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Executive Summary

The *Community Health Assessment* reports on the health of St. Joseph County (SJC) residents using self-reported health status and determinants of health data from Indiana's Behavioral Risk Factor Survey (BRFSS); and mortality data from the Indiana State Department of Health (ISDH). Comparisons to state and national data, along with Healthy People 2010 objectives, are included where available. Findings of particular note include:

- Over half of SJC respondents to the BRFSS said their health was 'very good' or 'excellent'. Still, around 30% reported their physical or mental health was not good for two or more days during the past 30 days, and that poor physical or mental health kept them from doing some usual activity.
- Twenty-five percent of SJC respondents reported in the BRFSS that they were current smokers. This falls far short of the Healthy People (HP) 2010 objective of 12% current smokers.
- Sixty-one percent of SJC respondents self-reported their weight status as either overweight or obese. In spite of this, over 80% reported that they had never received advice from a health care professional about their weight.
- Of those respondents reporting arthritis or joint symptoms, 90% said they were not counseled by a health professional to take a class on how to manage their symptoms.
- The leading causes of death in SJC are: **heart disease, cancer, cerebral vascular disease (stroke), chronic lower respiratory disease and diabetes mellitus.** SJC's five-year average age-adjusted death rates for all five causes of death were less than Indiana's five-year average age-adjusted death rates.
- For all leading causes of death, the black population in SJC experiences a higher age-adjusted death rate than the white population.
- The prostate cancer five-year average age-adjusted death rate for black males was 2.33 times the rate for males in the white population.
- Females in the black population have a five-year average age-adjusted death rate for diabetes that is 228% higher (67.3 versus 20.5 per 100,000 population) than for white females, and is 50% higher than their male counterparts.

- Females in the black population have the highest five-year average age-adjusted death rate for cerebral vascular disease (stroke). Their five-year average death rate was 118.3 per 100,000 population compared to 57.7 per 100,000 population for white females, 89.4 per 100,000 population for black males and 64.3 per 100,000 population for white males.
- The five-year average breast cancer death rate for white females was 25.0 per 100,000 females while the rate for black females was 33.1 per 100,000 females. Both rates are higher than the HP2010 goal of 22.3 age-adjusted deaths per 100,000 females. The rate for white females is 11% higher than the HP2010 goal (22.3 per 100,000 females) while the rate for black females is 33% higher than the HP2010 goal.
- Homicide and suicide age-adjusted death rates for both races are community health problems that need to be addressed. The black population has a five-year average age-adjusted homicide death rate of 39.4 per 100,000 population compared to 3.7 per 100,000 for the white population. The HP 2010 objective is 3.
- The percentage of SJC respondents reporting that they did not have any health care coverage was 13.2%

The available data permit only a brief description of the health of SJC residents, due in part to the limited sample size. Because BRFSS statistics for SJC were not available for all chronic illness and health behaviors and because the available data can not be analyzed based on demographics such as age, race and gender, the data needed to thoroughly assess health risk behaviors, clinical preventive practices and health care access are not available. Thus, the scope of this analysis is limited.

Figure 2 For how many days during the past 30 days was your physical health (including illness and injury) not good?

N=236

	None	One day	Two or more days	Don't know/refused
SJC	58.7%	3.6%	36.5%	1.3%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 3 For how many days during the past 30 days was your mental health (including stress, depression and problems with emotions) not good?

N=236

	None	One day	Two or more days	Don't know/refused
SJC	64.2%	3.7%	29.9%	2.2%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 4 During the past 30 days, how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work or recreation?

N=135 (respondents reporting poor physical or mental health)

	None	One day	Two or more days	Don't know/refused
SJC	62.9%	3.5%	31.9%	1.8%

Source: 2003 BRFSS, Indiana State Department of Health

Though 35% reported that their health kept them from some activity in the past 30 days, only 19% reported that their health limited them. This could imply that just 19% of the respondents appear to think they have a debilitating health problem.

Figure 5 Are you limited in anyway in any activities because of physical, mental or emotional problems?

N=234

	Yes	No	Don't know/refused
SJC	18.9%	80.4%	0.7%
IN	18.4%	81.3%	0.4%
US	18.3%	81.7%	na

Source: 2003 BRFSS, Indiana State Department of Health

For the 2003 Indiana BRFSS, 18.9% of the respondents indicated that their activities had been limited due to physical, mental or emotional problems.

Figure 6 **Do you have any health problems that requires you to use special equipment such as a cane, a wheelchair, a special bed or a special telephone?**

N=234

	Yes	No
SJC	4.5%	95.5%
IN	5.4%	94.6%
US	5.9%	94.0%

Source: 2003 BRFSS, Indiana State Department of Health

Just 4.5% of the respondents reported health problems severe enough to require special equipment (a similar percentage to the number of respondents who reported a poor general health status).

Chronic Illness Prevalence

Prevalence, which is an indication of the burden of disease in a population, measures the number of cases of a disease at a particular point in time or during a specific time period. The prevalence measure is affected by both incidence and duration of disease in a population. The BRFSS measures prevalence of chronic disease by asking respondents if they have ever been told by a doctor, nurse or other health professional that they have a particular disease.

Saint Joseph County BRFSS results for diabetes, high blood pressure, high blood cholesterol, asthma, and arthritis and joint pain were available for 2003. State and national comparisons are shown when available. Comparisons to relevant Healthy People 2010 objectives are also included (when available).

Figure 7 **Have you ever been told by a doctor, nurse or other health professional that you have diabetes?**

N=236

	Yes	No
SJC	7.7%	92.3%
IN	7.8%	91.5%
US	7.2%	92.0%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 8 **Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?**

N=236

	Yes	Yes, female during pregnancy	No	Don't know/refused
SJC	26.8%	2.7%	70.1%	0.4%
IN	26.9%	1.0%	71.9%	0.2%
US	24.8%	na	75.2%	na

Source: 2003 BRFSS, Indiana State Department of Health

The Healthy People 2010 goal concerning high blood pressure is for 16% or less of the population to respond yes to the high blood pressure query. In comparison, 27% of SJC survey participants responded in the affirmative.

Figure 9 **Are you currently taking medicine for your high blood pressure?**

N=64 (respondents reporting high blood pressure)

	Yes	No
SJC	75.4%	24.6%
IN	76.5%	23.2%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 10 **Have you ever been told by a doctor, nurse or other health professional that your blood cholesterol is high?**

N=183

	Yes	No
SJC	42.4%	57.6%
IN	34.8%	64.5%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 11 **Have you ever been told by a doctor, nurse or other health professional that you have asthma?**

N=236

	Yes	No	Don't know/refused
SJC	12.5%	87.0%	0.5%
IN	12.0%	87.9%	0.1%
US	11.7%	88.3%	na

Source: 2003 BRFSS, Indiana State Department of Health

Figure 12 **Have you ever been told by a doctor, nurse or other health professional that you have some form of arthritis, rheumatoid arthritis, gout, lupus or fibromyalgia?**

N=234

	Yes	No	Don't know/refused
SJC	28.2%	71.4%	0.4%
IN	30.3%	69.4%	0.3%

Source: 2003 BRFSS, Indiana State Department of Health

For the 2003 Indiana BRFSS, 30.4% of survey participants responded in the affirmative.

Figure 13 **Have you experienced joint pain or swelling within the last 30 days?**

N=235

	Yes	No	Don't know/refused
SJC	45.1%	54.6%	0.4%
IN	47.6%	52.1%	0.3%

Source: 2003 BRFSS, Indiana State Department of Health

Figures 14 – 18 indicate the extent to which joint symptoms affect the lives of SJC respondents according to the 2003 BRFSS.

Figure 14 **Have you seen a doctor or other health professional for these joint symptoms?**

N=88 (respondents that reported pain in last 30 days)

	Yes	No
SJC	66.4%	33.6%
IN	69.7%	30.2%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 15 **Did your joint symptoms begin more than 3 months ago?**

N=107 (respondents that reported joint symptoms)

	Yes	No
SJC	80.4%	19.6%
IN	80.2%	19.0%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 16 **Are you now limited in any way for your usual activities because of arthritis or joint symptoms?**

N=103 (respondents that reported joint symptoms)

	Yes	No
SJC	28.1%	71.9%
IN	27.4%	72.1%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 17 **Do arthritis or joint symptoms now affect whether you work for pay, the type of work you do or the amount of work you do?**

N=71 (respondents less than 65 years of age reporting joint symptoms)

	Yes	No
SJC	20.1%	79.9%
IN	27.3%	71.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 18 **Thinking about your arthritis or joint symptoms, which of the following best describes you today?**

N=99 (respondents reporting joint symptoms or arthritis)

	I can do everything I would like to do	I can do most things I would like to do	I can do some things I would like to do	I can hardly do anything I would like to do
SJC	38.0%	44.7%	14.3%	3.0%

Source: 2003 BRFSS, Indiana State Department of Health

Determinants of Health

According to *Healthy People 2010*, the top lifestyle and behavioral factors contributing to the nation's leading killers are:

1. tobacco
2. physical inactivity
3. poor nutrition
4. alcohol
5. infectious agents
6. pollutants.

Physical inactivity and poor nutrition contribute to the nation's rise in obesity, which is catching tobacco as the number one factor contributing to death.

Data collected by the BRFSS help assess these lifestyle and behavioral factors contributing to deaths from the leading killers. Data for individual behaviors, prevention and screening, access to care and education follow.

Individual Behaviors

Tobacco Use

Figure 19 Do you now smoke cigarettes every day, some day, or not at all?

N=236

	Current smoker – now smokes every day	Current smoker- now smokes some days	Former smoker	Never smoked
SJC	18.2%	6.8%	26.3%	48.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 20 Have you quit smoking a day or more in past year?

N=58 (respondents that currently smoke every or some days)

	Yes	No
SJC	50.4%	49.6%
IN	53.1%	46.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 21 Have you ever used smokeless tobacco products?

N=222

	Yes	No
SJC	15%	85%
IN	17.1%	82.9%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 22 Have you ever smoked cigars?

N=222

	Yes	No
SJC	47.7%	52.3%
IN	46.4%	53.5%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 23 Do you now smoke cigars every day, some days or not at all?
 N=98 (respondents who responded yes to cigar smoking)

	Every day	Some days	Not at all
SJC	1.6%	14.5%	83.9%
IN	1.2%	11.3%	87.3%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 24 Have you ever smoked a pipe?
 N=222

	Yes	No
SJC	23.1%	76.9%
IN	23.3%	76.4%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 25 Have you ever smoked an Indian cigarette?
 N=222

	Yes	No	Don't know/refused
SJC	4.5%	94.1%	1.4%
IN	3.5%	96.2%	0.3%

Source: 2003 BRFSS, Indiana State Department of Health

Alcohol Consumption

Figure 26 At risk for binge drinking*
 N=236

	Not at risk for binge drinking	At risk for binge drinking	Unknown/refused
SJC	88.3%	10.4%	1.3%
IN	84.3%	14.9%	0.8%

Source: 2003 BRFSS, Indiana State Department of Health

*Binge drinking risk calculated from respondents who reported having had 5 or more drinks on an occasion, 10 or more times in past month

Figure 27 **At risk for heavy drinking+**
N=236

	Not at risk for heavy drinking	At risk for heavy drinking	Unknown/refused
SJC	92.6%	5.4%	2.0%
IN	93.4%	5.6%	1.0%

Source: 2003 BRFSS, Indiana State Department of Health

+Heavy drinking calculated from respondents who reported drinking 60 or more alcoholic beverages a month for males, or 30 or more for females

Obesity

Figure 28 **Body Mass Index**
N=236

	Neither overweight nor obese	Overweight	Obese	Unknown/refused
SJC	32.8%	38.5%	22.8%	6.0%
IN	36.8%	34.3%	24.9%	4.0%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 29 **Are you trying to lose weight?**
N=236

	Yes	No	Unknown/refused
SJC	45.0%	54.5%	0.5%
IN	41.4%	58.6%	0.1%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 30 **Are you trying to maintain weight?**
N=131 (excludes respondents trying to lose weight)

	Yes	No	Unknown/refused
SJC	64.9%	33.8%	1.3%
IN	61.7%	37.9%	0.4%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 31 **Are you eating fewer calories and/or less fat?**
 N=193 (includes respondents trying to lose weight or maintain weight)

	Yes, fewer calories	Yes, less fat	Yes, fewer calories and less fat	No	Unknown/refused
SJC	22.2%	21.5%	25.3%	28.3%	2.7%
IN	18.1%	23.0%	29.6%	28.0%	1.4%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 32 **Have you increased your physical activity to lose weight or maintain weight?**

N=193 (includes respondents trying to lose weight or maintain weight)

	Yes	No
SJC	75.3%	24.7%
IN	67.5%	32.2%

Source: 2003 BRFSS, Indiana State Department of Health

Physical Activity

In determining a healthy lifestyle, the BRFSS is concerned with two types of physical activity – vigorous and moderate. Vigorous activity results in large increases of breathing or heart rate while moderate activity results in small increases in breathing or heart rate. The American Heart Association recommends that individuals have at least 30 minutes of moderate cardio respiratory exercise (such as walking, biking or swimming) every day.

Figure 33 **During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?**

N=236

	Yes	No
SJC	78.0%	22.0%
IN	73.8%	26.2%
US	76.9%	23.1%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 34 When you are at work, which of the following best describes what you do?

N=135 (includes respondents that are employed for wages or self-employed)

	Mostly sitting or standing	Mostly walking	Mostly heavy labor, or physically demanding work
SJC	67.1%	20.5%	12.4%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 35 Moderate Physical Activities Categories

N=236

	Meet recommendations for moderate physical activity	Insufficient activity to meet moderate recommendations or no moderate physical activity	Unknown/refused
SJC	39.8%	54.2%	6.0%
IN	46.9%	53.1%	na

Source: 2003 BRFSS, Indiana State Department of Health

Figure 36 Vigorous Physical Activity Categories

N=236

	Meet recommendations for vigorous physical activity	Insufficient activity to meet vigorous recommendations or no vigorous physical activity	Unknown/refused
SJC	29.4%	68.9%	1.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 37 Overall Physical Activity Categories

N=236

	Moderate and vigorous physical activity	Vigorous physical activity	Moderate physical activity	Insufficient activity to meet recommendations	No moderate or vigorous physical activity	Unknown /refused
SJC	18.2%	11.1%	21.5%	32.0%	11.6%	5.4%

Source: 2003 BRFSS, Indiana State Department of Health

Skin protection

Figure 38 **Have you had a sunburn in past twelve months?**

N=236

	Yes	No	Unknown/refused
SJC	37.2%	62.3%	0.5%
IN	40.3%	59.4%	0.3%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 39 **How many sunburns have you had in the past 12 months?**

N=88 (respondents reported a sunburn in past 12 months)

	One	Two	Three	Four	Five	Six or more
SJC	32.2%	22.0%	19.3%	10.1%	1.5%	13.0%
IN	29.9%	25.5%	17.9%	7.0%	5.0%	13.3%

Source: 2003 BRFSS, Indiana State Department of Health

Prevention/Screening

Cholesterol

Figure 40 **Have you ever had your blood cholesterol checked?**

N=236

	Yes	No	Don't know/refused
SJC	75.5%	21.0%	3.5%
IN	74.7%	22.6%	2.7%
US	76.9%	23.1%	na

Source: 2003 BRFSS, Indiana State Department of Health

Figure 41 **How long has it been since you last had your blood cholesterol checked?**

N=183 (respondents who had blood cholesterol checked)

	Within past year	Within past 2 years	Within the past 5 years	5 or more years ago	Don't know/refused
SJC	65.7%	21.0%	7.8%	5.3%	0.2%
IN	65.6%	16.9%	11.6%	6.0%	0.8%

Source: 2003 BRFSS, Indiana State Department of Health

Flu/pneumonia shots

Figure 42 **During the past 12 months have you had a flu shot?**
N=236

	Yes	No	Unknown/refused
SJC	35.3%	63.7%	1.1%
IN	32.6%	67.0%	0.4%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 43 **Have you ever had a pneumonia shot?**
N=236

	Yes	No	Unknown/refused
SJC	26.2%	64.1%	9.6%
IN	21.9%	69.1%	9.0%

Source: 2003 BRFSS, Indiana State Department of Health

HIV Testing

Figure 44 **Have you ever been tested for HIV, other than for a blood donation?**

N=176 (respondents less than 65 years of age)

	Yes	No	Unknown/refused
SJC	46.1%	50.7%	3.1%
IN	39.3%	58.1%	2.5%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 45 **What was the main reason for your HIV test?**
N=74 (respondents less than 65 who have ever been tested for HIV other than for blood donation)

	It was required	Wanted to find out if you had HIV	You were pregnant	Part of routine medical check-up	Some other reason	Unknown/refused
SJC	16.7%	13.2%	23.8%	30.8%	14.4%	1.1%
IN	17.4%	16.7%	18.2%	27.8%	19.0%	0.8%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 46 Where were you tested for HIV?

N=74 (respondents less than 65 who have ever been tested for HIV other than for blood donation)

	Private doctor or HMO	Counseling and testing site	Hospital	Clinic	Somewhere else	Unknown/refused
SJC	31.5%	9.9%	20.7%	17.3%	19.6%	1.1%
IN	40.3%	2.9%	25.0%	17.5%	13.5%	0.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 47 Do any of these high risk situations* for HIV apply to you?

N=174 (respondents less than 65 years old)

	Yes	No
SJC	4.6%	95.4%
IN	4.2%	95.5%

Source: 2003 BRFSS, Indiana State Department of Health

*Respondents were asked about the following high risk situations:

- Used intravenous drugs in past year
- Treated for a sexually transmitted or venereal disease in the past year
- Given or received money or drugs in exchange for sex in the past year
- Had anal sex without a condom in the past year.

Nutrition

Figure 48 Fruit and vegetable servings index

N=236

	Less than 1 per day or never	Once but less than 3 times a day	3-4 times per day	5 or more times per day
SJC	7.7%	35.1%	28.3%	28.9%
IN	6.1%	38.4%	33.3%	22.1%

Source: 2003 BRFSS, Indiana State Department of Health

In comparison, state data indicate that 78% of Indiana respondents reported eating fruits and vegetables 4 times or less per day (71.1% of SJC population reported eating less than the recommended). The USDA suggests 5-9 servings of fruits and vegetables a day.

Access to Care

Uninsured

Figure 49 Do you have any type of health care coverage?

N=236

	Yes	No
SJC	86.8%	13.2%
IN	85.9%	13.7%
US	85.5%	14.5%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 50 Was there a time in past 12 months when you needed to see a doctor but could not because of cost?

N=236

	Yes	No
SJC	12.6%	87.4%
IN	13.0%	86.9%

Source: 2003 BRFSS, Indiana State Department of Health

In 2002, just 6.3% of respondents reported not having any type of health care coverage. Estimates for the number of uninsured in Indiana range from 13 to 17%, however, around 13.5% is a generally accepted percentage. Saint Joseph County may have a higher number of uninsured than data indicate because of the high number of immigrants in the county, especially undocumented.

Medical Home

Figure 51 Do you have one person you think of as your personal doctor or health care provider?

N=236

	Yes, only one	More than one	No
SJC	83.2%	6.8%	10.0%
IN	75.9%	7.6%	16.3%

Source: 2003 BRFSS, Indiana State Department of Health

Education

Obesity

Figure 52 Have you ever received advice from a health care professional about your weight?

N=236

	Yes, lose weight	Yes, gain weight	Yes, maintain current weight	No	Unknown/refused
SJC	13.5%	2.9%	1.0%	82.1%	0.5%
IN	13.0%	1.5%	2.0%	83.4%	0.1%

Source: 2003 BRFSS, Indiana State Department of Health

Considering the increasing impact of obesity as a factor contributing to death in the U.S., it is surprising that over 80% of people have not received any advice about their weight (over 61% of respondents self-reported being either overweight or obese).

STD Prevention

Figure 53 In past 12 months has a doctor, nurse or other health professional talked to you about preventing sexually transmitted diseases through condom use?

N=173 (respondents less than 65 years of age)

	Yes	No	Unknown/refused
SJC	18.7%	80.3%	1.1%
IN	9.7%	90.0%	0.3%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 54 There are medical treatments available that are intended to help a person who is infected with HIV live longer?

N=176 (respondents less than 65 years of age)

	True	False	Unknown/refused
SJC	93.6%	1.4%	5.0%
IN	91.1%	2.2%	6.6%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 55 **How important do you think it is for people to know their HIV status by getting tested?**

N=176 (respondents less than 65 years of age)

	Very	Somewhat	Unknow/refused	Depends on risk
SJC	89%	6.2%	1.3%	3.5%
IN	89.4%	6.8%	0.5%	0.0%

Source: 2003 BRFSS, Indiana State Department of Health

Arthritis Management

Figure 56 **Has a doctor or other health professional ever suggested losing weight to help your arthritis or joint symptoms?**

N=99 (respondents reporting arthritis or joint symptoms)

	Yes	No
SJC	14.6%	85.4%
IN	18.8%	80.7%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 57 **Has a doctor or other health professional ever suggested increased physical activity or exercise for arthritis or joint symptoms?**

N=99 (respondents reporting arthritis or joint symptoms)

	Yes	No
SJC	31.8%	68.2%
IN	39.1%	60.5%

Source: 2003 BRFSS, Indiana State Department of Health

Figure 58 **Have you ever taken an educational course or class to teach you how to manage problems related to your arthritis or joint symptoms?**

N=99 (respondents reporting arthritis or joint symptoms)

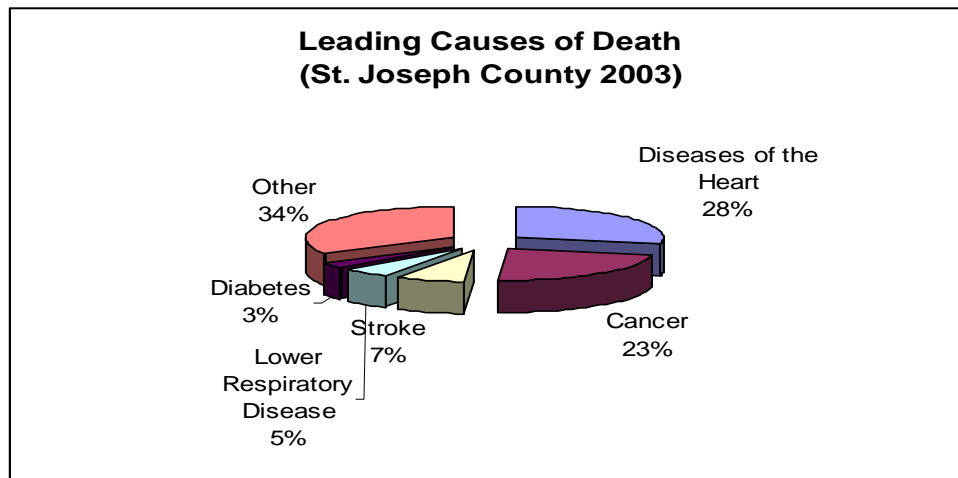
	Yes	No
SJC	9.8%	90.2%
IN	8.7%	91.2%

Source: 2003 BRFSS, Indiana State Department of Health

Leading Causes of Death in St. Joseph County

According to the Indiana State Department of Health, the five leading causes of death in St. Joseph County accounted for sixty-six percent of all 2003 deaths:

- Cardiovascular disease (**heart disease**) is the leading cause of death in the county, causing 696 deaths in 2003, or 28.4% of all deaths.
- Malignant Neoplasms (**cancers**), which accounted for 22.8% of all deaths, were the second leading cause of death (559 deaths in 2003).
- Cerebral vascular disease (**stroke**) was the third leading cause of death, accounting for 7.3% of deaths (179 deaths in 2003).
- Chronic **Lower Respiratory Disease**, which was the fourth leading cause of death, accounted for 5.4% of deaths (132 deaths in 2003).
- **Diabetes mellitus** was the fifth leading cause of death, accounting for 3.0 % of all deaths (75 deaths in 2002).
- **Other** causes of death in St. Joseph County included influenza, kidney disease, accidents, suicide and homicide.



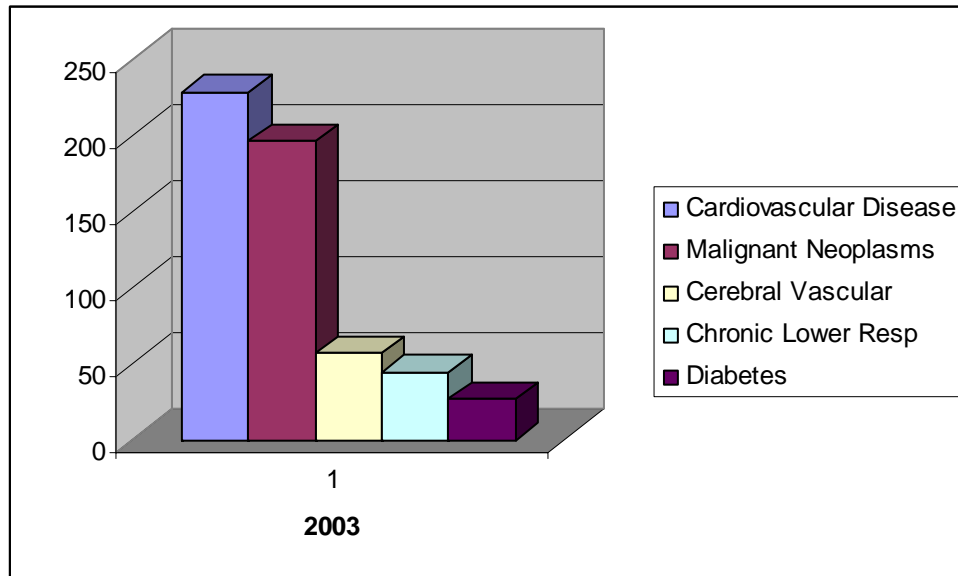
Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Age-adjusted death rates are computed in order to eliminate the differences in observed rates that result from age variations in the population. They are relative indexes rather than actual measures of risk.

Age-adjusted Death Rates for Leading Causes

Age-adjusted death rates are used to compare St. Joseph County's mortality with mortality in Indiana and the United States. These rates represent the number of deaths per population size. The Indiana State Department of Health uses deaths per 100,000 population, age-adjusted to the 2000 U.S. Standard Population. They also use the ICD-10 codes. Age-adjusted death rates for 1999 to 2003 are shown in this report. The age-adjusted death rates prior to 1998 cannot be used for comparison because in 1999 the standard million population used to figure the rates switched from the 1940 standard million to the 2000 standard million.

Figure 59 Age-adjusted death rates for leading causes of death, 2003



Deaths per 100,000 2000 U.S. Standard Population

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

With the exception of deaths from diabetes mellitus, in 2003, SJC's age-adjusted death rates for the leading causes of death were lower than Indiana's. SJC had higher age-adjusted death rates for cancer, for cerebral vascular disease (stroke), for chronic lower respiratory diseases and for diabetes mellitus than the nation's age-adjusted rates.

Figure 60 Comparison of age-adjusted death rates, 2003

	Saint Joseph County	Indiana	U.S.
All Causes	824.72	891.05	840.4
Diseases of Heart	228.2	245.39	235.4
Malignant Neoplasms	195.9	206.2	190.7
Cerebral vascular diseases	56.5	57.4	54.3
Chronic lower respiratory diseases	44.0	52.2	43.4
Diabetes mellitus	26.4	23.8	25.4

(2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999
National Vital Statistic Report, Preliminary 2003

A comparison of five-year average age-adjusted rates indicated that SJC had five-year average age-adjusted rates for the leading causes of death that were lower compared to Indiana's for all the leading causes.

Figure 61 Comparison of five-year average age-adjusted death rates

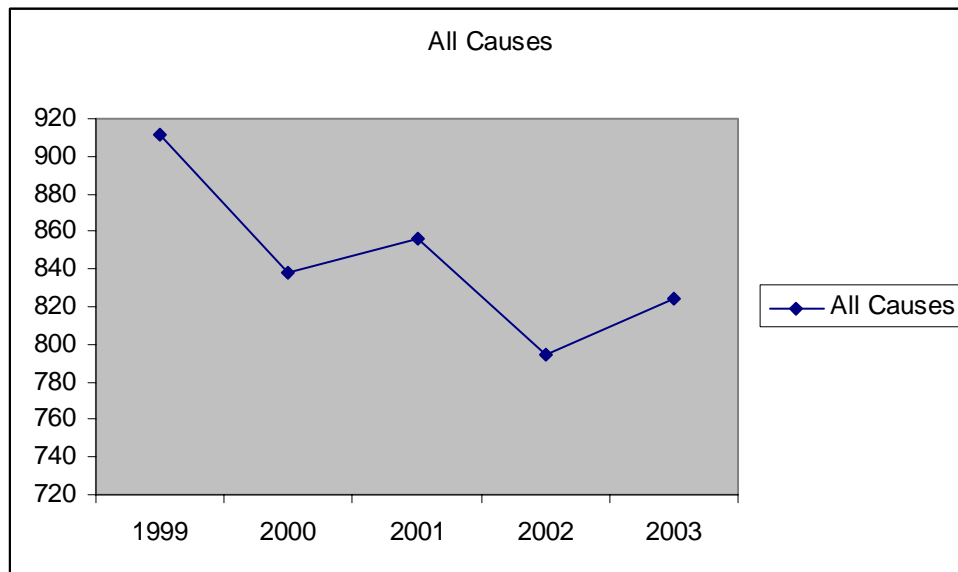
	St. Joseph County	Indiana	Ratio SJC/In
Disease of heart	241.4	262.0	0.92
Malignant Neoplasms	204.2	211.8	0.96
Cerebral vascular disease	61.5	64.1	0.95
Chronic lower respiratory disease	45.0	51.7	0.87
Diabetes mellitus	26.4	26.9	0.98
All causes	844.8	912.9	0.93

(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

As shown in Figure 62, SJC age-adjusted death rates have trended downward since 1999.

Figure 62 Trends in age-adjusted death rates: all causes



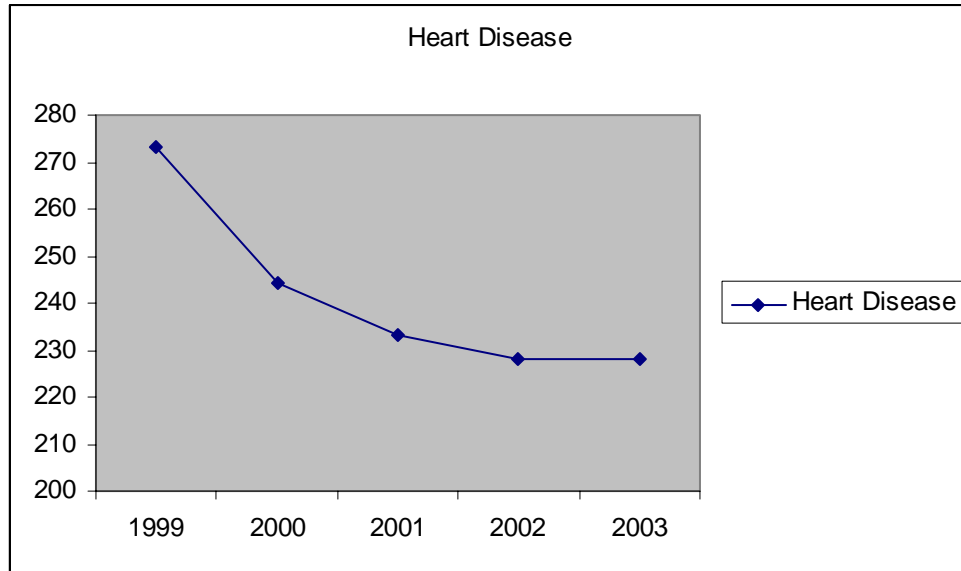
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Cardiovascular Disease

Heart Disease

Figure 63 Age-adjusted death rates: heart disease

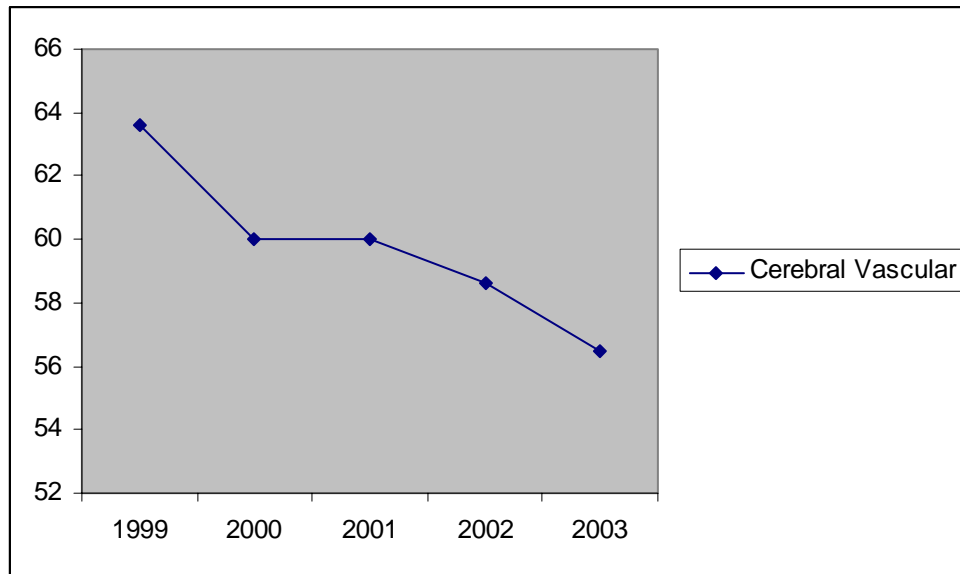


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Cerebral vascular (Stroke) Deaths

Figure 64 **Age-Adjusted Death Rates: cerebral vascular disease**



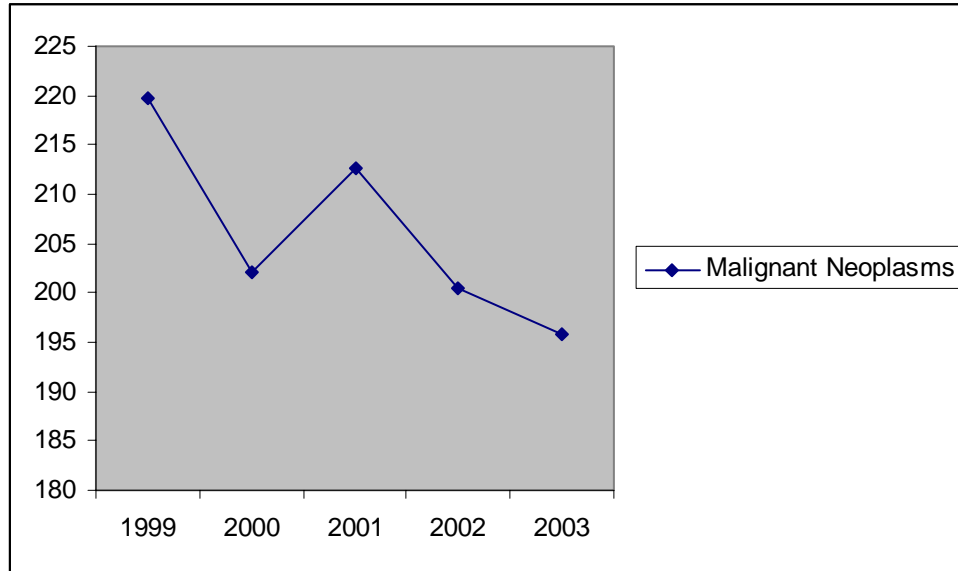
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Cancer Deaths¹

All Cancer

Figure 65 Age-adjusted death rates: cancers



(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Though yearly variability appears in SJC’s age-adjusted death rates for the leading causes of cancer deaths (due to the small number of deaths), the general trend in SJC for cancer deaths is downward.

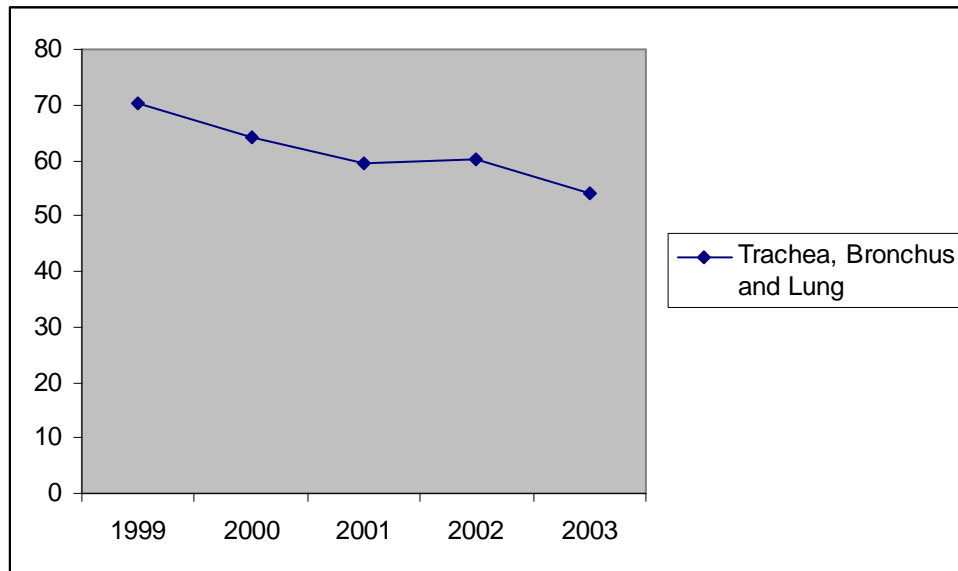
Figure 66 Cancer deaths by site, 2003

	St. Joseph County			Indiana		
	Total number of deaths	% of all cancer deaths	Rate for 100,000 population	Total number of deaths	% of all cancer deaths	Rate for 100,000 population
Trachea, Bronchus and Lung	149	26.7	54.1	4,044	32.0	65.2
Colon, Rectum and Anus	64	11.4	21.2	1,276	10.0	20.4
Breast	44	7.9	15.3	948	7.4	15.2
Pancreas	31	5.0	10.8	695	5.4	11.1
Prostrate	27	4.8	9.01	629	4.9	10.06
Other	244	43.6	na	5,244	41.0	na

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

¹ For additional data, see Appendix One

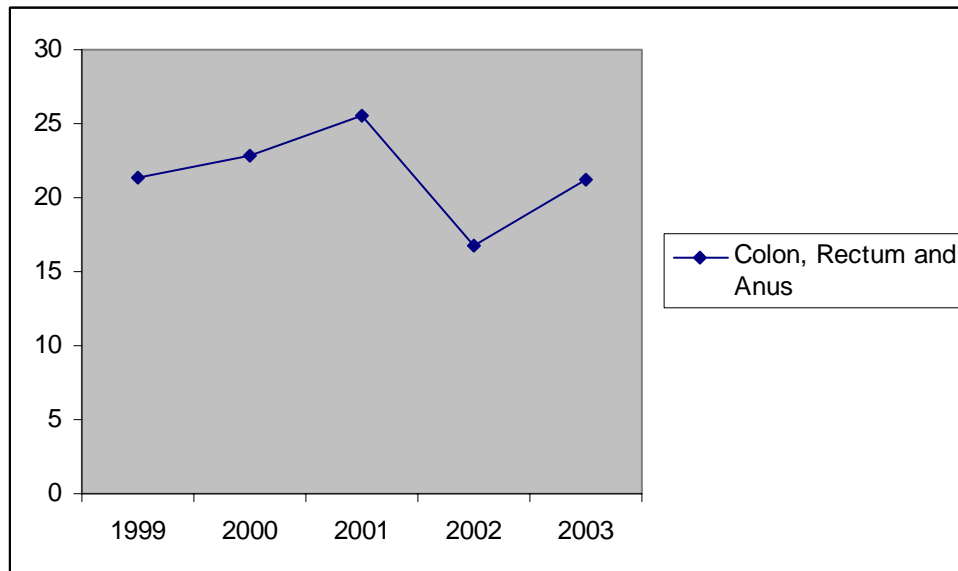
Figure 67 Age-adjusted death rates: trachea, bronchus and lung cancer



(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

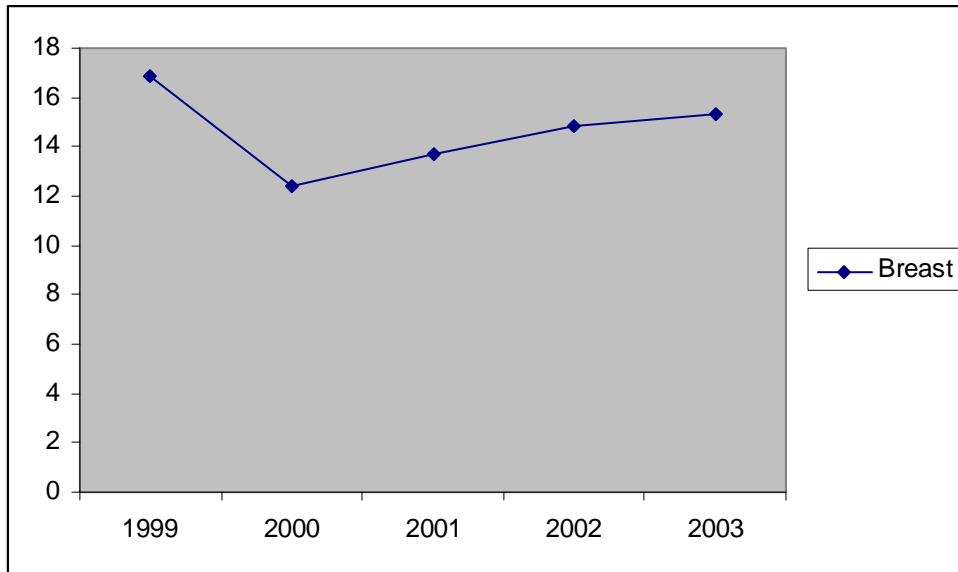
Figure 68 Age-adjusted death rates: cancer of colon, rectum and anus



(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

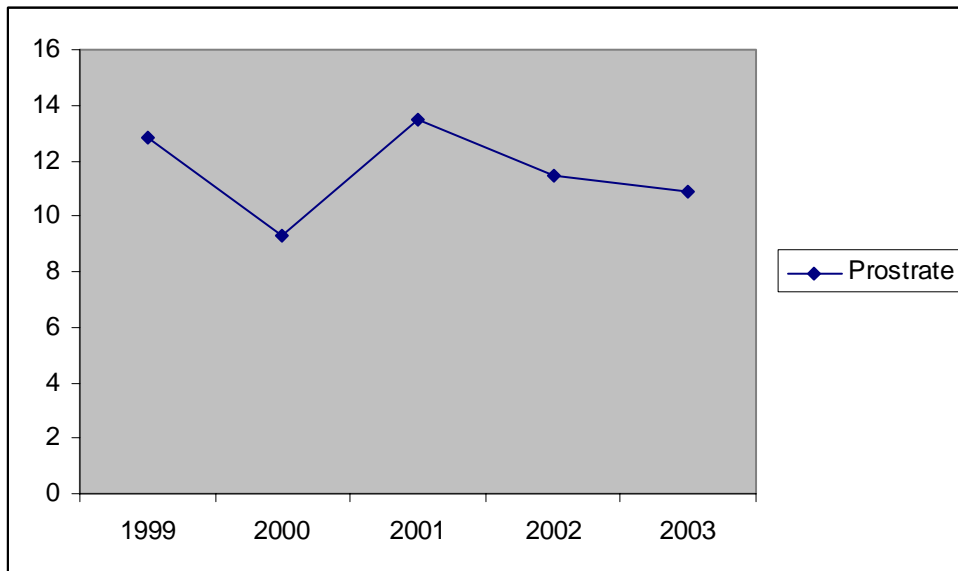
Figure 69 Age-adjusted death rates: breast cancer



(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

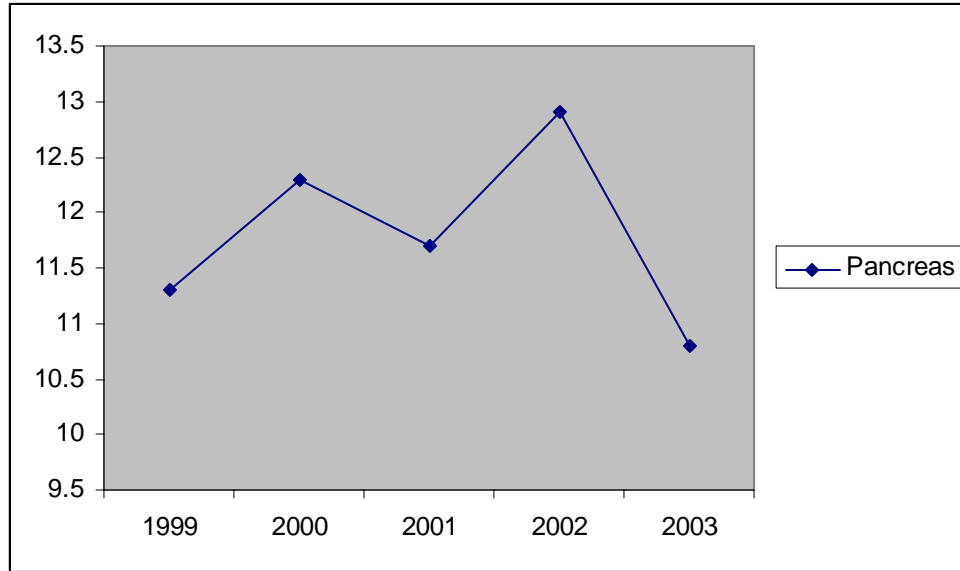
Figure 70 Age-adjusted death rates: prostate cancer



(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Figure 71 Age-adjusted death rates: cancer of pancreas



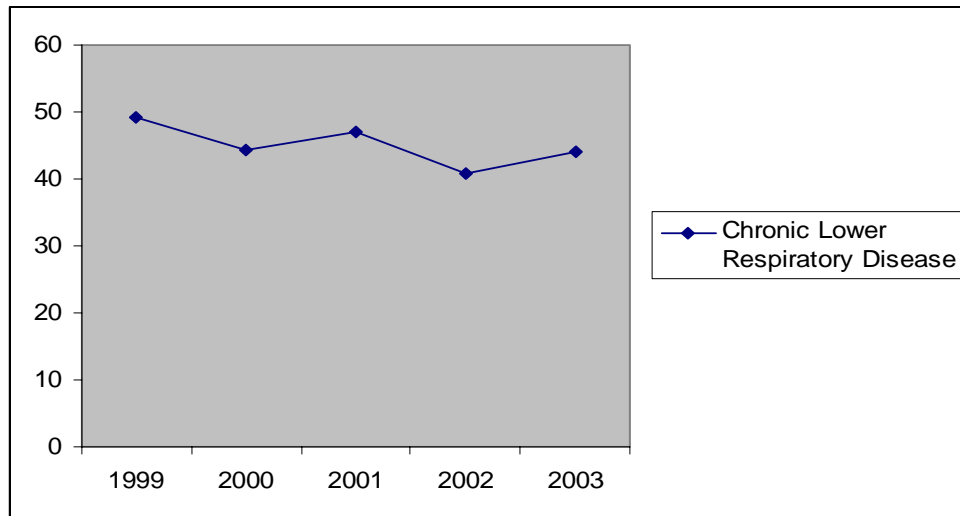
(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Respiratory Diseases

Chronic Lower Respiratory Diseases

Figure 72 Age-adjusted death rates: chronic lower respiratory diseases

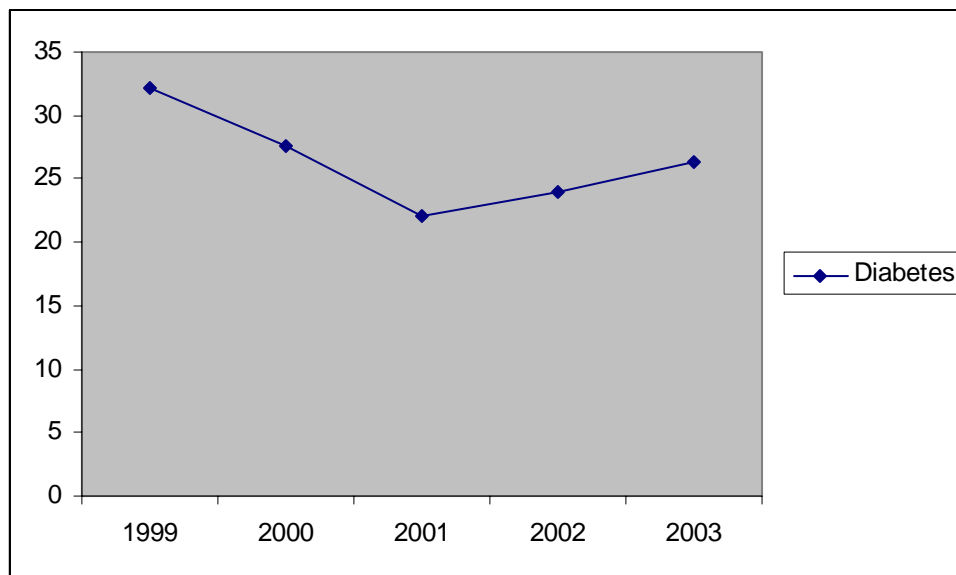


(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Diabetes

Figure 73 Age-adjusted death rates: diabetes



(1999-2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Health Disparities

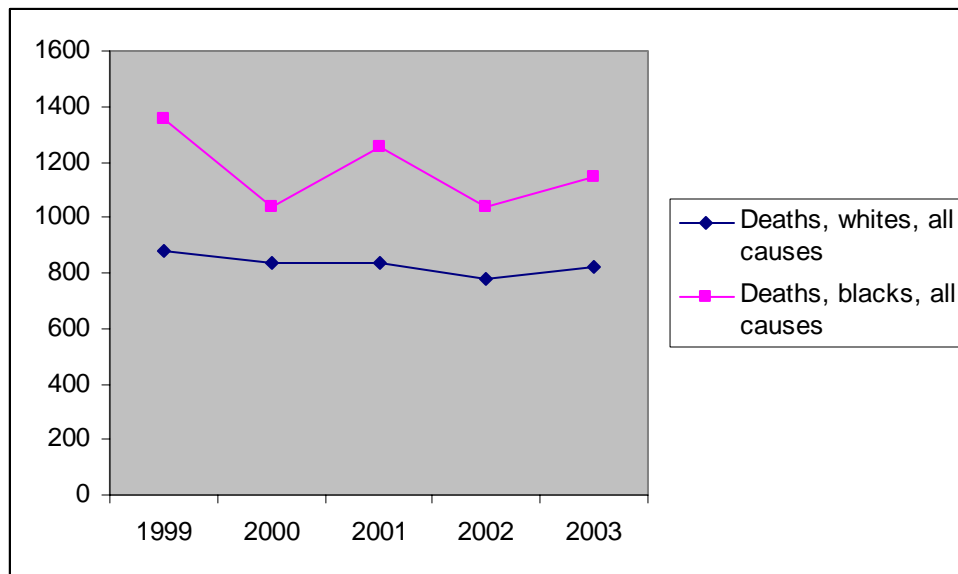
Age-adjusted death rates for the leading causes of death in St. Joseph County vary depending upon race and gender. In the following analysis, it appears that death rates for the black population vary wildly from year to year. This variation, however, is a statistical anomaly due to the smaller black population within the community. In order to compensate for this statistical variation, a five year average was used when comparing death rates for the black population and the white population.

Age-adjusted death rates are not shown for the Hispanic population, as the number of reported deaths for this population was low (20 deaths in 2003). Because race is often reported more consistently than ethnicity, deaths within the Hispanic population are often not assigned to the Hispanic demographic.

Deaths from All Causes, by Race

The black population in St. Joseph County has a higher age-adjusted death rate than the white population. The five-year death rate from all causes for the black population was 1165.5 per 100,000 population compared to 829.6 for the white population. That is, the black population's age-adjusted death rate is 40% higher than the white population's.

Figure 74 Age-adjusted death rates: all causes by race



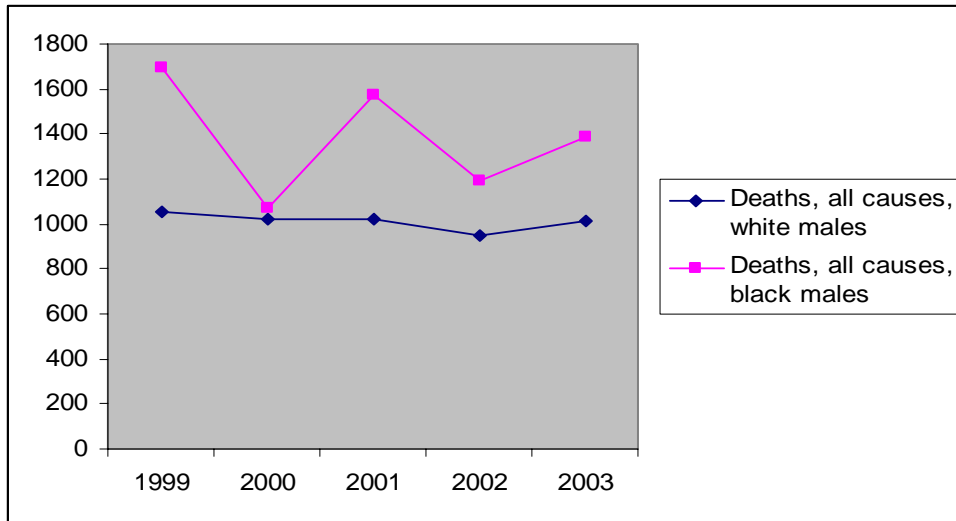
(1999 - 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Deaths from All Causes, by Race and Sex

Males in the black population have higher age-adjusted death rates than males in the white population. The five-year average for black males was 1383.0 per 100,000 compared to 1011.2 for white males (or 37% higher).

Figure 75 Age-adjusted death rates: all causes for males

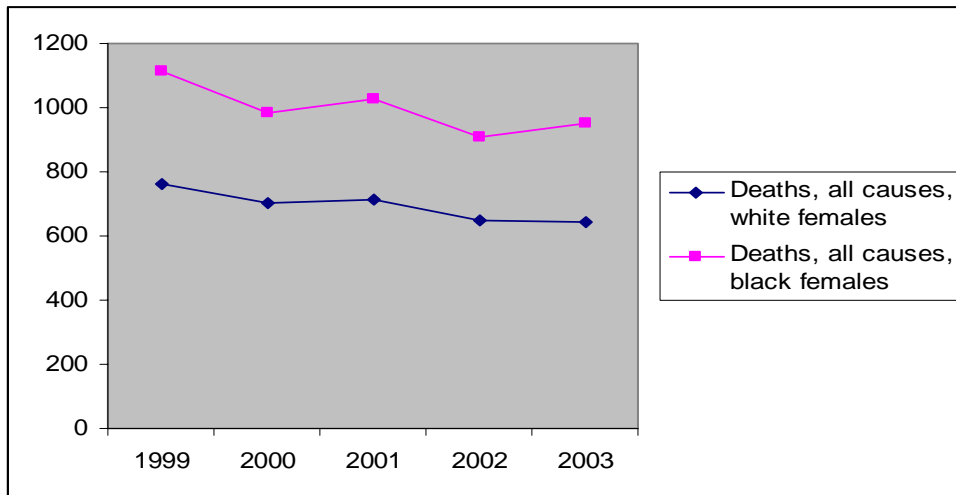


(1999 - 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

While females overall have lower age-adjusted death rates than males, females in the black population have higher age-adjusted death rates than females in the white population. The five-year age-adjusted death rate for black females was 997 per 100,000 compared to 693.2 per 100,000 for white females (44% higher).

Figure 76 Age-adjusted death rates: all cause for females



(1999 - 2003 Deaths per 100,000 population)

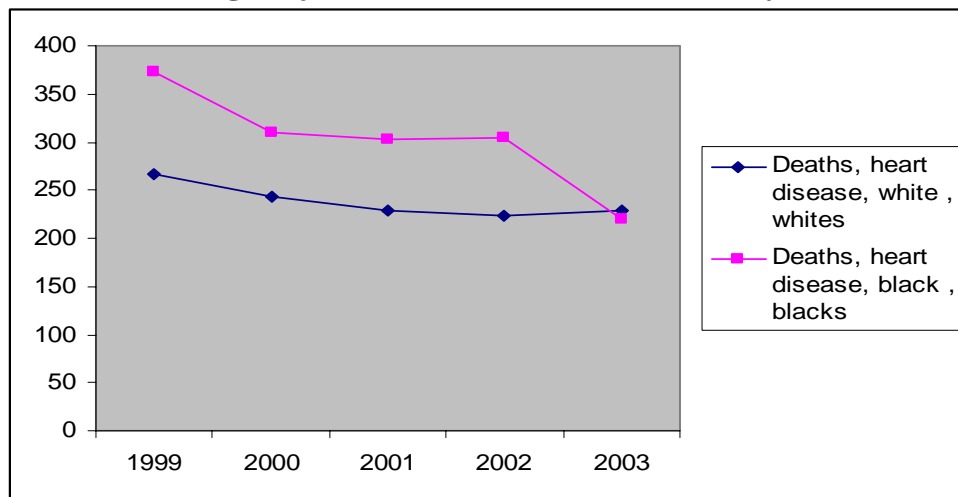
Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Age-adjusted death rates for the black population were higher than for the white population, especially black females compared to white females.

Heart Disease by Race

Age-adjusted death rates for heart disease were higher for the black population than the white population (five-year average was 302.1 per 100,000 for blacks compared to 238.5 for white, or 27% higher). The age-adjusted death rate for the black population showed a more general downward trend than the age-adjusted death rate for the white population.

Figure 77 Age-adjusted death rates: heart disease by race



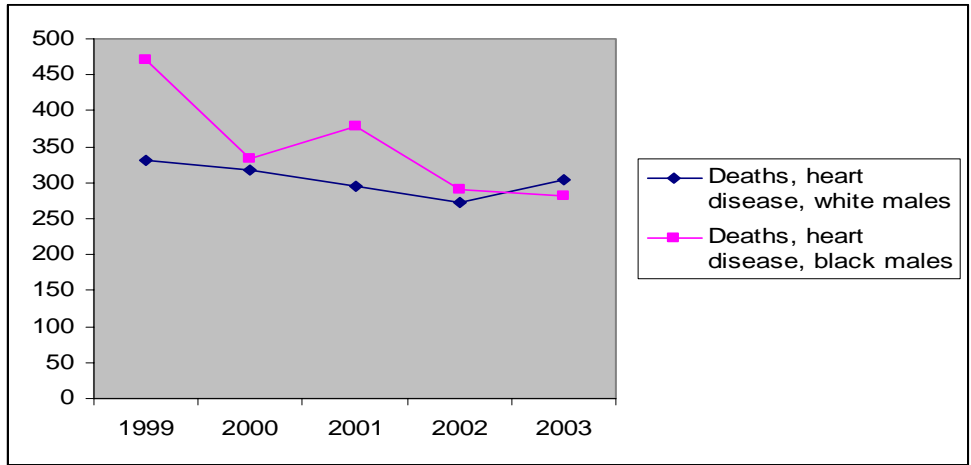
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Heart Disease by Race and Sex

Age-adjusted heart disease death rates were higher for males in the black population than in the white population. The five-year age-adjusted death rate for black males was 350.8 per 100,000 compared to 304.1 for white males (15% higher). Still, the rate for black males has shown a more general downward trend than the rate for white males.

Figure 78 Age-adjusted death rates: heart disease for males

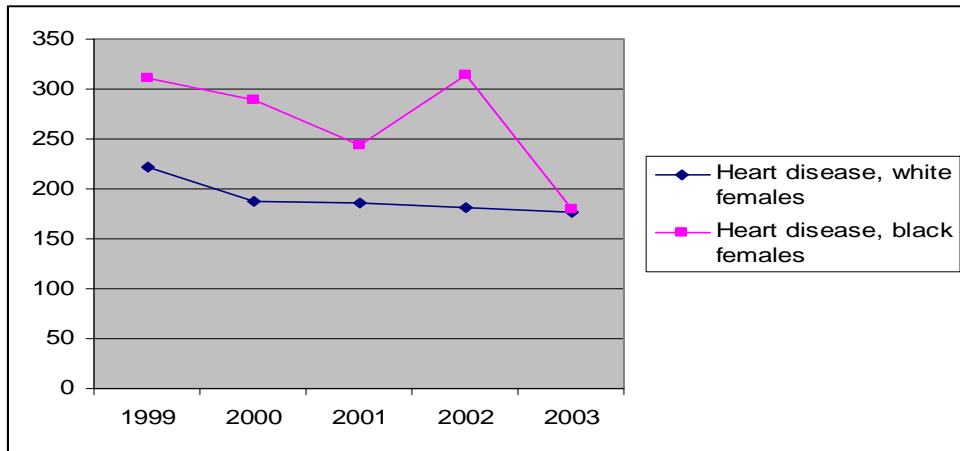


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Age-adjusted heart disease death rates for the black female population are higher than for the white female population. The five-year death rate for black females is 267.4 per 100,000 compared to 190.6 for white females (40% higher). The death rate for black females has a more downward trend than the rate for white females.

Figure 79 Age-adjusted death rates: heart disease for females



(1999 – 2003 Deaths per 100,000 population)

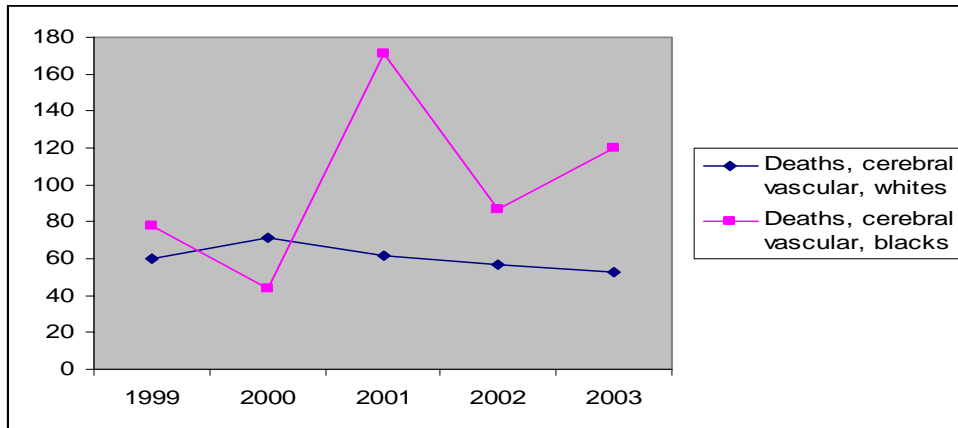
Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Age-adjusted death rates from heart disease are higher for the black population, with the black male population showing the highest five-year average age-adjusted rate.

Cerebral Vascular (Stroke Deaths) by Race

Age-adjusted stroke death rates for the black population are higher than for the white population. The five-year average rate for the black population was 65% higher than for the white population (99.8 per 100,000 versus 60.5).

Figure 80 Age-adjusted death rates: cerebral vascular disease by race



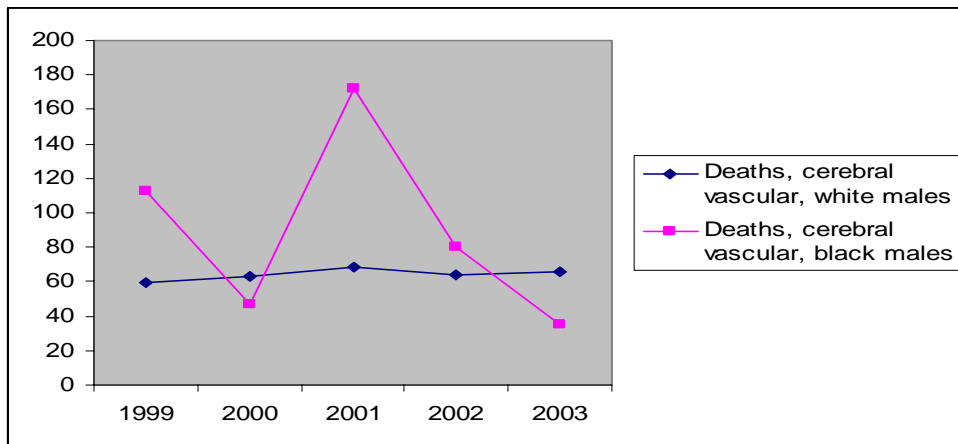
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Cerebral Vascular (Stroke Deaths) by Race and Sex

The difference between the five-year average age-adjusted death rate for the black male population and the white male population is nearly 40% (89.4 per 100,000 versus 64.3).

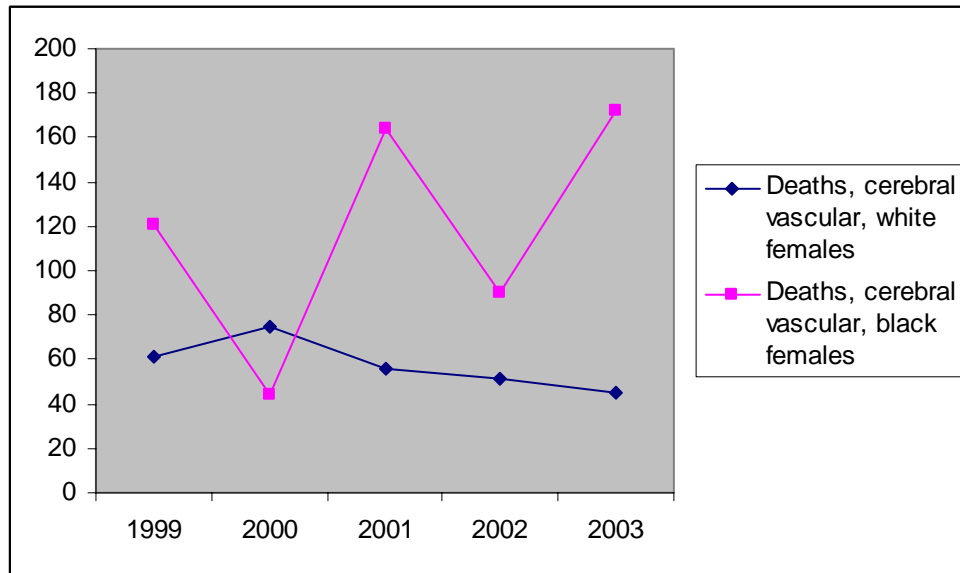
Figure 81 Age-adjusted death rates: cerebral vascular disease for males



(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Figure 82 **Age-adjusted death rates: cerebral vascular disease for females**



(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

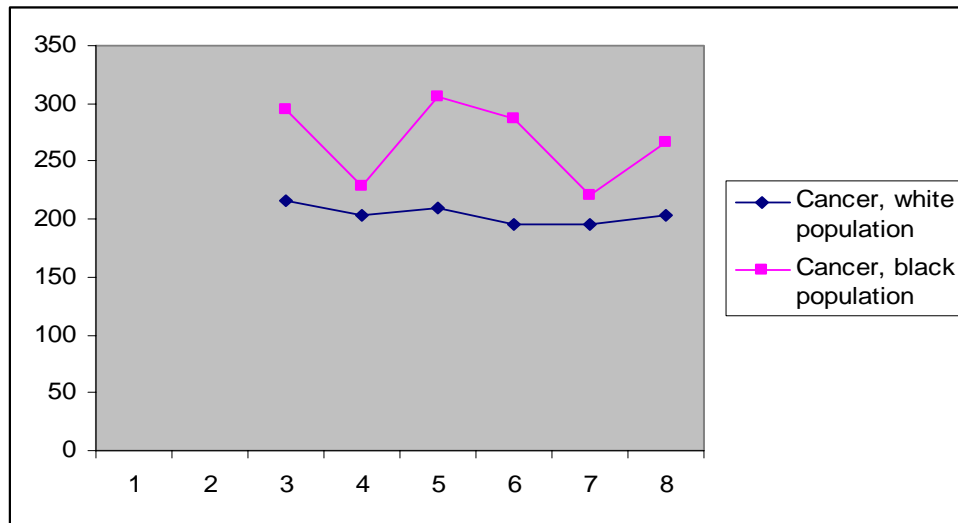
The black female population has the highest five-year average age-adjusted death rate for strokes. Their five-year average rate was 118.3 per 100,000 compared to 57.7 for white females (more than twice the white female five-year average).

The five-year age-adjusted death rate for the black population for stroke is 64% higher than for the white population, and much of the difference can be attributed to black females. They have a five-year average death rate for strokes that is over two times the rate for white females. The five-year rate for black females is also 32% higher than black males.

Cancer Deaths by Race

The age-adjusted death rate for cancer is higher for the black population than for the white population. The five-year average rate for blacks was 267.2 per 100,000 while the five-year average rate for whites was 203.9 per 100,000 (rate for blacks was 31% higher).

Figure 83 Age-adjusted death rates: cancer by race



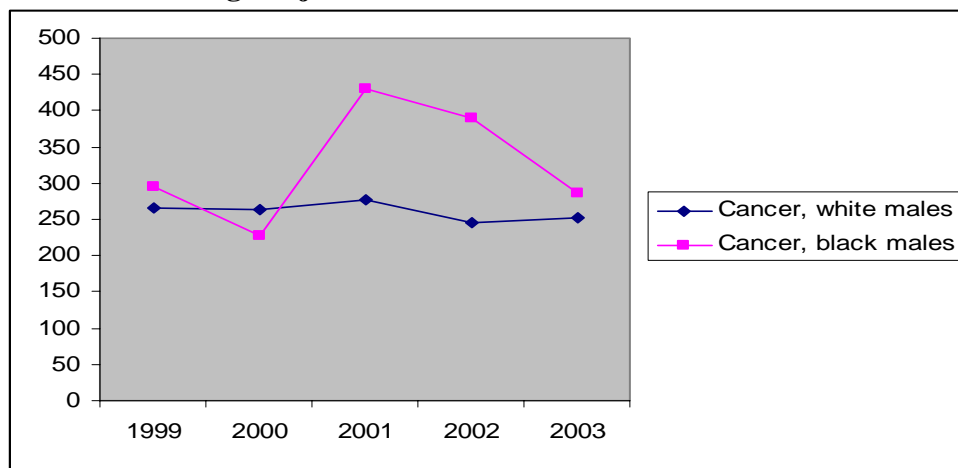
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Cancer Deaths by Race and Sex

The cancer five-year average age-adjusted death rate for black males was 25% higher than for white males (325.2 per 100,000 versus 260.8).

Figure 84 Age-adjusted death rates: cancer deaths for males

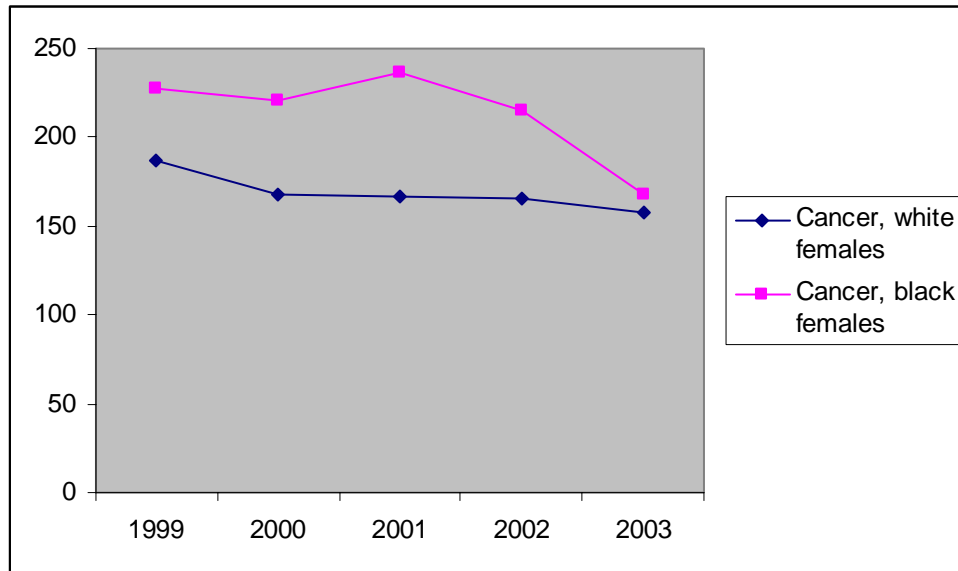


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

The five-year age-adjusted cancer death rate for black females was 26% higher than for white females (213.4 per 100,000 versus 168.9).

Figure 85 Age-adjusted death rates: cancer deaths for females



(1999 – 2003 Deaths per 100,000 population)
Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Figure 86 Age-adjusted death rates: cancer sites by race and gender, five year average

Cancer sites	White Males	Black males	Ratio black/white	White females	Black females	Ratio black/white
Trachea, bronchus, lung	86.2	101.0	1.17	44.1	58.7	1.33
Colon, rectum, anus	28.2	40.9	1.45	17.1	23.8	1.39
Breast				25.0*	33.1*	1.32
Pancreas	15.1+	16.5+	1.09	9.6	9.0	0.94
Prostate	28.0	65.1	2.33			
Urinary tract	18.0	14.0	0.77	6.9	8.8	1.28

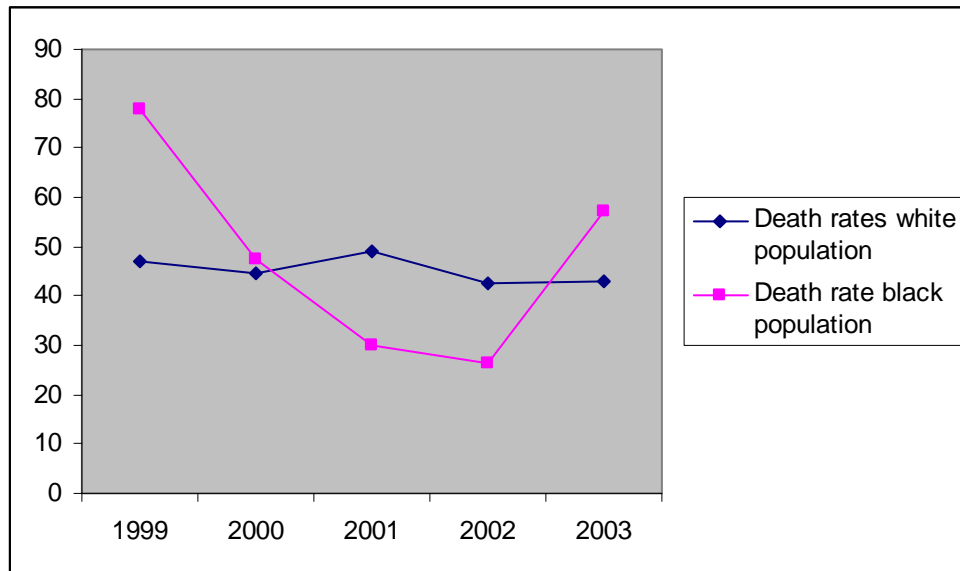
(1999 – 2003 Deaths per 100,000 population)
Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999
* age-adjusted death rate per 100,000 females
+ age-adjusted death rate per 100,000 males

The five-year average age-adjusted death rate for varying cancer sites are shown above. With the exception of urinary tract cancer, the black male population has a higher death rate for cancer than the white male population. Note the five-year age-adjusted death rate for prostate cancer for black males: it is 2.33 times the rate for white males.

Chronic Lower Respiratory Diseases, by Race

The five-year age-adjusted rate for chronic lower respiratory disease is nearly the same for the white population as for the black population. There is a 5% difference, with a black population rate of 47.7 per 100,000 compared to the white population's 45.3 rate.

Figure 87 Age-adjusted death rates: chronic lower respiratory diseases by race



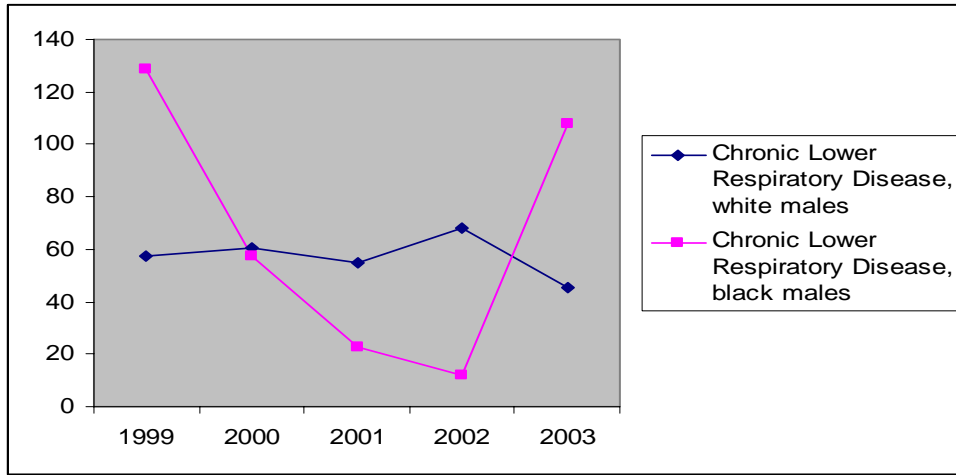
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Chronic Lower Respiratory Diseases, by Race and Sex

There is a 15% difference between the five-year age-adjusted death rate for the black and the white male populations. The rate for the black population was 65.9 per 100,000 while the rate for the white population was 57.3.

Figure 88 Age-adjusted death rates: chronic lower respiratory diseases for males

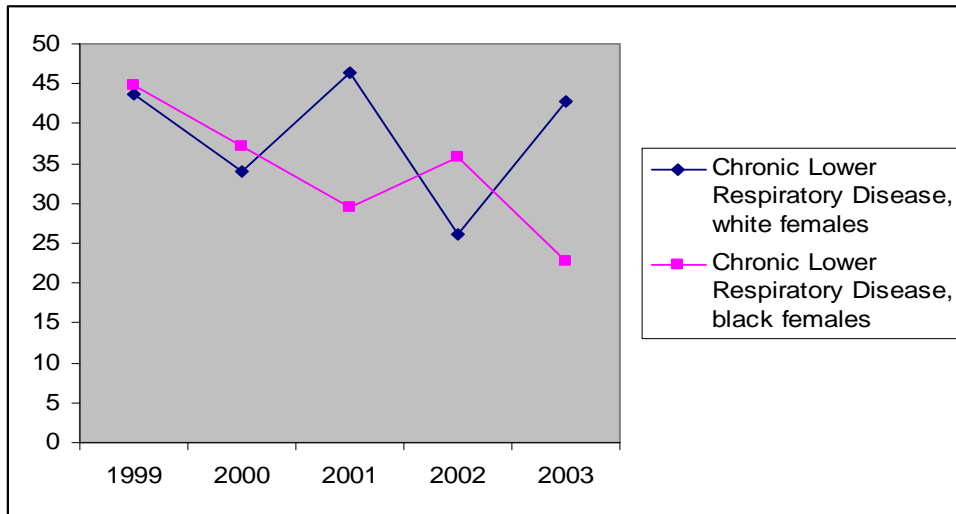


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

For chronic lower respiratory disease, the five-year age-adjusted death rate for black females is lower than for white females. The rate for black females is 12% lower than for white females (34 per 100,000 versus 38.6).

Figure 89 Age-adjusted death rates: chronic lower respiratory disease for females



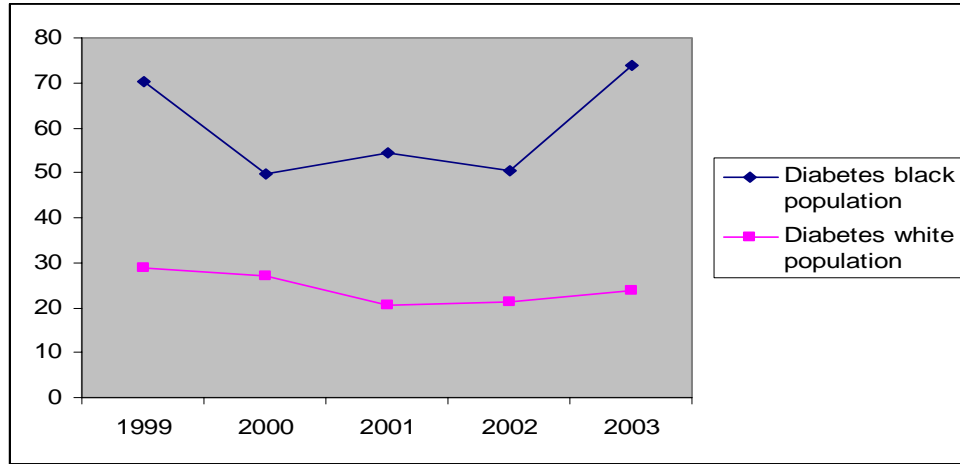
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Diabetes by Race

The five-year age-adjusted diabetes death rate for the black population is almost two and a half times the white population's death rate (59.7 per 100,000 versus 24.2).

Figure 90 Age-adjusted death rates: diabetes by race



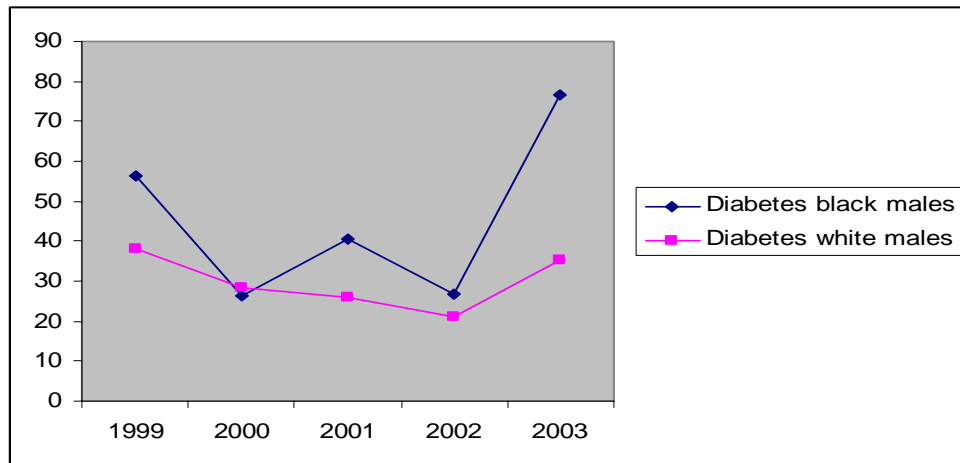
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Diabetes by Race and Sex

For black males the five-year average age-adjusted death rate for the black male population is 52% higher than the rate for the white male population (45.3 per 100,000 versus 29.8).

Figure 91 Age-adjusted death rates: diabetes deaths for males

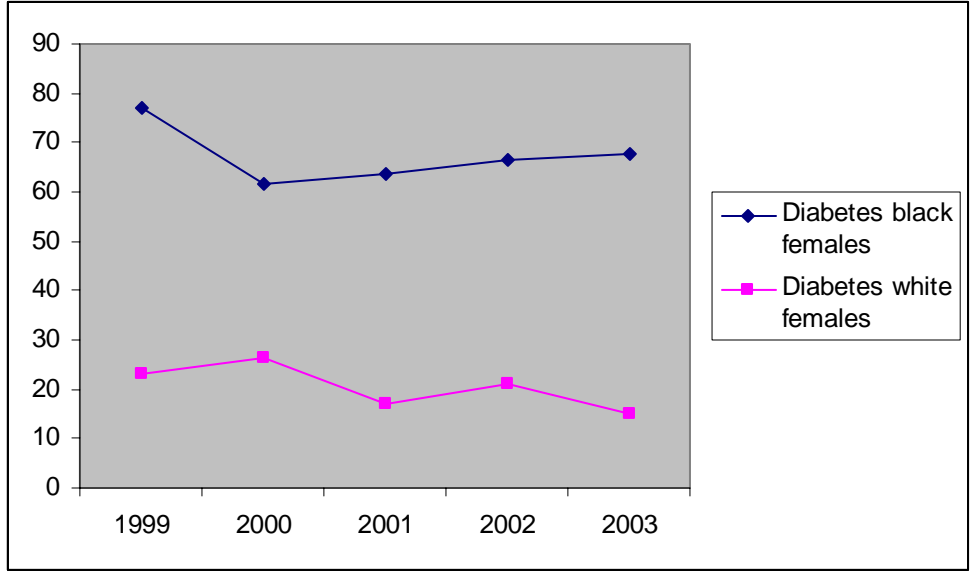


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Females in the black population have the highest five-year average age-adjusted death rate (67.3 per 100,000). This death rate is 228% higher than the five-year average for white females (20.52).

Figure 92 Age-adjusted death rates: diabetes deaths for females

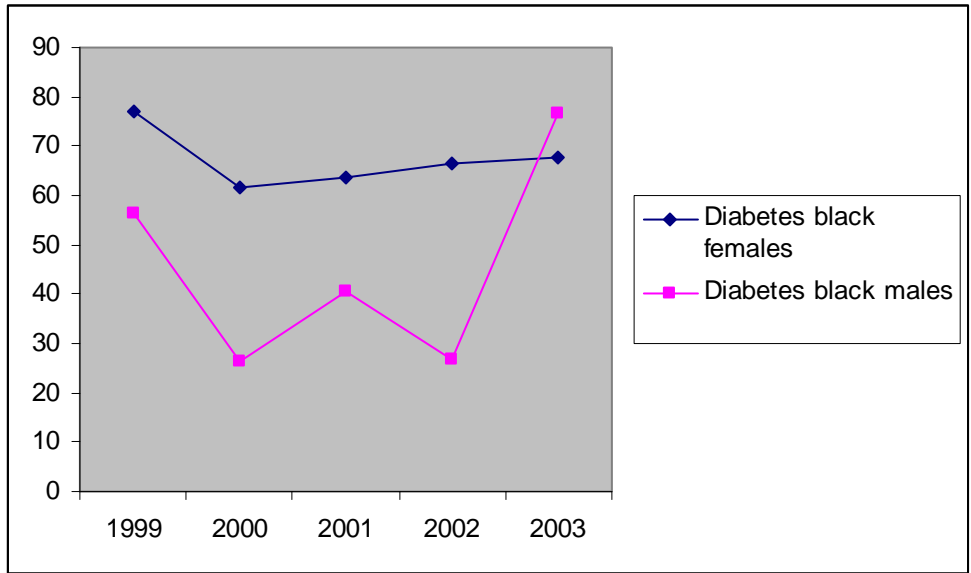


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

A comparison of black male and black female diabetes death rates shows that black females have diabetes death rates almost 50% higher than their male counterparts (67.3 per 100,000 versus 45.3).

Figure 93 Age-adjusted death rates: diabetes deaths for black males and black females



(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

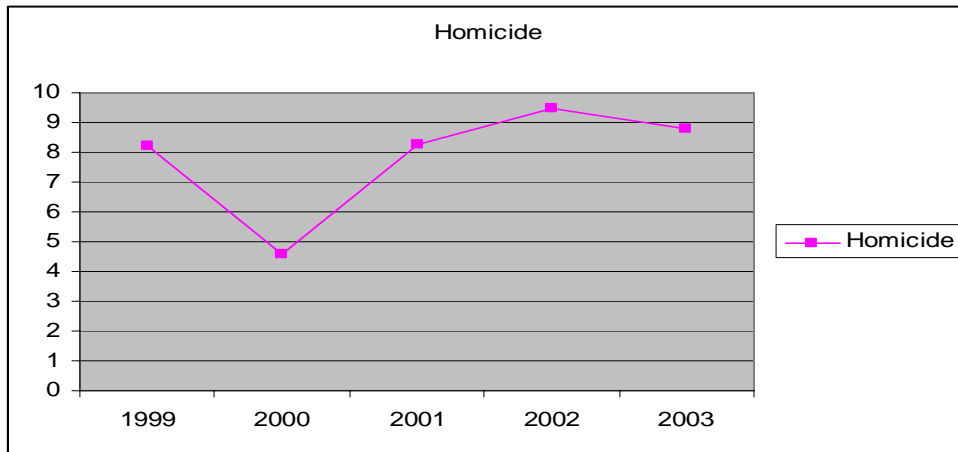
The five-year average age-adjusted death rate (by race and gender) for diabetes indicates an unmet health care need for the community's black female population. Their five-year average rate of 67.3 per 100,000 compares to 45.3 for black males, 35.4 for white males and 20.5 for white females.

Other Causes of Death²

Homicide and suicide deaths for both races are community health problems in SJC, but especially homicide rates for black males.

Homicide

Figure 94 Age-adjusted death rates: homicide

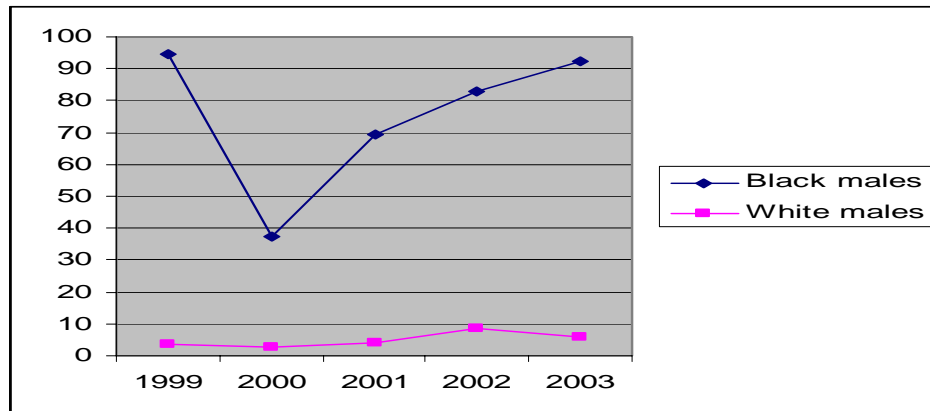


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Homicide by Race

Figure 95 Age-adjusted death rates: homicide by race



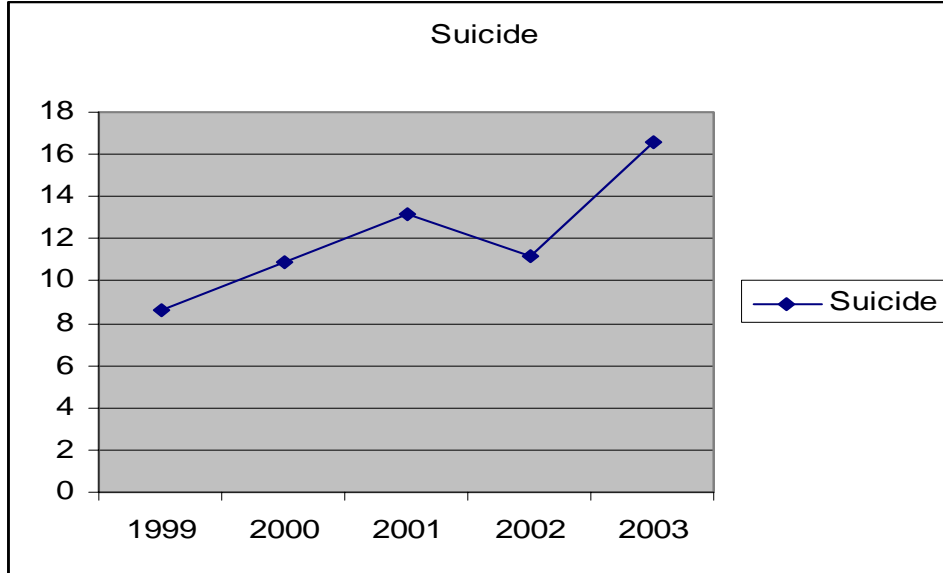
(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

² For additional data, see Appendix Two

Suicide

Figure 96 Age-adjusted death rates: suicide

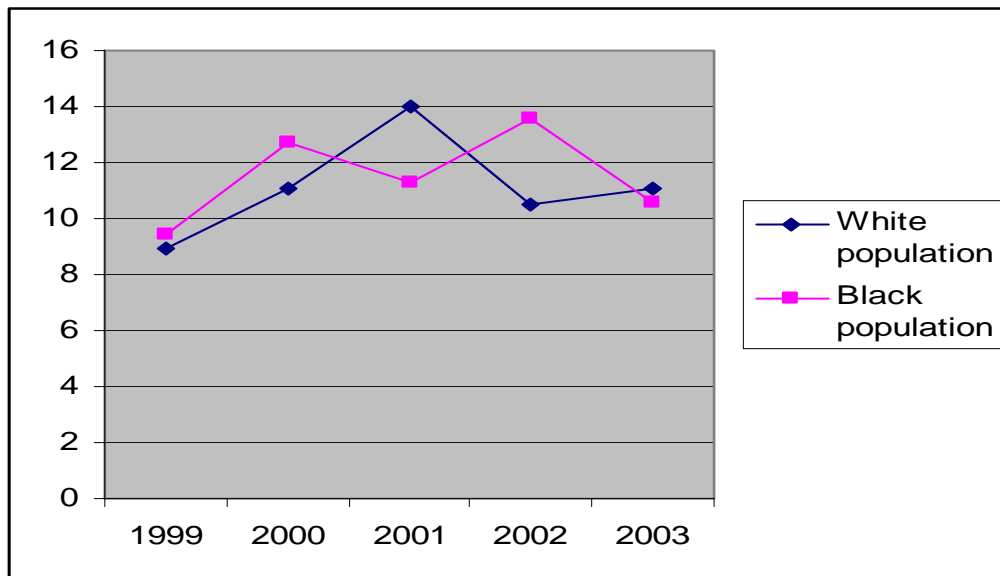


(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Suicide by Race

Figure 97 Age-adjusted death rates: suicide by race



(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Healthy People 2010

Healthy People 2010: National Health Promotion and Disease Prevention Objectives outlines the Department of Health and Human Services' comprehensive approach to improving the nation's health. The approach was designed to achieve two goals: increasing quality and years of healthy life, and eliminating health disparities. These two goals are supported by specific objectives in 28 focus areas to be achieved by 2010. A comparison of SJC with Healthy People 2010 objectives (objectives for which local data are available) follows:

Figure 98 Comparison to *Healthy People 2010* objectives

	SJC 2003+	SJC 5-year average+	HP 2010	SJC objective status
Cancer				
Age-adjusted Breast cancer deaths/100,000	15.3	14.6	22.3*	Does not meet
Age-adjusted Cancer deaths/100,000	195.9	204.2	159.9	Does not meet
Age-adjusted Lung Cancer deaths/100,000	54.1	61.6	49.9	Does not meet
Diabetes				
Age-adjusted Diabetes deaths/100,000	26.4	26.4	15.1	Does not meet
Heart Disease and Stroke				
Age-adjusted Heart Disease deaths/100,000	228.2	241.4	213.7	Does not meet
Age-adjusted Stroke deaths/100,000	56.5	61.5	48	Does not meet
% told they have high blood pressure	26.8	na	16	Does not meet
Injury and Violence				
Age-adjusted Homicide deaths/100,000	8.8	7.9	3	Does not meet
Age-adjusted MV accident deaths/100,000	10.4	8.4	9.2	Better
Age-adjusted Suicide deaths/100,000	10.2	10.8	5	Does not meet
Nutrition and Overweight				
% obese (self-report)	22.8	na	15	Does not meet
Physical Activity and Fitness				
% vigorous physical activity	29.4	na	30	Does not meet
Tobacco Use				
% current smoker	25	na	12	Does not meet
Access to Quality Health Services				
% uninsured	13.2	na	0	Does not meet
% have a specific source of ongoing care	90	na	96	Does not meet

* Note: HP 2010 goal represents the age-adjusted death rate per 100,000 **females** rather than the 100,000 population used for SJC age-adjust death rates
 + age-adjusted death rate per 100,000 population

With the exception of five-year average age-adjusted death rates for motor vehicle deaths, SJC has not yet met these objectives for Healthy People 2010. The percent of community members meeting vigorous physical activity recommendations is very close to meeting the objective (29.4 per 100,000 versus HP 2010 30 per 100,000).

A comparison of Healthy People 2010 objectives by race follows:

Figure 99 Comparison to *Healthy People 2010* by race

Deaths	SJC Five-year average death rate	HP 2010
Heart disease	228.2	213.7
White population	228.0	
Black population	302.1	
Cancer	195.9	159.9
White population	203.9	
Black population	267.2	
Breast cancer	15.3+	22.3*
White population	25.0*	
Black population	33.1*	
Lung cancer	54.1	49.9
White population	61.1	
Black population	77.1	
Diabetes	26.4	15.1
White population	24.2	
Black population	59.7	
Stroke	56.5	48
White population	60.5	
Black population	108.7	
Homicide	7.87	3
White population	3.7	
Black population	39.4	
Suicide	10.8	5
White population	11.1	
Black population	10.6	

*age-adjusted death rate per 100,000 females

+age-adjusted death rate per 100,000 population

In each of the above cases, the five-year average death rates for the black population are further from the HP 2010 objectives than those for the white population.

Conclusion

In spite of a downward trend in age-adjusted death rates for leading causes of death and over half of St. Joseph County residents reporting very good or excellent health, there are health care issues that need to be addressed:

- the higher average age-adjusted death rates for the black population as compared to the white population in SJC,
- the higher average age-adjusted death rate for diabetes in the black population, especially females,
- the higher average age-adjusted death rate for breast cancer for black females,
- the higher average age-adjusted prostate death rate for black males,
- the higher average age-adjusted homicide death rate for black males,
- the percentage of overweight community members who have not received any health care advice concerning their weight problem,
- the percentage of community members who have not received any health care advice concerning the prevention of sexually transmitted diseases,
- the percentage of community members not taking part in any moderate physical activity, and
- the percentage of community members with BMIs in the overweight and obese range.

To address these and other health care issues in St. Joseph County, there is a need for data specific to this county that can be analyzed based on race, gender, sex, age and income. Why is the age-adjusted prostate death rate for black males 133% higher than for white males? Why is the age-adjusted diabetes death rate for black females 228% higher than for white females? Are these health disparities due to heredity, to health care access, to health education, to diet, etc? In order to answer these types of questions, demographic specific data are needed, along with disease prevalence data, from a community sample large enough to provide meaningful data across varying demographic characteristics. The St. Joseph County Health Department looks to collaborate with various community agencies and organizations to address these data needs.

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Appendix One

Cancer

The most recent cancer statistics from the Indiana State Cancer Registry and the Epidemiology Resource Center cover the time period 1998-2002. These data were released during July 2005 and are included here to provide additional input to this community assessment report. Data for 2003 will not be available until 2006.

**Figure 100 County Rates and Counts by Selected Sites and Sex
St. Joseph County Males 1998-2002**

Primary Site	Incidence				Mortality			
	2002		1998 - 2002		2002		1998 - 2002	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate
All Sites	689	590.0	3,309	576.6	291	254.2	1,502	268.5
Prostate	158	135.1	856	149.6	34	30.4	171	31.9
Lung and Bronchus	121	104.9	625	109.4	94	82.3	499	88.2
Colon excluding Rectum	65	57.0	269	48.0	21	18.4	150	27.3
Urinary Bladder	52	45.8	246	43.9	9	8.1**	47	8.8
Rectum and Rectosigmoid Junction	29	24.7	122	21.7	*	#	15	2.8**
Pancreas	23	20.7	87	15.5	17	14.8**	80	14.2

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

Rates are per 100,000; Age adjusted, 2000 US Std Million Million

* Fewer than 5 cases, number suppressed to protect confidentiality

** Rates based on fewer than 20 cases are unstable

Rate cannot be calculated

Figure 100 shows the top six cancer sites for males in St. Joseph County. For St. Joseph County males, prostate cancer had the highest incidence among various cancer sites, while lung cancer had the highest mortality rate.

Figure 101 Indiana Rates and Counts by Primary Site and Sex Incidence Rates for Males 1998-2002

Primary Site	1998	1999	2000	2001	2002	5-year average
All sites	529.4	531.8	557.0	569.4	544.1	546.5
Prostate Gland	124.0	133.2	141.2	148.1	134.5	136.3
Lung and Bronchus	109.3	109.4	106.2	111.8	104.2	108.1
Colon excluding Rectum	47.7	48.0	50.6	48.5	47.4	48.4
Urinary Bladder	38.9	37.4	36.5	35.3	34.4	36.5
Rectum and Rectosigmoid Junction	22.4	20.8	21.2	20.8	19.1	20.8
Pancreas	10.5	11.4	12.8	13.0	13.0	12.2

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

Indiana’s five year average incidence rate for prostate cancer is 136.3 per 100,000 males compared to 149.6 per 100,000 males for St. Joseph County.

Figure 102 County Rates and Counts by Selected Sites and Sex, St. Joseph County Females 1998-2002

Primary Site	Incidence				Mortality			
	2002		1998 - 2002		2002		1998 - 2002	
	Count	Rate	Count	Rate	Count	Rate	Count	Rate
All Sites	673	441.0	3,368	444.5	273	165.5	1,400	171.8
Breast	195	135.6	988	136.2	42	25.7	204	25.7
Lung and Bronchus	78	50.5	449	58.4	72	46.2	357	44.9
Colon excluding Rectum	92	52.8	345	40.2	24	13.2	131	15.2
Corpus Uteri	51	34.0	235	32.2	7	4.7**	25	3.1
Ovary	24	15.1	141	19.0	18	10.6**	80	9.9

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

Rates are per 100,000; Age adjusted, 2000 US Std Million Million

* Fewer than 5 cases, number suppressed to protect confidentiality

** Rates based on fewer than 20 cases are unstable

Rate cannot be calculated

Figure 102 shows the top six cancer sites for females in St. Joseph County. For St. Joseph County females, breast cancer had the highest incidence among various cancer sites, while lung and bronchus cancer had the highest mortality rate.

Figure 103 Indiana Rates and Counts by Primary Cancer Site and Sex Incidence Rates for Females 1998-2002

Primary Site	1998	1999	2000	2001	2002	5-year average
All sites	415.3	416.1	418.1	426.8	421.8	419.6
Breast	130.8	132.6	125.7	129.3	124.8	128.6
Lung and Bronchus	57.6	56.7	59.1	59.7	62.0	59.0
Colon excluding Rectum	39.4	38.9	36.8	38.8	37.7	38.3
Corpus and Uterus, NOS	24.2	25.7	25.7	25.6	27.1	25.7
Ovary	15.4	15.3	16.8	12.9	12.2	14.5

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

The five-year average incidence rate for breast cancer in Indiana is 128.6 per 100,000 females as compared to 136.2 per 100,000 females for SJC.

Prostate Cancer

Though prostate data for St. Joseph County are not analyzed beyond incidence and mortality, further analysis of the data is completed for Indiana. These data may help the reader understand prostate cancer in SJC.

The incidence rate for prostate cancer in Indiana (136.6 per 100,000 males) was lower than the national rate (173.8 per 100,000 males). The mortality rate (33.1 per 100,000 males), however, was slightly higher than the national rate (30.3 per 100,000 males). An explanation for this difference is that screening for prostate cancer may be lower in Indiana than in the rest of the nation. The 2002 and 2004 BRFSS data support this explanation: in 2004 BRFSS (data not yet disseminated for local use) 48.9% of Indiana men over age 40 reported having a Prostate Specific Antigen (PSA) blood test within the past 2 years versus 52.1% of men nationwide. Indiana's reported screening rate was lower than 66% of the other states (*Spotlight: Prostate Cancer, Indiana, 1998-2002, Indiana State Department of Health – Cancer Registry*).

African-American males have a higher incidence of prostate cancer and a higher mortality rate than White males. The 2002 Indiana BRFSS indicated that 48.5% of Indiana black males over 40 reported having ever had a PSA compared to 57.1% for white males.

Figure 104 Indiana Prostate Cancer, Stage of Diagnosis 1998-2002

	Total	Local	Regional	Distant	Unknown
White Male <i>Percent</i>	15,689 <i>100.0</i>	11,879 <i>75.7</i>	1,684 <i>10.7</i>	769 <i>4.9</i>	1,357 <i>8.6</i>
African- American Male <i>Percent</i>	1,596 <i>100.0</i>	1,133 <i>71.0</i>	179 <i>11.2</i>	144 <i>9.0</i>	140 <i>8.8</i>
Total All Males <i>Percent</i>	17,552 <i>100.0</i>	13,149 <i>74.9</i>	1,883 <i>10.7</i>	924 <i>5.3</i>	1,596 <i>9.1</i>

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

African-American males are almost twice as likely as white males to be diagnosed with prostate cancer that has gone beyond the regional prostate area; i.e. cancer that has metastasized to other parts of the body.

Figure 105 Indiana Age Specific Incidence Rate by Sex and Race 1998-2002, Prostate Cancer

Age at Diagnosis	White Male		African-American Male		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	1	0.8	1	0.1
5-9	1	0.1	0	0.0	1	0.1
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0
25-29	0	0.0	0	0.0	0	0.0
30-34	0	0.0	0	0.0	0	0.0
35-39	6	0.6	1	1.1	7	0.6
40-44	48	4.4	7	7.6	55	4.6
45-49	229	22.9	40	51.9	271	24.8
50-54	834	96.7	114	187.7	961	103.0
55-59	1,599	237.9	168	382.3	1,788	247.1
60-64	2,348	443.0	257	729.8	2,651	464.6
65-69	2,998	686.7	352	1,205.4	3,402	725.3
70-74	3,246	839.5	284	1,186.9	3,575	866.4
75-79	2,338	779.3	218	1,274.1	2,603	817.6
80-84	1,245	684.3	90	993.8	1,360	709.7
85+	797	650.5	64	961.2	877	676.8

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

The incidence of prostate cancer in Indiana for African-American males is not only higher than for White males, incidence also begins at a much younger age than for White males.

Figure 106 Indiana Age Specific Mortality Rate by Sex and Race 1998-2002 Prostate Cancer

Age at Diagnosis	White Male		African-American Male		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	0	0.0	0	0.0
5-9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0
25-29	1	0.1	0	0.0	1	0.1
30-34	0	0.0	0	0.0	0	0.0
35-39	0	0.0	0	0.0	0	0.0
40-44	0	0.0	1	1.1	1	0.1
45-49	6	0.6	2	2.6	8	0.7
50-54	14	1.6	6	9.9	20	2.1
55-59	52	7.7	12	27.3	65	9.0
60-64	133	25.1	31	88.0	166	29.1
65-69	242	55.4	52	178.1	294	62.7
70-74	391	101.1	78	326.0	472	114.4
75-79	628	209.3	91	531.9	721	226.5
80-84	636	349.6	89	982.8	728	379.9
85+	844	688.8	84	1,261.6	930	717.7

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

African-American males in Indiana also begin to die from prostate cancer at younger ages than White males.

Breast Cancer

Figure 107 Indiana Breast Cancer, Stage of Diagnosis 1998-2002

	Total	In Situ	Local	Regional	Distant	Unknown
White Female <i>Percent</i>	23,387 100.0	3,807 16.3	12,389 53.0	5,654 24.2	903 3.9	634 2.7
African-American Female <i>Percent</i>	1,605 100.0	259 16.1	723 45.0	479 29.8	89 5.5	55 3.4
Total All Females <i>Percent</i>	25,257 100.0	4,123 16.3	13,233 52.4	6,189 24.5	1,002 4.0	710 2.8

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

In Indiana, White females are more likely than African-American females to be diagnosed at the local stage (no cancer beyond breast). African-American females are more likely to be diagnosed with breast disease with metastasis.

Figure 108 Indiana Age-Specific Incidence Rates by Sex and Race, 1998-2002, Breast Cancer

Age at Diagnosis	White Female		African-American Female		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	1	0.1	0	0.0	1	0.1
5-9	1	0.1	0	0.0	1	0.1
10-14	0	0.0	0	0.0	0	0.0
15-19	1	0.1	1	0.9	2	0.2
20-24	15	1.6	0	0.0	15	1.4
25-29	75	8.5	18	17.6	94	9.4
30-34	272	29.3	40	41.2	322	30.8
35-39	645	61.0	77	74.5	737	62.5
40-44	1,209	111.1	101	96.4	1,323	109.3
45-49	1,752	175.5	144	161.5	1,917	173.8
50-54	2,096	237.3	167	239.1	2,295	237.6
55-59	2,215	315.4	121	232.8	2,358	309.4
60-64	1,975	345.2	166	386.9	2,159	347.8
65-69	2,115	415.1	146	371.2	2,278	412.0
70-74	2,348	467.5	110	331.6	2,485	461.5
75-79	2,135	476.8	114	432.4	2,267	476.4
80-84	1,487	452.2	75	436.1	1,572	453.1
85+	1,238	388.9	66	395.6	1,308	389.4

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

African-American females have higher incidence rates at aged 25-39 than White females. In general, after age 39 the incidence for white females is higher than for black females.

Figure 109 Indiana Age-Specific Mortality Rates by Sex and Race, 1998-2002, Breast Cancer

Age at Diagnosis	White Female		African-American Female		Total	
	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	0	0.0	0	0.0
5-9	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	0	0.0
15-19	0	0.0	0	0.0	0	0.0
20-24	1	0.1	0	0.0	1	0.1
25-29	10	1.1	1	1.0	11	1.1
30-34	25	2.7	9	9.3	34	3.2
35-39	90	8.5	23	22.2	114	9.7
40-44	174	16.0	22	21.0	196	16.2
45-49	232	23.2	45	50.5	281	25.5
50-54	374	42.3	41	58.7	417	43.2
55-59	365	52.0	37	71.2	404	53.0
60-64	367	64.1	32	74.6	400	64.4
65-69	391	76.7	36	91.5	428	77.4
70-74	467	93.0	38	114.6	511	94.9
75-79	533	119.0	41	155.5	576	121.0
80-84	480	146.0	37	215.2	519	149.6
85+	653	205.1	48	287.7	702	209.0

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

African-American females show higher breast mortality rates at younger ages than White females. Though the incidence rate (in general) for African-American females is lower than White females after age 39, the mortality rate for African-American females is higher. That is, more African-American females die from breast cancer at all ages, even when their incidence of breast cancer is lower than White females.

Lung and Bronchus Cancer

Available lung and bronchus data are analyzed at the state level. Still, these data should provide the reader with insight into the nature of lung and bronchus cancer.

Figure 110 Indiana Lung and Bronchus Cancer, Stage of Diagnosis 1998-2002

	Total	In Situ	Local	Regional	Distant	Unknown
White Male <i>Percent</i>	12,886 <i>100.0</i>	26 <i>0.2</i>	2,348 <i>18.2</i>	3,127 <i>24.3</i>	6,059 <i>47.1</i>	1,306 <i>10.2</i>
White Female <i>Percent</i>	9,163 <i>100.0</i>	8 <i>0.1</i>	1,936 <i>21.1</i>	2,146 <i>23.4</i>	4,107 <i>44.8</i>	966 <i>10.5</i>
African- American Male <i>Percent</i>	956 <i>100.0</i>	1 <i>0.1</i>	162 <i>16.9</i>	267 <i>27.9</i>	459 <i>48.0</i>	67 <i>7.0</i>
African-American Female <i>Percent</i>	718 <i>100.0</i>	0 <i>0.0</i>	126 <i>17.5</i>	166 <i>23.1</i>	365 <i>50.8</i>	61 <i>8.5</i>
Total All Races and Sexes <i>Percent</i>	23,852 <i>100.0</i>	36 <i>0.2</i>	4,598 <i>19.3</i>	5,743 <i>24.1</i>	11,060 <i>46.4</i>	2,415 <i>10.1</i>

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

For both races and sexes in Indiana, Lung and Bronchus cancer is more likely to be diagnosed at the distant stage (disease with metastasis).

**Figure 111 Indiana Age-Specific Incidence Rates by Sex and Race, 1998-2002
Lung and Bronchus**

Age at Diagnosis	White Male		White Female		African-American Male		African-American Female		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5-9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
10-14	0	0.0	0	0.0	1	0.8	0	0.0	1	0.0
15-19	1	0.1	4	0.4	0	0.0	0	0.0	5	0.2
20-24	1	0.1	3	0.3	0	0.0	0	0.0	4	0.2
25-29	3	0.3	6	0.7	0	0.0	0	0.0	9	0.4
30-34	19	2.0	20	2.2	1	1.1	1	1.0	43	2.0
35-39	64	6.0	79	7.5	6	6.5	5	4.8	155	6.6
40-44	215	19.8	187	17.2	27	29.2	19	18.1	448	18.6
45-49	409	40.9	295	29.5	49	63.5	32	35.9	794	36.2
50-54	699	81.1	525	59.4	67	110.3	50	71.6	1,353	71.2
55-59	1,165	173.3	841	119.8	115	261.7	70	134.7	2,203	148.3

60-64	1,602	302.2	1,139	199.1	131	372.0	94	219.1	2,975	249.7
65-69	2,178	498.9	1,455	285.5	168	575.3	130	330.5	3,957	387.2
70-74	2,552	660.0	1,689	336.3	174	727.2	115	346.7	4,554	478.8
75-79	2,119	706.3	1,451	324.1	119	695.5	109	413.5	3,827	481.9
80-84	1,170	643.1	914	278.0	63	695.7	58	337.3	2,220	412.2
85+	643	524.8	547	171.8	34	510.7	35	209.8	1,268	272.4

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

African-American males and females have higher incidence rates for lung and bronchus cancer than their White counterparts. African-Americans are also more likely to be diagnosed at a younger age.

**Figure 112 Indiana Age-Specific Mortality Rates by Sex and Race, 1998-2002
Lung and Bronchus**

Age at Diagnosis	White Male		White Female		African-American Male		African-American Female		Total	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
0-4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
5-9	1	0.1	0	0.0	0	0.0	0	0.0	1	0.0
10-14	1	0.1	0	0.0	0	0.0	0	0.0	1	0.0
15-19	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
20-24	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
25-29	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
30-34	9	0.9	8	0.9	0	0.0	1	1.0	19	0.9
35-39	41	3.9	45	4.3	3	3.2	7	6.8	97	4.1
40-44	134	12.3	123	11.3	18	19.5	10	9.5	285	11.8
45-49	309	30.9	174	17.4	39	50.6	27	30.3	553	25.2
50-54	501	58.1	338	38.3	59	97.2	37	53.0	941	49.5
55-59	874	130.0	579	82.4	71	161.6	47	90.4	1,577	106.1
60-64	1,275	240.5	833	145.6	115	326.6	86	200.5	2,313	194.1
65-69	1,681	385.0	1,072	210.4	146	499.9	89	226.3	2,997	293.2
70-74	2,160	558.7	1,341	267.0	157	656.2	106	319.6	3,774	396.8
75-79	1,864	621.3	1,280	285.9	122	713.0	103	390.7	3,377	425.2
80-84	1,142	627.7	863	262.5	67	739.8	57	331.5	2,132	395.9
85+	708	577.8	657	206.4	47	705.9	41	245.7	1,455	312.6

Source: Indiana State Department of Health, Indiana State Cancer Registry and the Epidemiology Resource Center, Data Analysis Team, July 2005

In Indiana, African-American males and females are more likely to die (and begin to die earlier) from lung and bronchus cancer than their white counterparts.

Appendix Two

External Causes of Mortality

Homicide

Figure 113 St. Joseph County Homicides, 1998-2002

Causes of Mortality	1999	2000	2001	2002	2003	Five-year average
Total deaths	22	13	22	24	23	21.0
Firearms	15	12	16	19	15	15.4
Other means	7	1	7	6	8	5.8

(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Figure 114 St. Joseph County Homicides by Age, 1998-2002

Age	1999	2000	2001	2002	2003	Five-year average
<15	0	1	0	2	2	1
15-19	5	3	4	1	4	3.4
20-24	3	4	7	7	4	5
25-34	4	3	3	4	5	3
35-44	8	0	2	7	6	4.6
45-54	0	2	4	3	2	2.2
55-64	0	0	1	1	0	0.4
65-74	1	0	1	0	0	0.4
75-84	1	0	0	0	0	0
85+	0	0	0	0	0	0

(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Suicide

Figure 115 St. Joseph County Suicides, 1998-2002

Causes of Mortality	1999	2000	2001	2002	2003	Five-year average
Total Deaths	22	28	34	29	27	28.0
Firearms	9	11	18	14	17	13.8
Other means	13	17	16	15	10	14.2

(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999

Figure 116 St. Joseph County Suicides by Age, 1998-2002

Age	1999	2000	2001	2002	2003	Five-year average
<15	3	0	0	0	0	<1.0
15-19	1	1	1	0	2	1
20-24	1	2	1	1	3	1.6
25-34	3	6	3	7	9	5.6
35-44	4	12	9	3	2	6
45-54	4	1	9	8	3	5
55-64	2	2	5	6	3	3.6
65-74	1	1	2	2	2	1.6
75-84	3	2	3	1	3	2.4
85+	0	1	1	1	0	0.6

(1999 – 2003 Deaths per 100,000 population)

Source: Indiana State Department of Health, Tenth Revision, International Classification of Diseases, 1999