The reader will note that in this document there is less variance in the rates for Michigan and the United States as compared to rates for Oakland County, and less variance in the rates for whites versus rates for African Americans. This is likely due to the relative sizes of these populations.

The graphs presented in this document should also be viewed with some caution. In particular, the reader should pay attention to the scale on the vertical or Y-axis of the graph. Each graph uses a different scale on the Y-axis, based on the range of values represented in the graph. These scales should be taken into account when interpreting differences between rates within a graph as well as differences between rates represented in different graphs.

With few exceptions, the data included in this document pertain to cases of cancer and cancer deaths occurring prior to 1998. There is often a lag of a few years before health data becomes available because of the time required for the data to be reported, analyzed and prepared for public release.

Introduction

Cancer is a leading cause of morbidity and mortality in Oakland County and in the rest of the country. The American Cancer Society reports that cancer is the second leading cause of death in the US and only heart disease kills more Americans each year. One in four deaths in the US is due to cancer.² Between 1990 and 1997, an average of 5641 cases of invasive cancer were diagnosed among Oakland County residents and an average of 2031 county residents died from cancer each year.³

While cancer currently causes a significant number of illnesses and deaths, cancer rates have declined slightly in recent years. Cancer incidence, or the number of new cases of cancer in a population over a specific period of time, generally declined between 1990 and 1996 in Oakland County and in Michigan. Cancer mortality, or the number of deaths caused by cancer over a period of time, also declined during much of the 1990's. This reduction in cancer rates was also seen at the national level. A recent report from the National Cancer Institute and several other federal health agencies states that both the incidence and mortality rates for all cancers declined by an average of .8 percent per year between 1990 and 1997.⁴ Figures 1 and 2 below show the incidence and mortality rates for all cancers for Oakland County, Michigan and the US for 1985 through the late 1990's. As can be seen, Oakland County's incidence rates for all cancers were slightly higher than the rates for Michigan and the US for most years, while Oakland County's mortality rates were generally lower. One possible reason for this pattern is discussed in the conclusion to this document.

Figure 1.

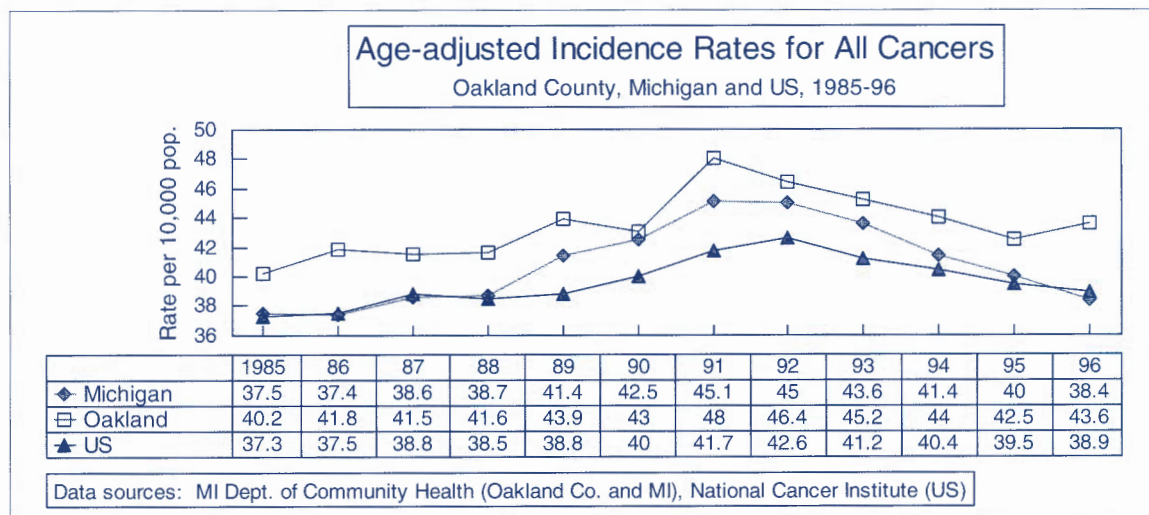
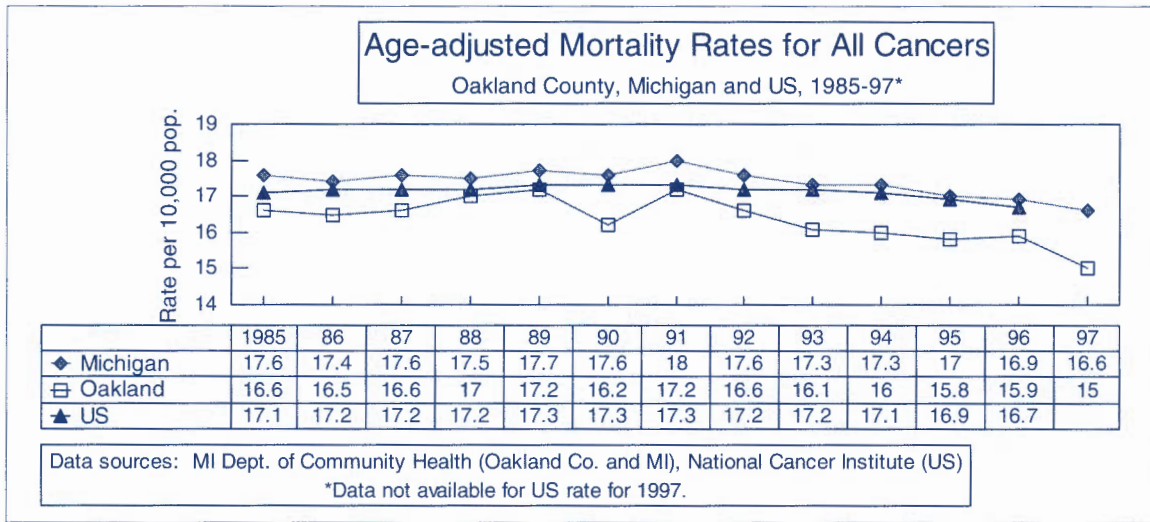


Figure 2.



Leading Types of Cancer

As shown in Table 1 below, the leading types of cancer among Oakland County residents are prostate, breast, lung and bronchus, colon and bladder cancer. These five types of cancer had the highest incidence rates between 1995 and 1997. The five leading cancers in terms of mortality rates are similar and include cancers of the lung and bronchus, breast, colon, pancreas and prostate.

Table 1.
Leading Cancers, by Age-adjusted Rates
Oakland County, 1995-1997

	Incidence	Mortality
1	Prostate	Lung/bronchus
2	Breast	Breast
3	Lung/bronchus	Colon
4	Colon	Pancreas
5	Bladder	Prostate

Rates are per 10,000 population, except for prostate and breast cancers, which are per 10,000 males and females, respectively. Rates are age-adjusted to the 1970 US population. Data source for Table 1: Karmanos Cancer Institute (incidence) and 1995-97 Michigan Resident Death Files, MI Department of Community Health, Division for Vital Records and Health Statistics (mortality).

Breast cancer is the most frequently diagnosed cancer among females in Oakland County, while lung cancer kills more females than any other type of cancer. Prostate cancer is the most frequently diagnosed cancer in males in Oakland County, and like females, lung cancer is responsible for the largest number of cancer deaths among males. Tables 2 and 3 below show the five leading types of cancer among females and males in Oakland County, based on incidence and mortality rates.

Table 2.
Leading Cancers among Females, by Age-adjusted Rates
Oakland County, 1995-1997

	Incidence	Mortality
1	Breast	Lung/bronchus
2	Lung/bronchus	Breast
3	Colon	Colon
4	Uterus	Ovary
5	Ovary	Pancreas

Table 3.
Leading Cancers among Males, by Age-adjusted Rates
Oakland County, 1995-1997

	Incidence	Mortality
1	Prostate	Lung/bronchus
2	Lung/bronchus	Prostate
3	Bladder	Colon
4	Colon	Non-Hodgkin's lymphomas
5	Non-Hodgkin's lymphomas	Pancreas

Rates are per 10,000 males or females and are age-adjusted to the 1970 US population. Data source for Tables 1 and 2: Karmanos Cancer Institute (incidence) and 1995-97 Resident Death Files, MI Department of Community Health, Division for Vital Records and Health Statistics (mortality).

Healthy People 2010 Objectives

Healthy People 2010 is a comprehensive health promotion and disease prevention agenda for the country, developed through a collaborative effort by several agencies within the US Department of Health and Human Services and numerous other governmental and non-governmental partners. The Healthy People process was started in 1979 with the creation of *Healthy People: The Surgeon General's Report on Health Promotion and Disease Prevention*, and was followed in 1990 by *Healthy People 2000*.⁵

Healthy People 2010 includes goals and objectives for twenty-eight different health topics, including cancer deaths. Below are the Healthy People 2010 objectives for several cancers discussed in this document, and Oakland County's progress towards those objectives.

Please note that the mortality rates in the table below are adjusted to a different age standard than are the rest of the rates in this document, and therefore are not comparable to them. This is because the Healthy People 2010 objectives are set using an estimate of the Year 2000 age distribution in the US, while much of the historical cancer data in use today utilizes the 1970 standard. For an explanation of age-adjusted rates, see the glossary section of this document. Also, the rates in Table 4 are per 100,000 population to be comparable to the Healthy People 2010 objectives. The rates elsewhere in this document are per 10,000 population.

Table 4.
Oakland County progress Toward Healthy People 2010 Objectives

Cancer	Oakland County Age-Adjusted Mortality Rates, 1995-97 average	Healthy People 2010 Objective, Mortality Rates⁵	Percent reduction needed to achieve objective
All cancers	197.7	158.7	24.6%
Prostate	34.4	28.7	19.9%
Breast	27.7	22.2	24.8%
Lung/bronchus	53.3	44.8	19.0%
Colon (colorectal)	19.9	13.9	43.2%
Bladder	4.7	No HP2010 objective set	--

Mortality rates are per 100,000 population, except for prostate cancer and breast cancer which are per 100,000 males and females, respectively.

Rates (in this table only) are age-adjusted to the estimated Year 2000 population standard.
Data source for table 4: 1995-97 Resident Death Files, MI Department of Community Health, Division for Vital Records and Health Statistics (Oakland County mortality data).

Individual Cancers

The remaining sections of this document contain data and information about the five leading types of cancer in Oakland County in terms of incidence rates. These include cancers of the prostate, breast, lung and bronchus, colon and bladder. Each section contains:

- ◆ Information about the **risk factors** for that cancer. This is based on information from the American Cancer Society.
- ◆ **Incidence and mortality rates** for that cancer over time for Oakland County, Michigan and the US.
- ◆ Incidence rates for that cancer for **whites and African Americans** in Oakland County over time. This data is not available for other racial or ethnic groups. Mortality rates can not be presented for separate racial groups, as the relatively small numbers of deaths result in rates that are considered to be statistically unreliable.
- ◆ Incidence and mortality rates for that cancer presented for **males and females** in Oakland County between 1990 and 1997. This information is not included in sections on breast cancer and prostate cancer.

Prostate Cancer

The prostate gland in men surrounds the urethra and part of the bladder. It secretes several components needed for seminal fluid.⁶ Most prostate cancers grow very slowly and, in fact, autopsies performed on elderly men who die from other causes sometimes reveal prostate cancers that were previously undetected. Nonetheless, prostate cancer is a leading cause of cancer deaths in males.

Risk Factors

- Being older in age
- African American race
- Physical inactivity
- Eating a high fat diet
- A family history of prostate cancer
- North American or northwestern European nationality

Having had a vasectomy, especially before age 35, has been linked in some studies to a slightly increased risk for prostate cancer though other studies have not found any increased risk.²

Incidence and Mortality Data

Between 1985 and 1989 an average of 475 cases of prostate cancer were diagnosed in Oakland County men each year. Between 1990 and 1994, that number rose to 1004 cases, and in 1995 and 1996 an average of 864 cases were diagnosed each year.³ Figures 1 and 2 below show the incidence and mortality rates for prostate cancers for males in Oakland County, Michigan and the US.

Figure 1.

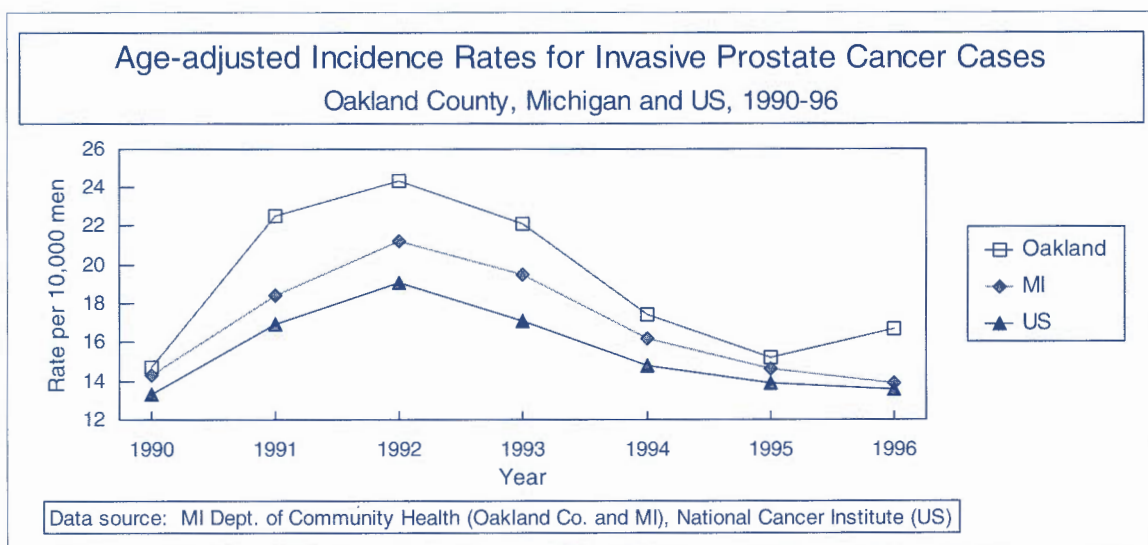
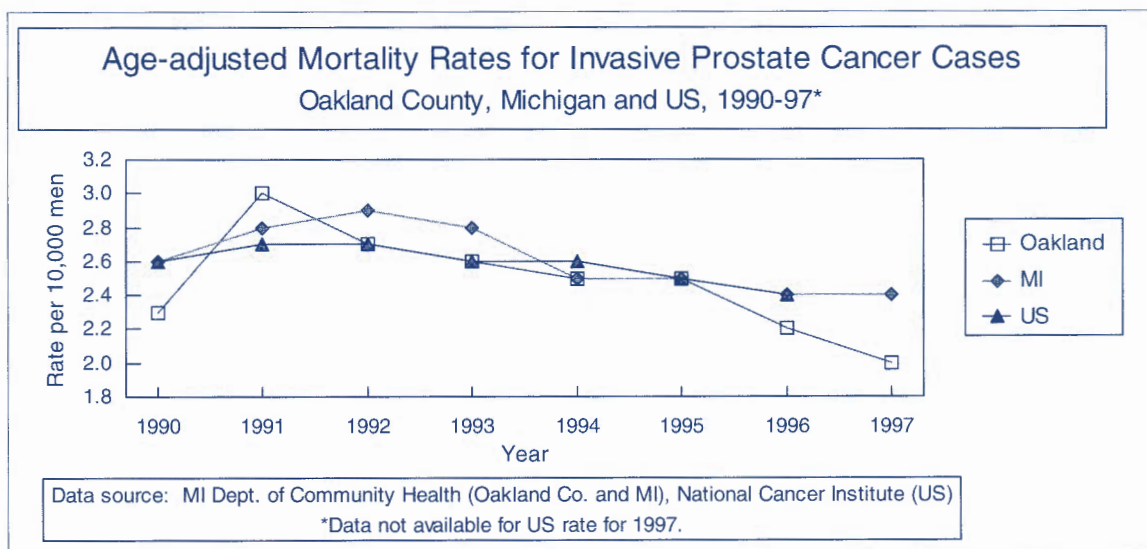
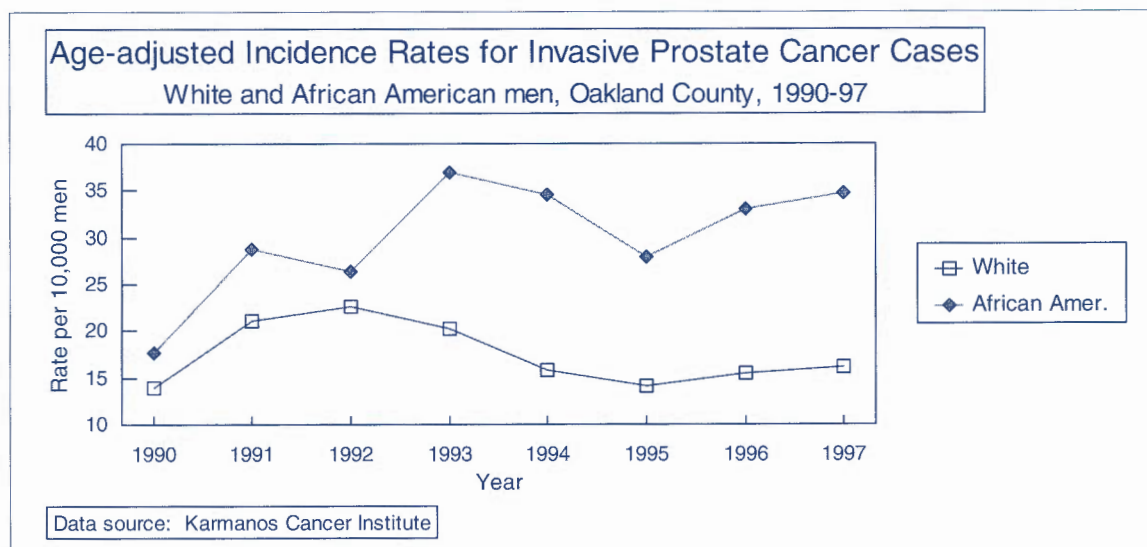


Figure 2.



The graph below shows age-adjusted incidence rates for prostate cancer for white and African American men. As can be seen, the rate among African American men is significantly higher than the rate for white men in Oakland County. The American Cancer Society states that, nationally, prostate cancer is approximately twice as common among African American men than among white men.²

Figure 3.



Breast Cancer

Next to skin cancer, breast cancer is the most common cancer occurring in women in the United States. Nationally it is the second leading cause of death due to cancer in women. While breast cancer can occur in men, it is far less common than breast cancer in women.² This section contains information and data referring to breast cancer among females only.

Risk Factors

Female gender	Being older in age
Certain genetic risk factors	A family history of breast cancer
A personal history of breast cancer	A history of radiation treatment
A history of breast biopsy	Start of menstrual periods before age 12
Alcohol use	Going through menopause after age 50
Race (see graph and accompanying explanation below)	

Other factors may be linked to an increased risk for breast cancer, however the research on these factors is not conclusive. These include the use of birth control pills, long-term use of estrogen replacement therapy, not breastfeeding, being overweight and not exercising.²

Incidence and Mortality Data

Between 1990 and 1996, approximately 850 new cases of breast cancer were reported among Oakland County female residents each year.³ Figures 1 and 2 below show the age-adjusted incidence and mortality rates for breast cancer cases between 1990 and 1997 in Oakland County.

Figure 1.

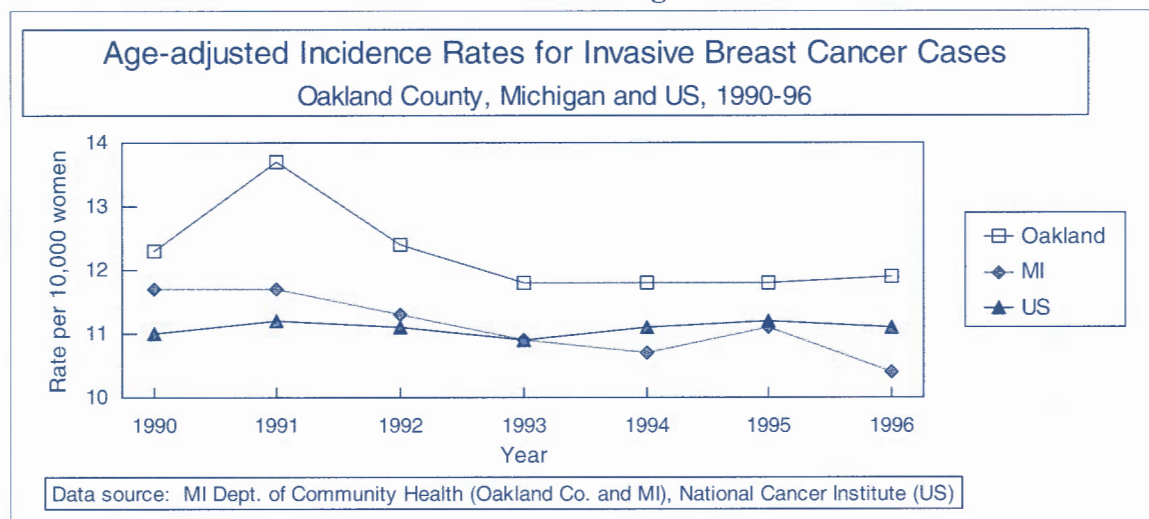


Figure 2.

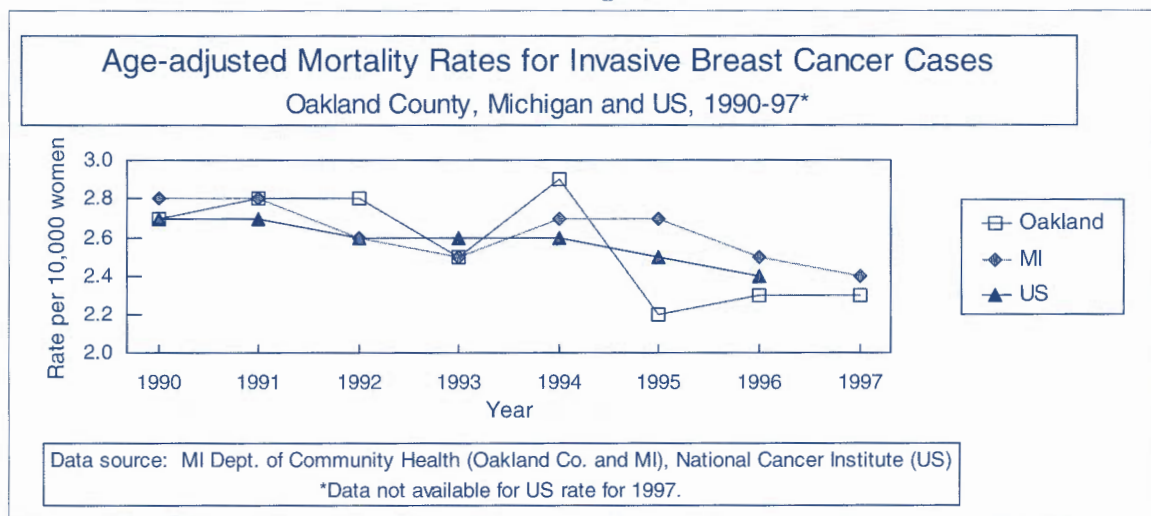
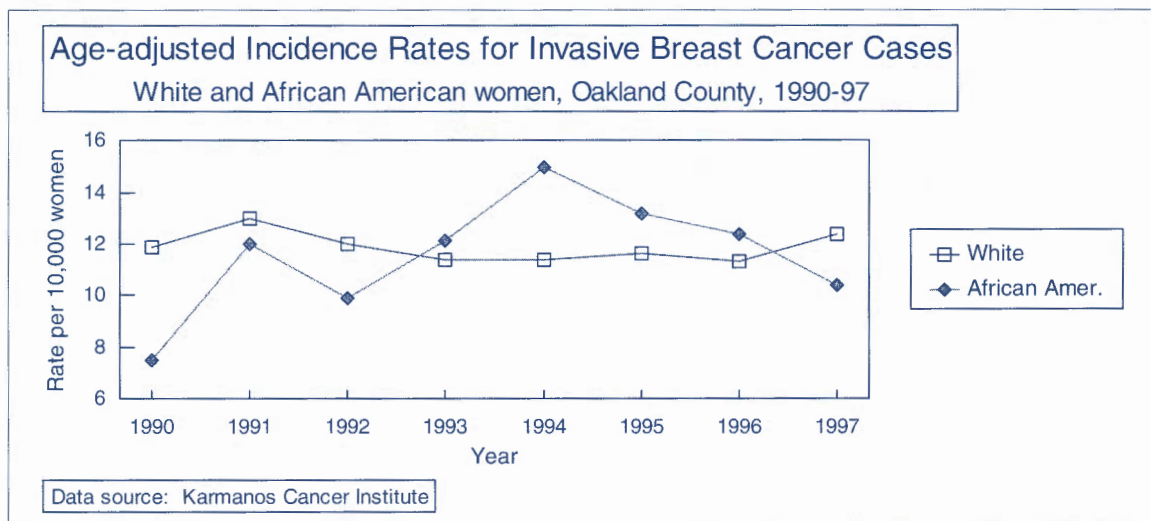


Figure 3 below shows incidence rates for breast cancer for white women and African American women. The American Cancer Society reports that “for all ages combined, white women are more likely to develop breast cancer than African American women, although under age 50 African American women have higher rates than white women.” They go on to say that African American women are more likely than white women to die of breast cancer at almost every age. Breast cancer incidence and death rates are generally lower among women of other races and ethnic groups than among African American and white women”.²

Figure 3.



Lung Cancer (including cancer of the bronchus)

Lung cancer often causes few or no symptoms in the early stages, and therefore is frequently not diagnosed until the cancer has advanced. Only about 15% of lung cancers are diagnosed before the cancer has spread to other body parts. More than 80% of lung cancers are believed to be caused by tobacco smoking.

Risk Factors

Smoking
Exposure to secondhand tobacco smoke Asbestos exposure
Radon exposure Marijuana smoking
Personal or family history of lung cancer Recurring lung inflammation
Cancer-causing agents in the workplace such as radioactive ores, arsenic, and vinyl chloride²

Incidence and Mortality Data

Lung cancer is the leading cause of cancer deaths among both males and females in Oakland County. In 1997, 289 men and 275 women died of lung cancer in Oakland County.³ Figures 1 and 2 below show the age-adjusted incidence and mortality rates for lung cancer cases in Oakland County, Michigan and the US.

Figure 1.

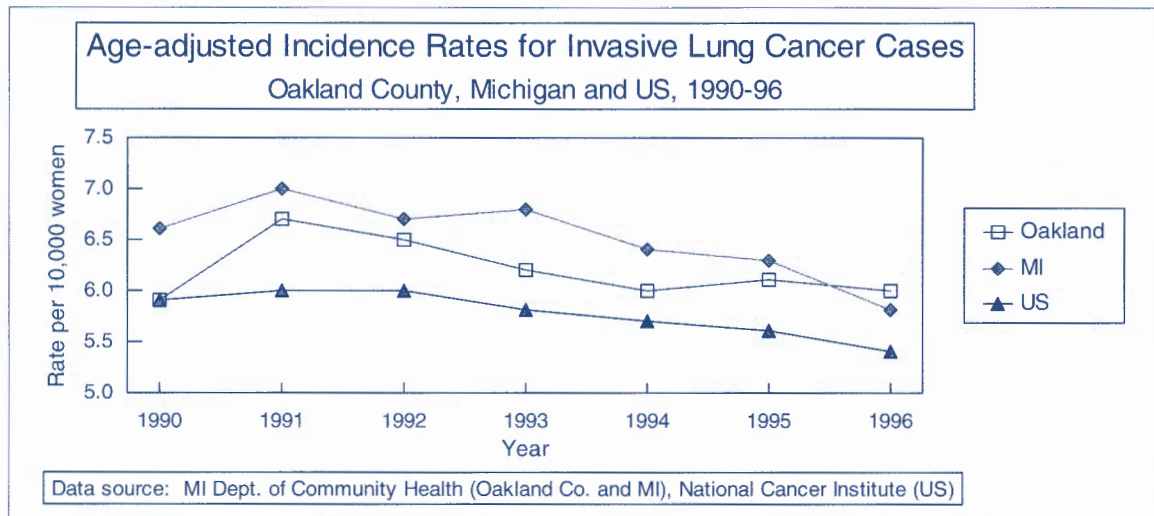
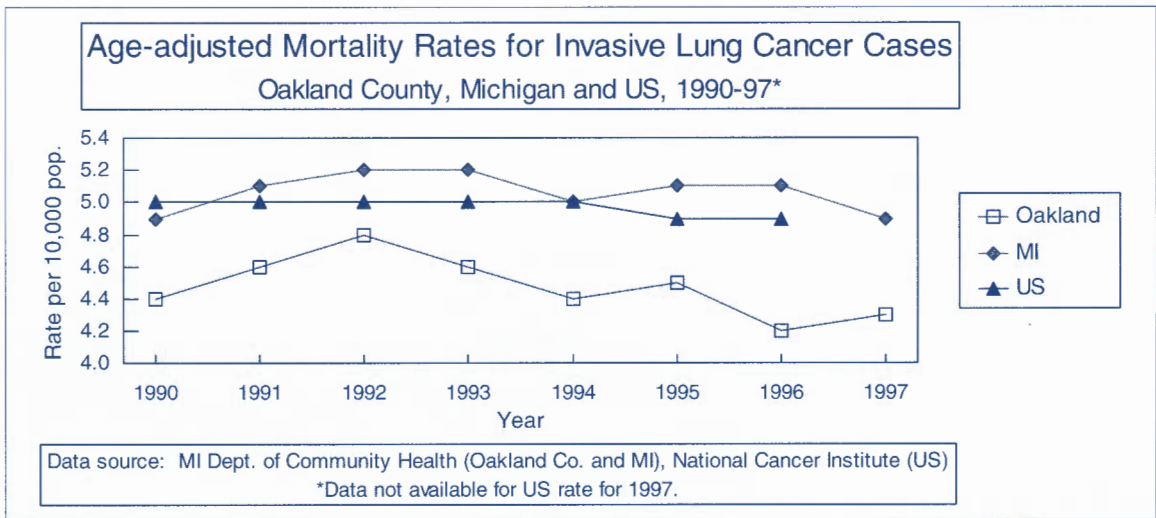


Figure 2.



As seen in Figure 3 below, the incidence of lung cancer among African Americans in Oakland County is significantly higher than the rate among whites.

Figure 3.

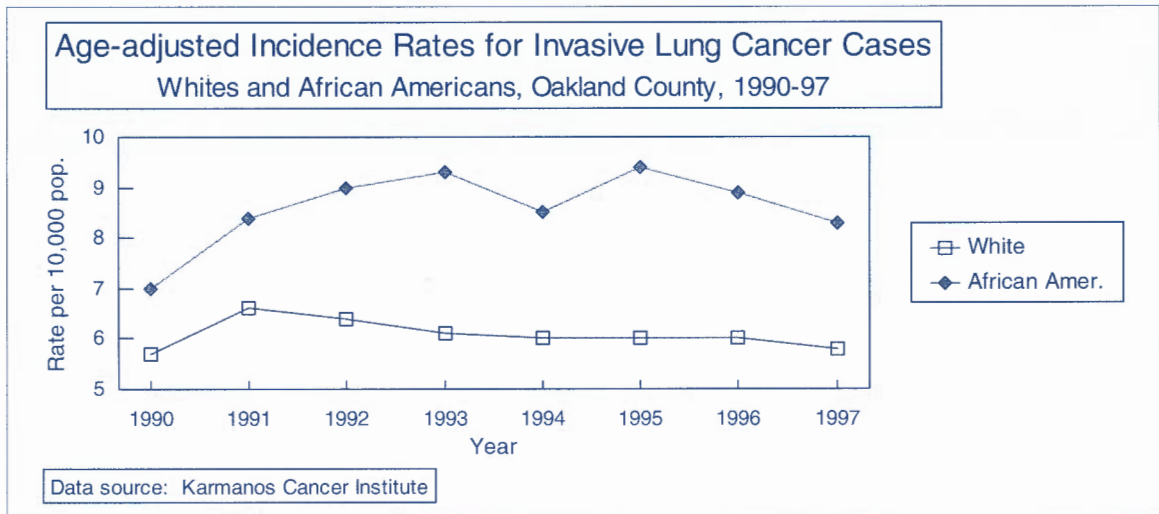
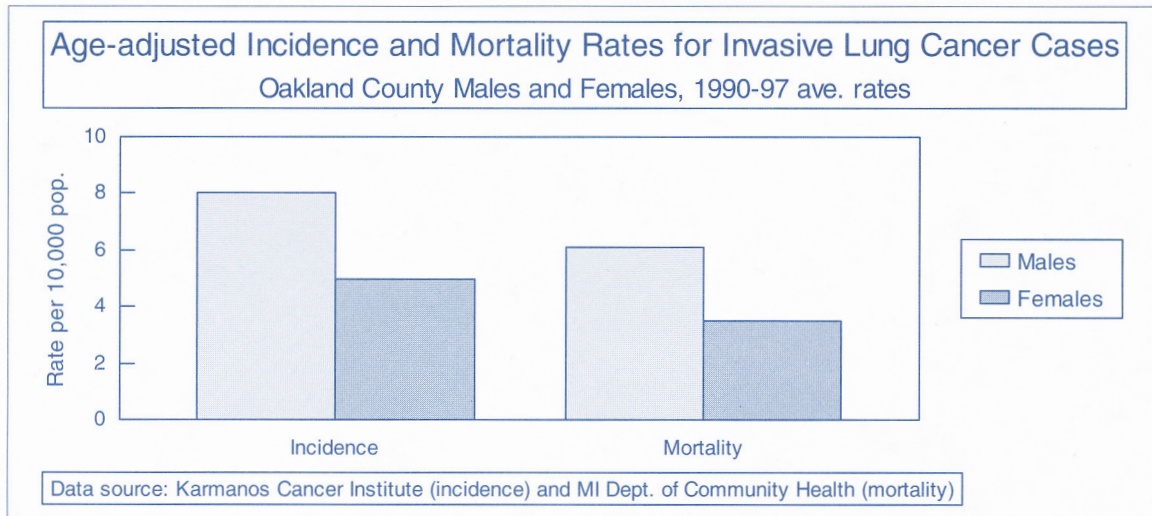


Figure 4 below shows the age-adjusted incidence and mortality rates for lung cancer cases among males and females in Oakland County. The American Cancer Society predicts that there will be 164,100 new cases of lung cancer diagnosed in the US in 2000, including 89,500 cases among males and 74,600 cases among females. They also predict that lung cancer will continue to be the leading cause of cancer deaths among both males and females and that 13.4% of all new cancers in 2000 will be lung cancers.²

Figure 4.



Colon/Colorectal Cancer

The colon is the upper section of the large intestine. The rectum refers to the final section of the large intestine, which is usually about six inches long. Cancer of the colon and cancer of the rectum are often discussed together as colorectal cancer.

Risk Factors

- A family history of colon cancer or colon/rectal polyps
- A personal history of colon cancer, intestinal polyps or chronic inflammatory bowel disease
- Being older in age
- A diet high in animal products
- Physical inactivity
- Obesity²

Incidence and Mortality Data

Between 1990 and 1997, an average of 596 Oakland County residents were diagnosed with colorectal cancer each year and 207 died from colorectal cancer each year.³ Based on the way the data are collected and available, Figures 1 and 2 below contain data on colorectal cancer. Figures 3 and 4 on the following page contain data on colon cancers only.

Figure 1.

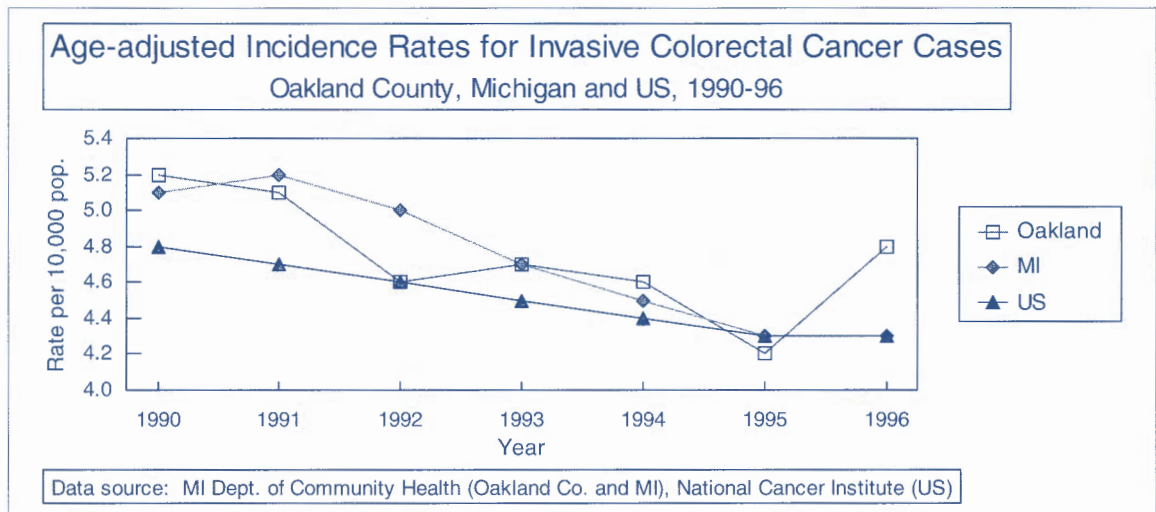


Figure 2.

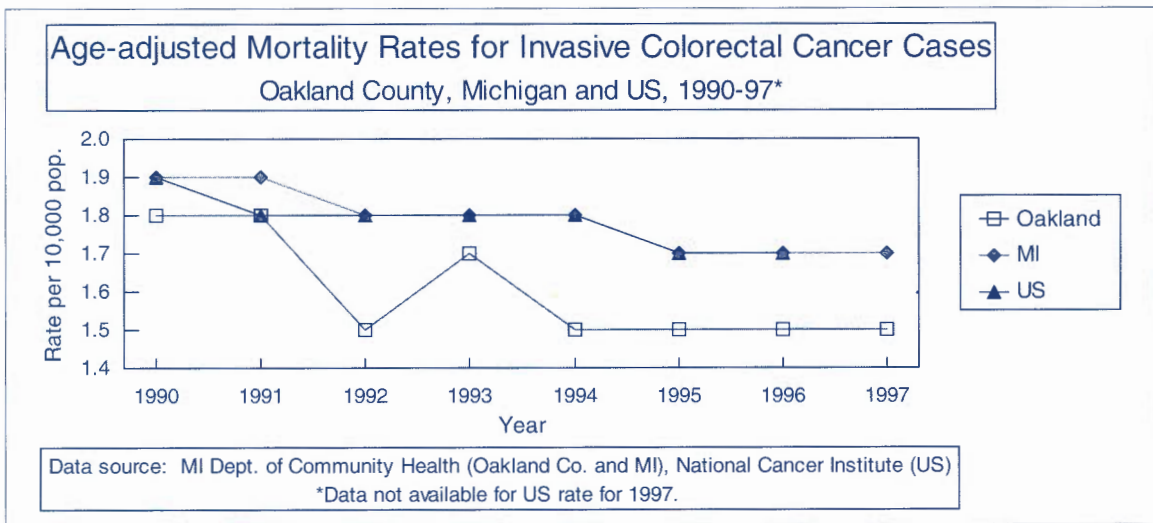


Figure 3 below shows the incidence rates for colon cancer cases between 1990 and 1997 for whites and for African Americans. As shown in the graph, the rate among African Americans was higher than the rate among whites for each year between 1990 and 1997.

Figure 3.

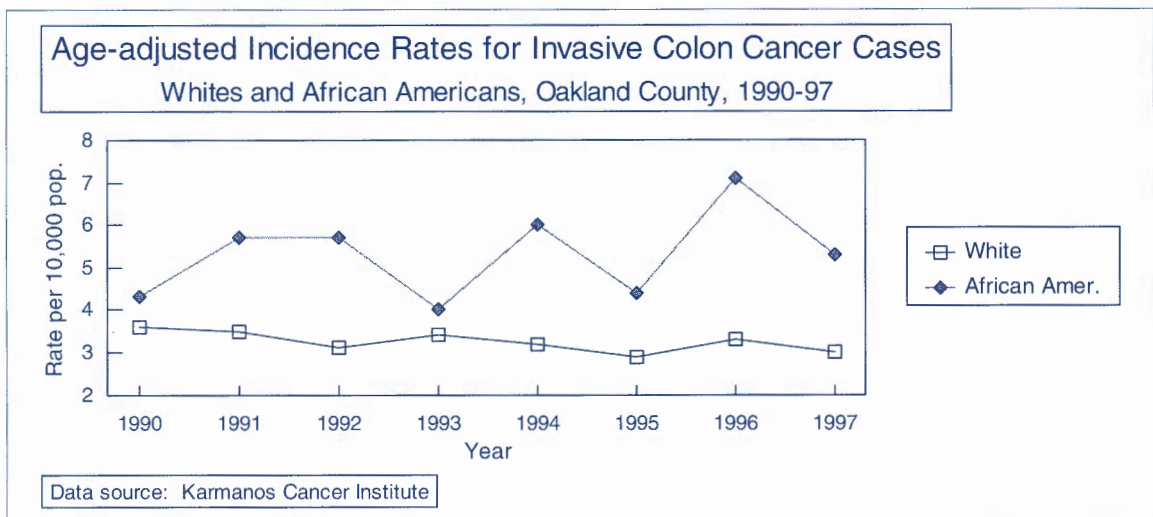
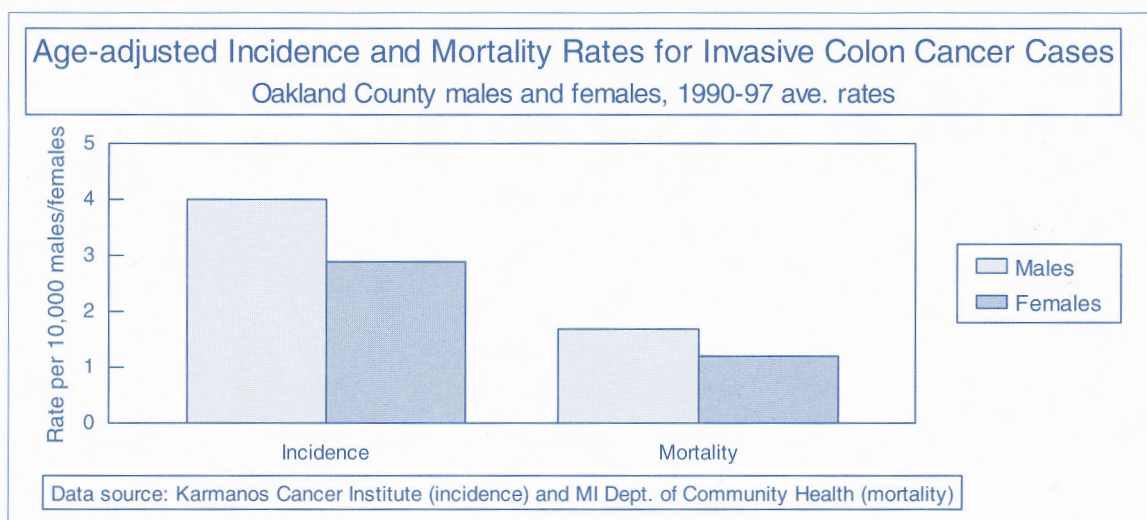


Figure 4 shows the incidence and mortality rates for colon cancer among males and females in Oakland County between 1990 and 1997. The American Cancer Society predicts that in 2000, there will be a larger number of colon cancer cases diagnosed among women versus men, but a larger number of rectal cancers diagnosed among men versus women. They expect that roughly equal numbers of men and women will die from both colon and rectal cancer in 2000.²

Figure 4.



Bladder cancer

According to the American Cancer Society, bladder cancer is the sixth most common cancer in the US, excluding non-melanoma skin cancers.² In Oakland County bladder cancer is among the five leading cancers in terms of incidence though it is not among the five leading cancers in terms of mortality.³

Risk Factors

Smoking
Being older in age
A personal history of bladder cancer
Birth defects involving the bladder
Occupational exposure to chemicals such as aromatic amines which are used in the dye industry²

White race
Chronic bladder inflammation

Incidence and Mortality Data

Most bladder cancer data includes both insitu (see glossary for definition) and invasive cancers due to the difficulty in distinguishing between insitu and invasive lesions of the bladder. Between 1990 and 1997, an average of 47 people died from bladder cancer in Oakland County each year.³ Figures 1 and 2 below show the age-adjusted incidence and mortality rates for bladder cancer cases between 1990 and 1997.

Figure 1.

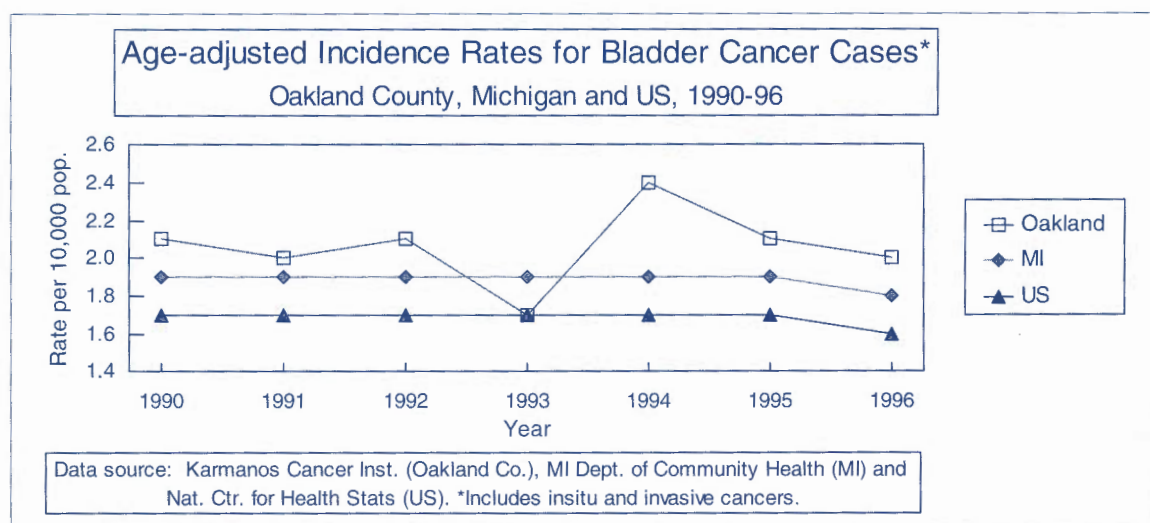


Figure 2.

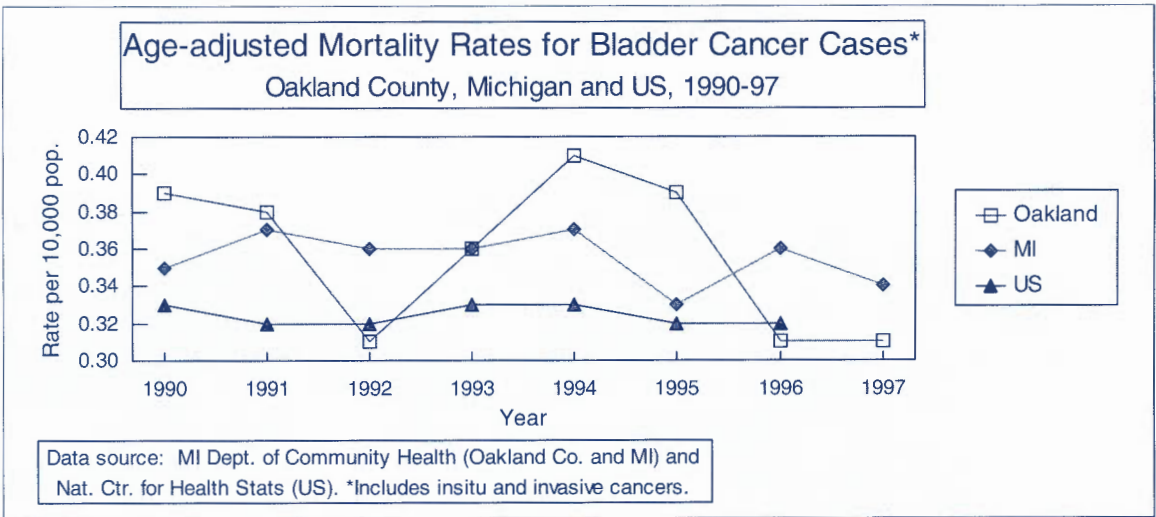


Figure 3 below shows the incidence rates for bladder cancer cases among whites and African Americans in Oakland County between 1990 and 1997. The graph shows that, except for 1995, the rate for whites has consistently been higher than the rate for African Americans. The American Cancer Society reports that, nationally, whites are approximately two times more likely to develop bladder cancer than are African Americans.²

Figure 3.

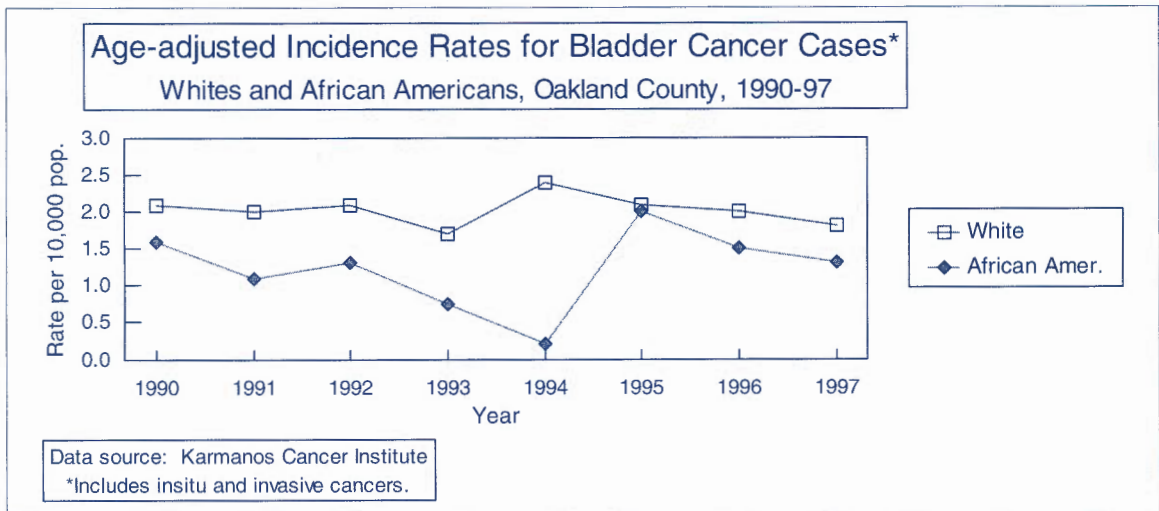
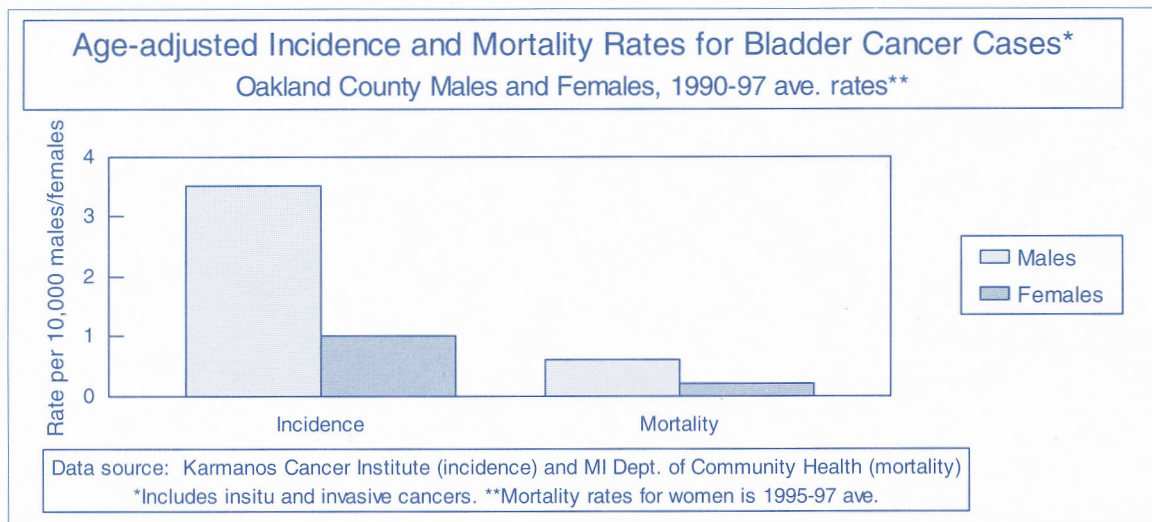


Figure 4 below shows the average incidence and mortality rates for bladder cancer between 1990 and 1997 for males and females. Note that the mortality rate shown for females is the average for 1995-97 only, as the rate for 1990 to 1994 is considered statistically unreliable due to the small number of cases.

Figure 4.



Conclusion

For several of the cancers discussed in this document, Oakland County's cancer incidence rates are generally higher than the incidence rates for Michigan and the United States during the period shown. This is true for prostate, breast and bladder cancer. At the same time, Oakland County's mortality rates are generally lower than the rates for Michigan and the United States during this period. This is especially true for lung and colorectal cancer. Further research is needed to determine why this pattern exists, but one possible explanation may be the relatively high socio-economic status of Oakland County residents as a whole.

According to the US Department of Commerce, in 1997 Oakland County's per capita personal income was the highest in the state, and was more than 1.5 times the national average.⁷ With high economic status often comes good access to health care. The relatively higher incidence rates for the county may reflect high rates of cancer detection and diagnosis, and the relatively lower mortality rates may reflect good access to quality health care.

The disparities between the incidence rates for whites and African Americans for several cancers also warrant further study. The incidence rates for prostate, colon and lung cancer are higher for African Americans than for whites. The incidence rates for bladder cancer among whites are higher than the rates for African Americans while the breast cancer incidence rates for whites and African Americans vary from year to year. Several of these patterns exist at the national level as well, and reducing disparities in health status between whites and other racial groups has been named as a priority by the US Surgeon General.

While the reasons behind the patterns and disparities discussed above require further research, it is clear that there is significant work to be done in the area of cancer prevention in our community. As shown in Table 4 on page 4, a significant reduction in cancer rates will be needed over the next ten years in order to meet the national Healthy People 2010 objectives for cancer deaths. Oakland County is a community rich in resources, including state of the art medical facilities and a strong public health infrastructure. Together, we can make great strides in reducing the burden of cancer in our community.



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Glossary

Age-adjustment	An adjusted rate is a fictitious summary rate statistically adjusted to remove the effect of a demographic variable such as age or sex, thus permitting unbiased comparison between groups with different demographic structure. ⁶ An age-adjusted rate is adjusted to remove the effect of the age structure in a population on the rate.
Bronchus	Any of the larger air passages of the lungs. ⁶
Incidence Rate	A rate where the numerator is the number of new cases of a specific disease during a specific period of time and the denominator is the number of people at risk during that period. ⁶
Invasive Cancer	Cancer that has spread beyond the layer of cells where it first developed to involve adjacent tissue ¹
In situ	Confined to the site of origin without invasion of neighboring tissues. ⁶
Mortality Rate	A rate expressing the number of deaths in a population at risk for that cause of death. ⁶
Prostate	A gland in males which surrounds the neck of the bladder and the urethra. ⁶
Rate	The number of occurrences of an event per unit time. ⁶
Risk factor	A risk factor is anything that increases a person's risk of developing a disease such as cancer. ¹

References

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REFERENCE BOOK

Cancer Resources

National and International Organizations

American Lung Association

1740 Broadway
New York, NY 10019
(212) 315-8700
www.lungusa.org

American Cancer Society

1599 Clifton Road NE
Atlanta, GA 30329
(404) 320-3333
www.cancer.org

Centers for Disease Control and Prevention

National Center for Chronic Disease
Prevention and Health Promotion
1600 Clifton Road NE
Atlanta, GA 30333
www.cdc.gov/nccdphp/cancer.htm

National Cancer Registrar's Association

P.O. Box 15945-295
Lenexa, KS 66285-5145
(913) 438-6272
www.ncra-usa.org/

National Cancer Institute

National Institutes of Health
Office of Cancer Communications
Building 31, Room 10A24
Bethesda, MD 20892
1-800-4-CANCER
Main website: www.nci.nih.gov
Cancernet: www.cancernet.nci.nih.gov/
NIH's list of links to credible health
information websites: www.nih.gov/

North American Association of Central Cancer Registries

www.naacr.org

World Health Organization

International Agency for Research on
Cancer
150 cours Albert Thomas
F-69372 Lyon cedex 08, France
www.iarc.fr/

Hospitals and University Cancer Centers

Josephine Ford Cancer Center

www.henryfordhealth.org/body.cfm?id=33700

Karmanos Cancer Institute

1-800-KARMANOS
www.karmanos.org

University of Michigan

Comprehensive Cancer Center
Cancer Answerline: 1-800-865-1125
www.cancer.med.umich.edu

University of Pennsylvania Cancer Center

Oncolink: <http://oncolink.upenn.edu>

Beaumont Cancer Center

www.beaumont.edu
(248) 551-5000

Providence Cancer Institute

www.providence-hospital
(800) 341-0801

Other Local Resources

Oakland County Health Division

Cancer Risk Reduction Program
27725 Greenfield Road
Southfield, MI 48706-3625
(248) 424-7082

Gilda's Club of Metro Detroit

3517 Rochester Road
Royal Oak, MI 48073
(248) 577-0800
www.gildasclubdetroit.org

Michigan Self Help Clearinghouse

1-800-777-5556
Maintains lists of cancer-related support
groups in southeast Michigan.
Open between 10am-3pm
Monday through Friday.

Healthy People, Healthy Oakland
1200 N Telegraph
Pontiac, MI 48341-0432

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Address Correction Requested

For further information about **Healthy People, Healthy Oakland** or additional copies of this health segment call: (248) 858-1284. Visit our website at www.co.oakland.mi.us under health department.

Many cancers can be prevented through risk reduction and early detection. For more information about reducing your risk for the cancers outlined in this document as well as others, please contact:

Oakland County Health Division
Cancer Risk Reduction Program
(248) 424-7082.

**This report was published collaboratively by
Healthy People, Healthy Oakland and the
Oakland County Health Division's
Cancer Advisory Group**

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