

# Health Indicators for Delaware Health District Population BRFSS survey 2002



## [Delaware General Health District](#)

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The Delaware General Health District operates in accordance with Title VI of the Civil Right Act of 1964.

## I. PREFACE

The community diagnosis component is critically important to an effective health planning process. This first phase of the planning process has been essential to advance partnerships among key stakeholders in Delaware County. Great opportunities have emerged in our community for individuals, organizations and institutions whose missions focus primarily on health issues and/or the provision of health services.

The recent efforts towards community diagnosis in Delaware County have encouraged local leaders to pay greater attention to strategies that promote improvements in personal decisions and that also promote healthier behaviors by individuals, families and employers. There is herein the clear indication of the importance of values, lifestyle, the home and the community environment.

These events, resulting in the community diagnosis referenced in this document, reflect the first steps in an on-going planning process. This process is designed to define more broadly what our people consider to be “positive health.” Finally the process employed in Delaware County provokes on-going dialogue about health in terms of: *“Where is Delaware County at any point in time?” “Where do we want to be?” and “How will we get there?”*

## **INTRODUCTION: THE COMMUNITY DIAGNOSIS PROCESS**

The Community Health Plan for Delaware County is the result of a county-wide health assessment process, synonymously termed “community diagnosis”.

For this report, community diagnosis was defined by the North Carolina State Center for Health and Environment as “a means of examining aggregate health and social statistics, liberally spiced with knowledge of the local situation, in order to determine the health needs of the community.”

The benefits of community diagnosis (community health planning), minimally, are:

- ◆ provides justification for funding initial budget requests and budget improvement requests, for state-wide categorical health programs, and for special county-specific health or health-related initiatives;
- ◆ provides state-level programs and their regional health office personnel with information that fosters better planning, promotion, and coordination of prevention and intervention strategies that target regional and local efforts;
- ◆ serves health planning and advocacy needs at the community level. Here, community leaders and local health department personnel provide the leadership to insure that documented community health problems are addressed.

The Committee for the Study of the Future of Public Health, Institute of Medicine, has said that “effective public health action must be based on accurate knowledge of the causes and distribution of health problems,” and recommends that “every public health agency regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, epidemiological and other studies of health problems.” Accordingly, Delaware County Health Department has formed partnerships (known as the “Partnership for Healthy Delaware”) with agencies that have interest in health issues of the community. The Delaware General Health District has compiled this report on the local community diagnosis process, with the development of a Community Health Plan document.

This community health plan document is intended to:

- ◆ report on the social and general well-being of the residents of Delaware County;
- ◆ define the health status of residents of Delaware County and present a review of the historical events and the evolving local environment that provided the foundation for the results of the community diagnosis (assessment) processes conducted in Delaware County;
- ◆ outline the health priorities that have been determined from the assessment processes;
- ◆ present information and data to support the conclusions drawn about the health status of residents and the health priorities for Delaware County;
- ◆ present prospective actions and resources for addressing the priorities noted in the report;
- ◆ reflect on the development of visionary goal statements for the future health and well-being of Delaware County residents.

According to [CDC](#), State and local health departments rely heavily on data from the BRFSS to

- Determine priority health issues and identify populations at highest risk for illness, disability, and death.
- Develop strategic plans and target prevention programs.
- Monitor the effectiveness of interventions and progress in meeting prevention goals.
- Educate the public, the health community, and policy makers about disease prevention.
- Support community policies that promote health and prevent disease.

BRFSS data also help public health professionals monitor progress in meeting the nation's health objectives outlined in Healthy People 2010. BRFSS information is used by researchers, voluntary and professional organizations, and managed care organizations to target prevention efforts.

In summary, the community diagnosis processes presented in this document attempt to answer three questions regarding the health status of local residents:

- Where is the community now?
- Where does the community want to be?
- How will the community get there?

The answers to these questions provide for direction with regard to future health and health-related activities and initiatives, service offerings, and policy development.

## **Community Diagnosis Needs Assessment**

It is important that the identification of health problems be built upon a picture of the community. This description of the county provides a view of what sets the community apart and makes it different from or similar to the state, counties of like size, and/or surrounding areas. It follows, then, that the health status of the community can be determined largely through the use of quantified data, observational data, and user input.

In defining Delaware County's health status, the Health Department sought to use two types of data: primary and secondary data.

### **A. PRIMARY DATA**

Primary data has been used to provide descriptions of people's behavior, their experiences, and their personal perceptions about health issues, including health problems, social issues and other events of life that impact well-being.

The primary data sources used for this assessment are:

**Adult Behavioral Risk Factor Survey, 2002**

In Fall 2002, the health department, organized by the Southern Research Group, conducted a community survey of the adult population in Delaware Health District, using the Adult Behavior Risk Factor Survey, an instrument developed by the Centers for Disease Control and Prevention. Adults in 1067 households were surveyed in Delaware Health District. The sample size provided 95 percent reliability with a margin of error of  $\pm 3$  percent.

**Adult Behavioral Risk Survey, 1995**

The survey conducted by Delaware General Health District in 1995 is the primary data that is used to compare the changes in trends for certain health behaviors.

**B. Secondary Data**

Secondary data represent information already collected by other sources for a variety of purposes. Much of the *secondary data* assembled for this assessment are data sets that are routinely collected by the Ohio Department of Health, Office of Health Statistics. Demographic and socioeconomic information has been assembled from the U.S. Department of Commerce, Bureau of the Census, and the Department of Economic and Community Development. A menu of the data is as follows:

1. Resident Health Profile

This information includes assorted demographic data for 2000, including population-characteristics data on the size, racial makeup, and age distribution, prevalence of various household types, income levels, and school enrollment information.

2. Leading Causes of Death

The data presents the ten leading causes of death for all races, sexes, and ages for 1998-2000. It also uses the age-adjusted leading causes of death for Delaware County in comparison to State data.

3. Health Trends

Cancer and cardiovascular disease trend data have been presented based on American Cancer Society and Ohio Department of Health information.

## ADULT BEHAVIOR RISK FACTOR SURVEY

*The Adult Behavior Risk Factor Survey* was conducted during the Fall of 2002. As reported earlier, one adult, age 18 or older, from each of 1067 randomly selected households, was surveyed in Delaware Health District. The findings pointed to a number of health indicators and risk factors which were of great concern. Because of their impact, five of these findings are presented below. See Appendix for complete summary of survey results.

- ◆ It was reported that 22 percent of respondents smoked. This is lower than the state level (27%) but significantly higher than the Healthy People 2010 Objectives for the Nation. The benchmarks has been set by the U.S. Department of Health and Human Services, to establish the target of 12 percent (or below) of our U.S. population to be engaged in smoking by the year 2010 (Fig.2).

Research has confirmed that cigarette smoking is an important risk factor for heart disease, stroke, chronic lung disease, and cancers of the lung, larynx, esophagus, pharynx, mouth, pancreas and bladder. Despite a reduction nationally and locally, smoking is still responsible for one of every six deaths in the United States. In Delaware Health District, cigarette smoking is a contributing factor for a vast number of ranking illnesses among adults, including heart disease, asthma, chronic bronchitis, emphysema and high blood pressure. We may conclude that tobacco-related illnesses have contributed to many of the leading causes of death for residents of Delaware Health District, including diseases of the heart, most cancers, cerebrovascular disease (Stroke), chronic obstructive pulmonary disease (COPD), and atherosclerosis.

- ◆ The survey results also pointed out that 39 percent of respondents indicated that they were overweight based on the BMI calculated with the height and weight provided by the respondents (Fig.3). Fifty Two percent of overweight respondents were between the age group of 35 and 54 years (Fig4). See Appendix for the BMI table (Fig.1). “Overweight” is defined as a body mass index (BMI) value of 27.3 percent or more for women and 27.8 percent or more for men. These definitions of overweight are based on an analysis of BMI relative to the risks of disease and death.
- ◆ The survey also indicated that 18% of the respondents were obese based on the BMI calculation for each respondent (Fig.3). Twenty eight percent of the respondents that were determined obese (out of 18% of the population surveyed) were in the age group of 35-44 years and 30 percent of the respondents that were determined obese (out of 18% of the population surveyed) were in the age group of 45 – 54 years (Fig:5). “Obesity” is defined as a BMI of 30 and above. A BMI of 30 is about 30 pounds overweight. (Notably, some very muscular people may have a high BMI without health risks).
- ◆ Sixty one percent of the male respondents were overweight and 51 % of the men surveyed were obese; whereas 38% of the female respondents were overweight and 48% were obese (Fig.3). *The height and weight used to calculate the BMI were self reported by the respondents.*

- ◆ The percent of the respondents that were obese were less than the state (21%) but more than the Healthy People 2010 goal of 15% (Fig.2)

In June of 1998, the National Heart, Lung, & Blood Institute of the National Institutes of Health (NIH) updated the guidelines for the definition and treatment of obesity.

The body mass index (BMI) equals a person’s weight in kilograms (kg) divided by their height in meters (m) squared. Since BMI describes body weight relative to height, it is strongly correlated with total body fat content in adults. To estimate BMI using pounds and inches, use the weight in pounds (lb) divided by the height in inches (in) squared and multiply the result by 704.5. Or you can get your BMI from the BMI table (Fig.1).

**Below is a table identifying the risk of associated disease according to BMI and waist size.**

| BMI           | Category        | Waist less than or equal to 40 in. (men) or 35 in. (women) | Waist greater than 40 in. (men) or 35 in. (women) |
|---------------|-----------------|--|---|
| 18.5 or less  | Underweight     | N/A  | N/A   |
| 18.5 - 24.9   | Normal          | N/A  | N/A   |
| 25.0 - 29.9   | Overweight      | Increased Risk   | High Risk   |
| 30.0 - 34.9   | Obese           | High Risk  | Very High Risk                                    |
| 35.0 - 39.9   | Obese           | Very High Risk   | Very High Risk                                    |
| 40 or greater | Extremely Obese | Extremely High Risk  | Extremely High Risk                               |

Overweight and obesity are associated with increased risk of illness from high blood pressure, high cholesterol, Type 2 diabetes, heart disease, stroke, gallbladder disease, arthritis, sleep disturbances and problems breathing, and endometrial, breast, prostate, and colon cancers. Obese individuals may also suffer from social stigmatization, discrimination, and lowered self-esteem. Thus, maintenance of a healthy weight is a major goal in the effort to reduce the burden of illness and its consequent reduction in quality of life and life expectancy.

The development of obesity is a complex result of a variety of social, behavioral, cultural, environmental, physiologic, and genetic factors. For many overweight and obese individuals, substantial change in eating, shopping, exercising, and even social behaviors may be needed to develop a healthier lifestyle. It is noted that any reduction in BMI in youth should emphasize physical activity and balanced diet so that healthy growth is maintained. Healthy People 2010 (Conference Edition). Washington, DC: January 2000, [www.health.gov/healthypeople](http://www.health.gov/healthypeople).

Paralleling national trend of 65% of the US population being overweight or obesity this affects 57% of Delaware Health District adults. Weight management is generally difficult for most people to maintain. Even once such targets are realized, most adults find it extremely difficult and unrealistic to manage and sustain the target, (often because of lifestyle, eating habits, stress, work patterns, and various medical factors).

- ◆ Survey results reported that almost 15% of respondents acknowledge being binge drinkers which is similar to the state, 4 % acknowledge being chronic drinkers and 3% drink and drive. During 2000,

16,653 people in the U.S. died in alcohol-related motor vehicle crashes, representing 40% of all traffic-related deaths ([NHTSA 2001a](#)). In its publication *The Economic Impact of Motor Vehicle Crashes*, the National Highway Traffic Safety Administration reported that alcohol-related crashes in 2000 were associated with more than \$51 billion ([Blincoe 2002](#)).

- ◆ Results show that 81 percent of respondents reported that they use seatbelts regularly, as recorded in the 2002 Adult Behavior Risk Factor Survey as compared to 1995 survey where 74% of the respondents reported to use seat belts (Fig.6). About 36% of the children were reported to be wearing bike helmets. Motor vehicle accidents were the sixth or seventh leading cause of death for adults in Delaware County for the span of years 1991-1999. Although the national and local use of automobile safety restraints (such as seatbelts) has risen in recent years, increasing the percentage of persons who use them to 85 percent could save about 10,000 persons nationally, and hundreds of persons locally, from death and disability.
- ◆ Findings show that 18% have never had a cholesterol screen and 22% of the female respondents (who have ever had a mammogram), have not had one within the last two years. Above 90% of the female respondents reported “yes” to having ever had a pap smear and a clinical breast exam. And 35% of the respondents have been told that they have high cholesterol and 23% have been told that they have hypertension (Fig.7). The high cholesterol results from 2002 have gone up to 35% since the 1995 survey that showed 24% of the population with high cholesterol.
- ◆ It was reported that 27% of the respondents regularly exercise (3 or more times a week) as compared to Ohio state where only 13% do. The Healthy people 2010 goal is 30% for regular physical activity. Only 17% of the respondents do not participate in any leisure time activity as compared to state (32%) and HP 2010 20% (Fig.2)
- ◆ About 78% of the female respondents 40+ years have had mammogram done within the past 2 years, and 89% of 18+years have had Pap smear within the past 2 years (Fig.2)
- ◆ Forty seven percent of the adults (50+ years) have had Sigmoidoscopy within the past 5 years (Fig.2). Cholesterol screening was reported to be 77% as compared to 1995 survey which reported 72%. The percentage for the pat tests and mammogram have also gone up in comparison to 1995 BRFSS survey (Fig.6).

Health screenings can be extremely important when tailored appropriately to an individual’s age and risk. Early diagnosis of disease can have a significant impact on mortality rates, as shown by the results of screening for high blood pressure and high blood cholesterol. Breast cancer is the second most common cause of cancer deaths among women, having been surpassed by lung cancer in the past decade. However, according to the American Cancer Society, the incidence of breast cancer is more than twice that of lung cancer in women.

- ◆ As compared to the 1995 BRFSS survey the percentage of overweight (39% vs. 31% in 1995) has increased significantly as was the high blood cholesterol levels (Fig.7). Some of the other behavior risk indicators are shown in Fig.8.

## Secondary Data Findings

### Demographics Census 2000

According to the Census 2000 the total population of Delaware County is 109,989. The population growth since 1990 has been more than 64% (Fig.9). The age distribution trends show a 75% increase in the children less than 5 years of age (Fig.10). The population distribution by township and gender (Fig.11) shows that the highest concentration of the population is in Delaware Township followed by Liberty, Orange and Genoa townships. The gender distribution is almost equal in all townships. The age distribution of the population shows that we have 30% under the age of 19 years, about 24% between the age of 35-54 years and 18% in the age group of 20-34 years (Fig.12). The education level (Fig.13) chart shows that a large portion ( 41%) of the population have college degree or greater, 27% with some college or 2 years degree, 24% have high school or GED certification and 7% have less than high school. The Income comparison between the 1990 census and 2000 census show that there has been a significant increase in the percentage of population earning \$50,000+ (Fig.14). The per capita income trend is shown in Fig.15.

The trend of teen birth rate as reported by Ohio Department of Health (ODH) shows that there has been a significant drop in the teen pregnancy rate (Fig.16). The state levels are much higher as compared to Delaware County teen birth rates. The smoking prevalence of pregnant women is highest between the ages of 20-24 years followed by 25-29 years (Fig.17).

The infant death rate trend as compared to the state shows that Delaware County had a very low rate of 3.6 per 1000 live births in 1996. The infant death rate increased each year and had reached 8.2 per 1000 live births in 1999. The trend shows a decrease in 2000 to 7.7 which is slightly higher than the state rate of 7.5 (Fig.18).

The six leading causes of death in Delaware County are heart disease, cancer followed by stroke, chronic lower respiratory disease, accidents and diabetes (Fig.19). The leading causes of death by DGHD vital records count in Delaware County in 2000 shows a similar trend (Fig.21). Comparison of the leading causes with male and female population indicates that more women die of heart disease and stroke than men (Fig.20).

The American Cancer Society has provided facts and figures of cancer for Ohio. Comparison of the rate of cancer deaths with the state indicates a trend similar to the state, but the rate is lower than the state rate except for breast cancer rates (Fig.22). The trend data 1996-1999 indicates that there is a significant increase in the number of new cases since 1998. They report an increase in Prostate cancer cases in Delaware County. Lung cancer cases have dropped slightly and the number of colorectal cancer has decreased too (Fig.23).

Ohio department of Public Safety reported crashes by the day of the week (Fig.24) which shows that maximum crashes occurred on Friday. The report on the crashes by month indicated that maximum crashes occur in the month of December (Fig.25). The number and various causes of crashes indicate that the number one cause of crashes is following too close (Fig.26). Select Injury mortality data for Delaware County in comparison to Ohio indicates that Delaware County is lower than the state in most instances (Fig.27)

## Conclusions from All findings

The key findings that evolved from these early initiatives pointed to the revelation that many of the causes for illness and premature death for the residents of Delaware County are *behavior oriented*. The primary conclusion that has evolved is the same as that realized from earlier community health planning efforts. Namely, that many of the causes of illness and most of the causes of premature death for Delaware County residents lie in the behavior of the people.

In reviewing the leading causes of death for the residents of Delaware County, the top six causes were predominantly influenced by lifestyle. The comparisons were made with the state data which indicated that the trends of the causes remain similar, but the rate is lower than the state for all the causes.

In considering the findings from the Adult Behavior Risk factor Survey, it clearly showed that the percentage of overweight and obesity, smoking, and high blood pressure have to be brought down by education, awareness and advocacy on risky behavior. This could help the community lead a healthier life. Heart Disease is the leading cause of death in Delaware County, Ohio and the nation. In a report by the cardiovascular health program in ODH it has been stated that the risk factors for heart disease are poor dietary habits, diabetes, cigarette smoking, high blood pressure, high cholesterol, sedentary life style and obesity. All these indicators were prevalent as risk factors in the adult (BRFSS) survey done in 2002.

Total population of the Health District is 97,915 and the incorporated population is 37.24% and Unincorporated 62.76%

The information from the BRFSS survey 2002 is available

- In frequencies of responses
- Data breakdown is available by age, income, health care, gender, and education level.

For further information call (740-203-2081) or e-mail [Lux Phatak](mailto:Lux.Phatak).

The data provided here can be used for:

- ❖ Set health priorities
- ❖ Grant writing,
- ❖ Modifying and expanding the existing programs
- ❖ To develop new programs proposals based on the needs.

At the Delaware General Health District we have used this local data for the above purposes and this information was also used by our Board of Health as one of the primary resource to set priorities for our agency.

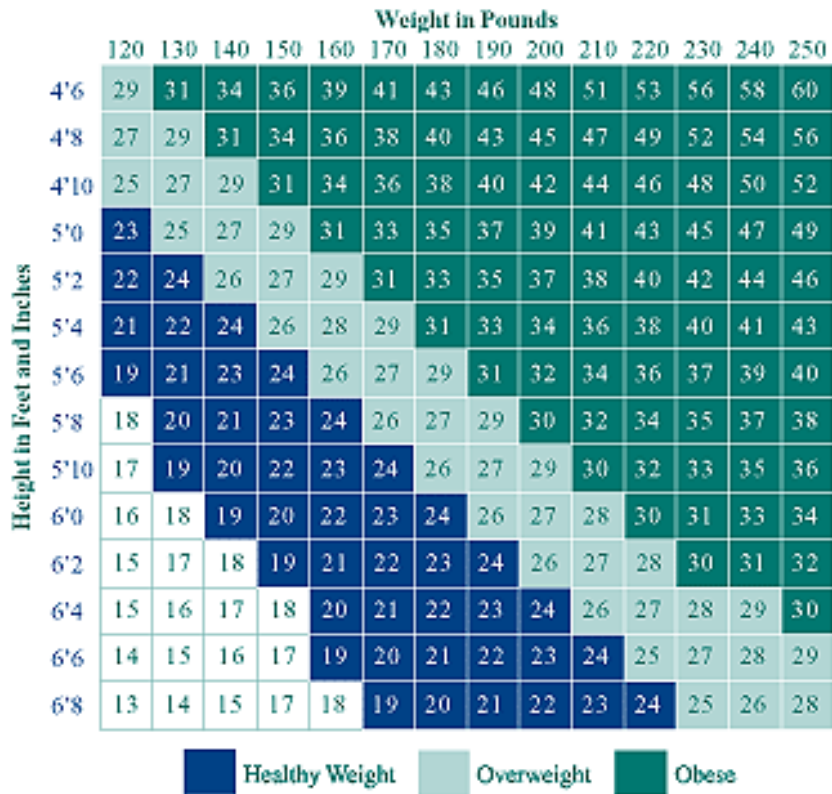
In conclusion, the health indicators that need emphasis based on the results of the BRFSS survey results are:

- Smoking
- Overweight & Obesity
- Exercise
- Health Screening
- Seat Belt Usage
- Binge Drinking
- Chronic Drinking

## APPENDIX

FIGURE 1: ADULT BODY MASS INDEX

$$\text{BMI} = \left\{ \frac{\text{WEIGHT (pounds)}}{\text{HEIGHT (inches)}^2} \right\} \times 703$$



|             |                     |
|-------------|---------------------|
| Underweight | BMI less than 18.5  |
| Overweight  | BMI of 25.0 to 29.9 |
| Obese       | BMI of 30.0 or more |

Fig.2

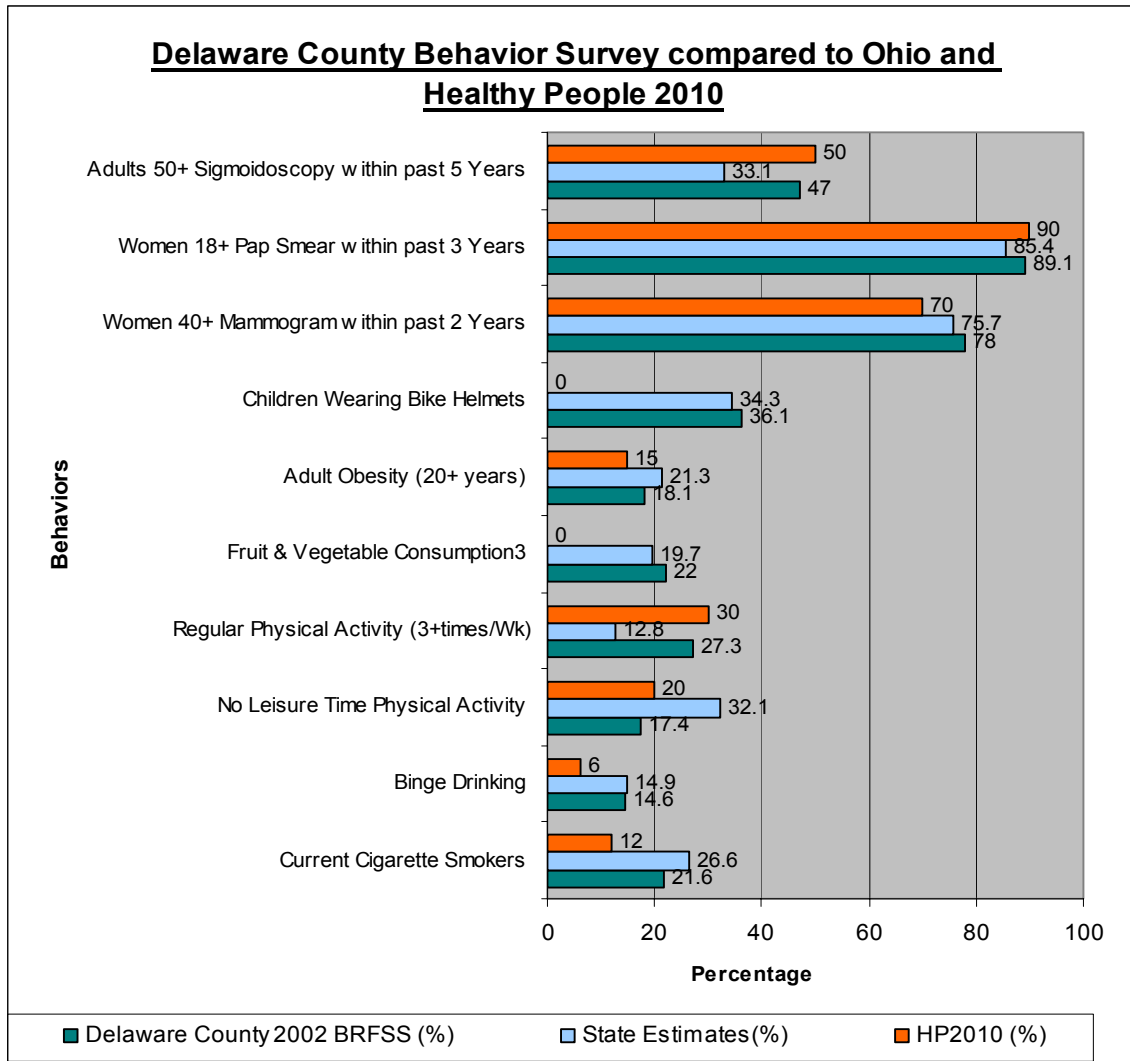


Fig. 3

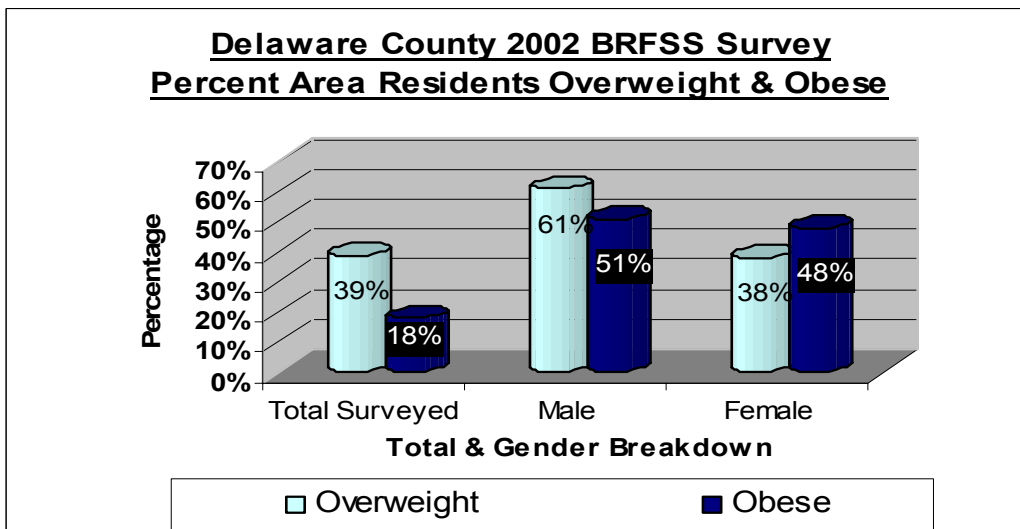


Fig.4

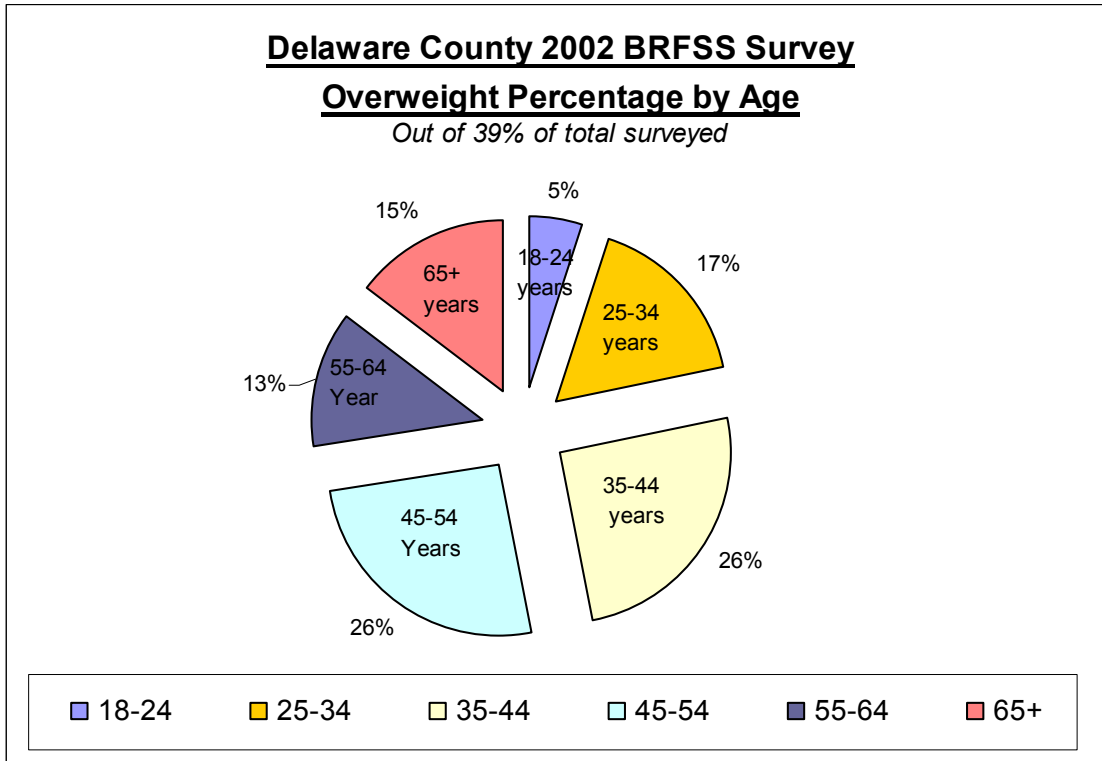


Fig.5

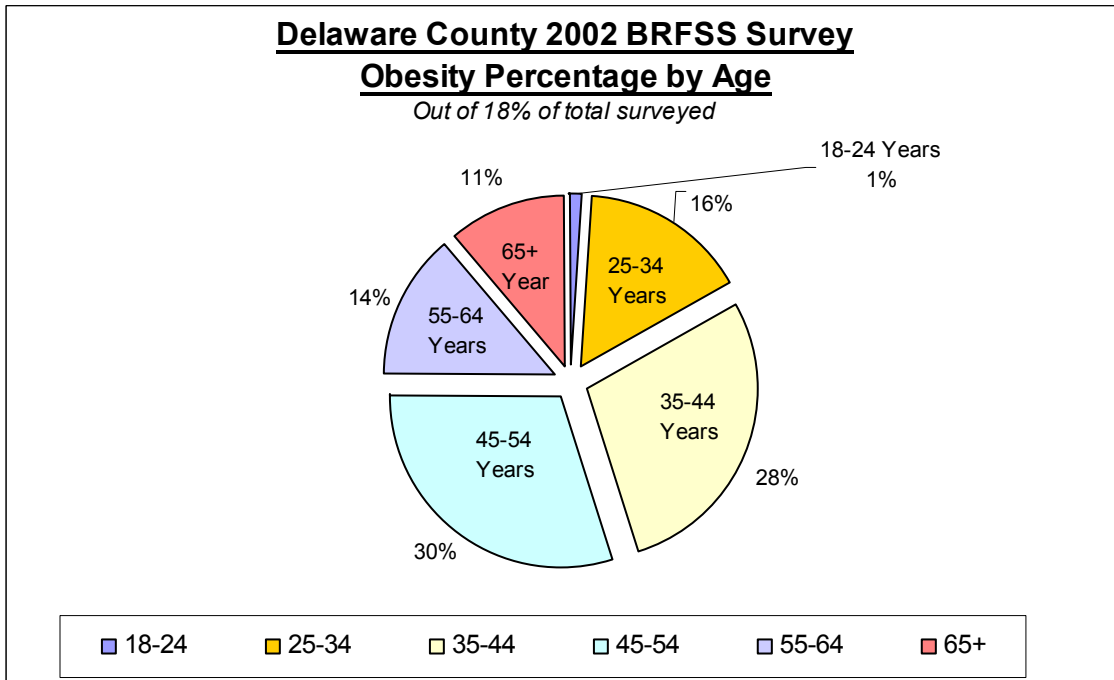


Fig.6

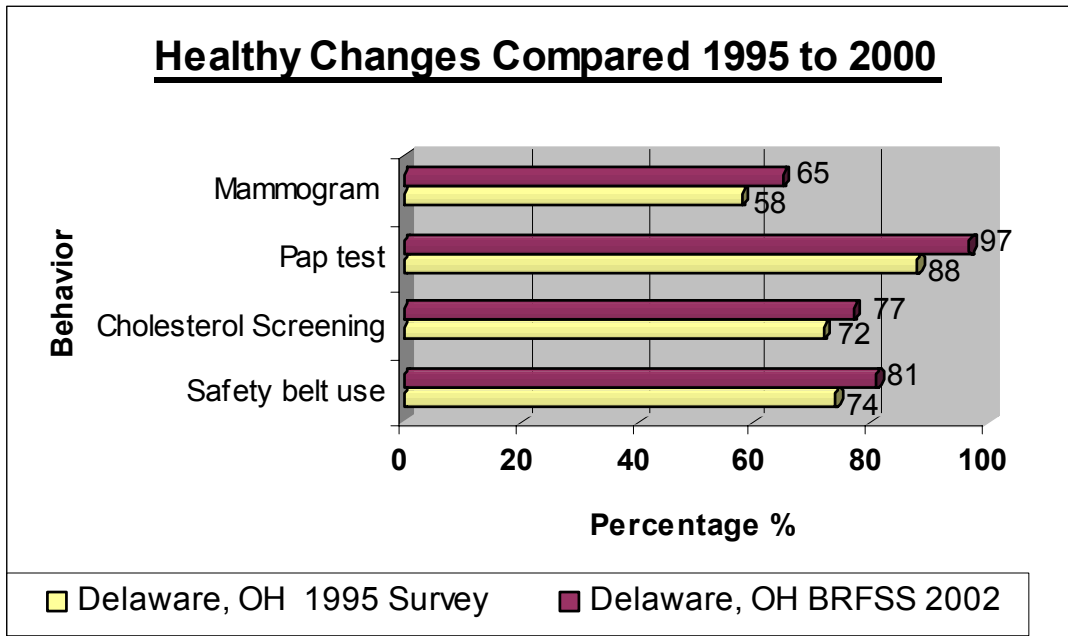


Fig.7

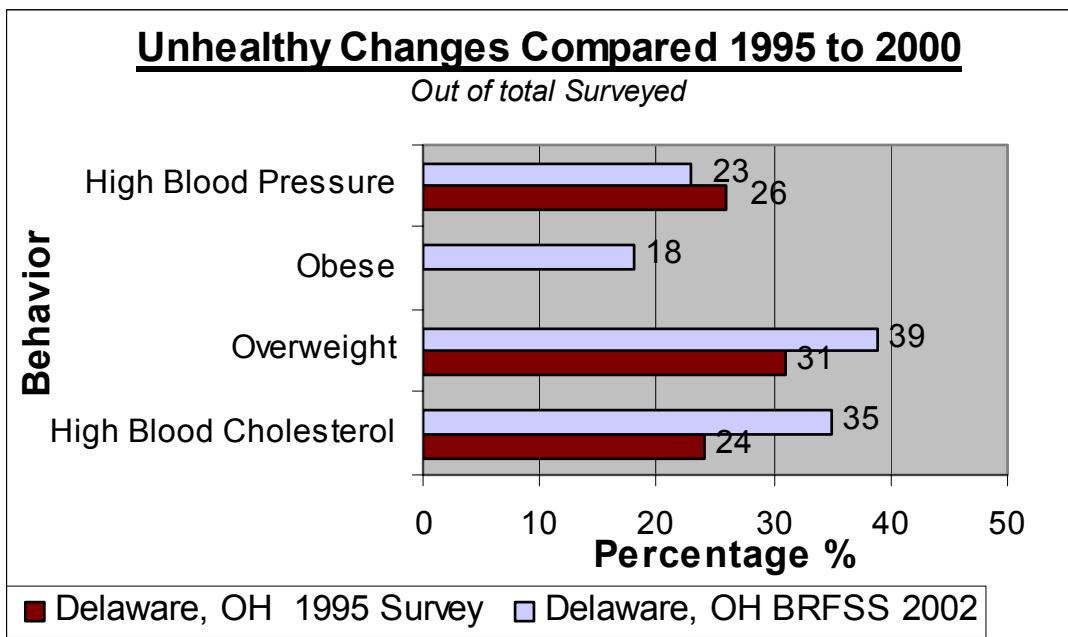


Fig.8

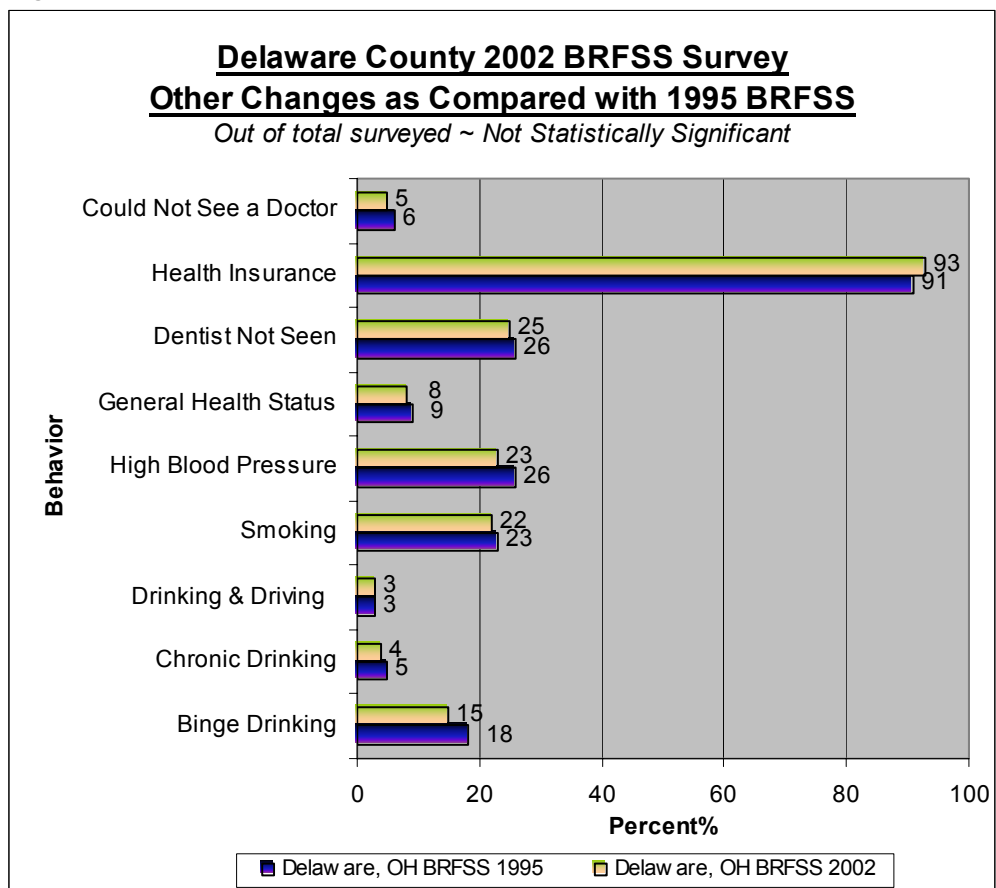


Fig.9

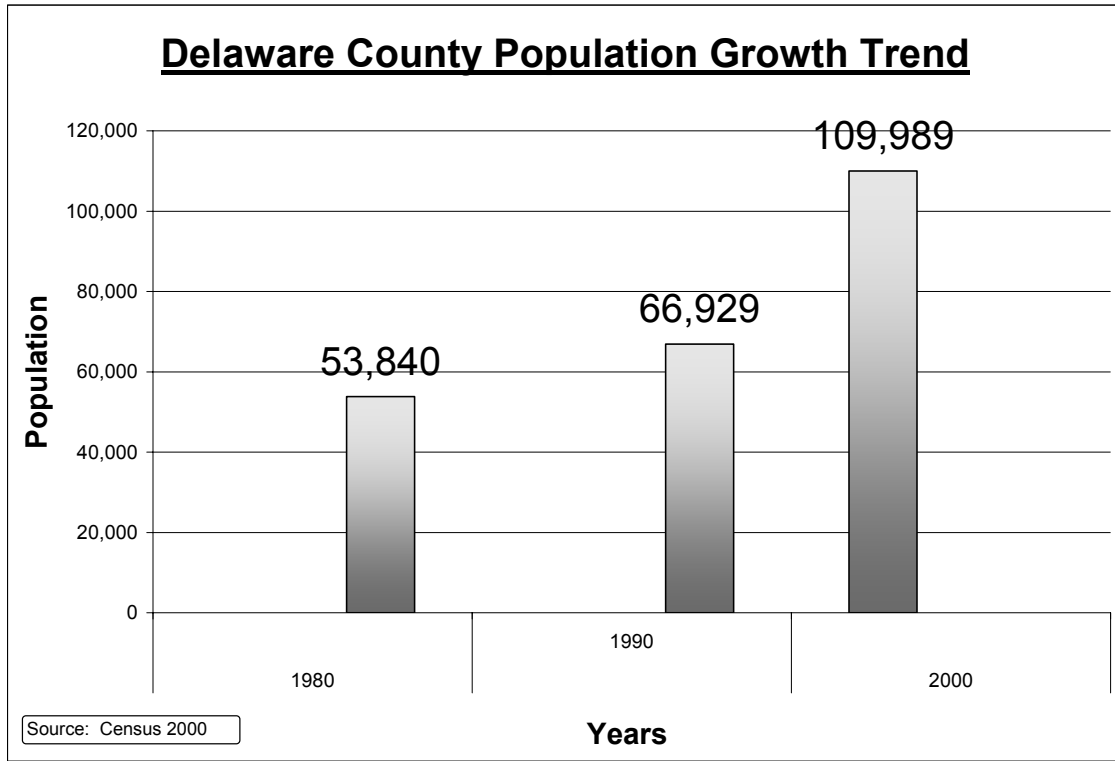


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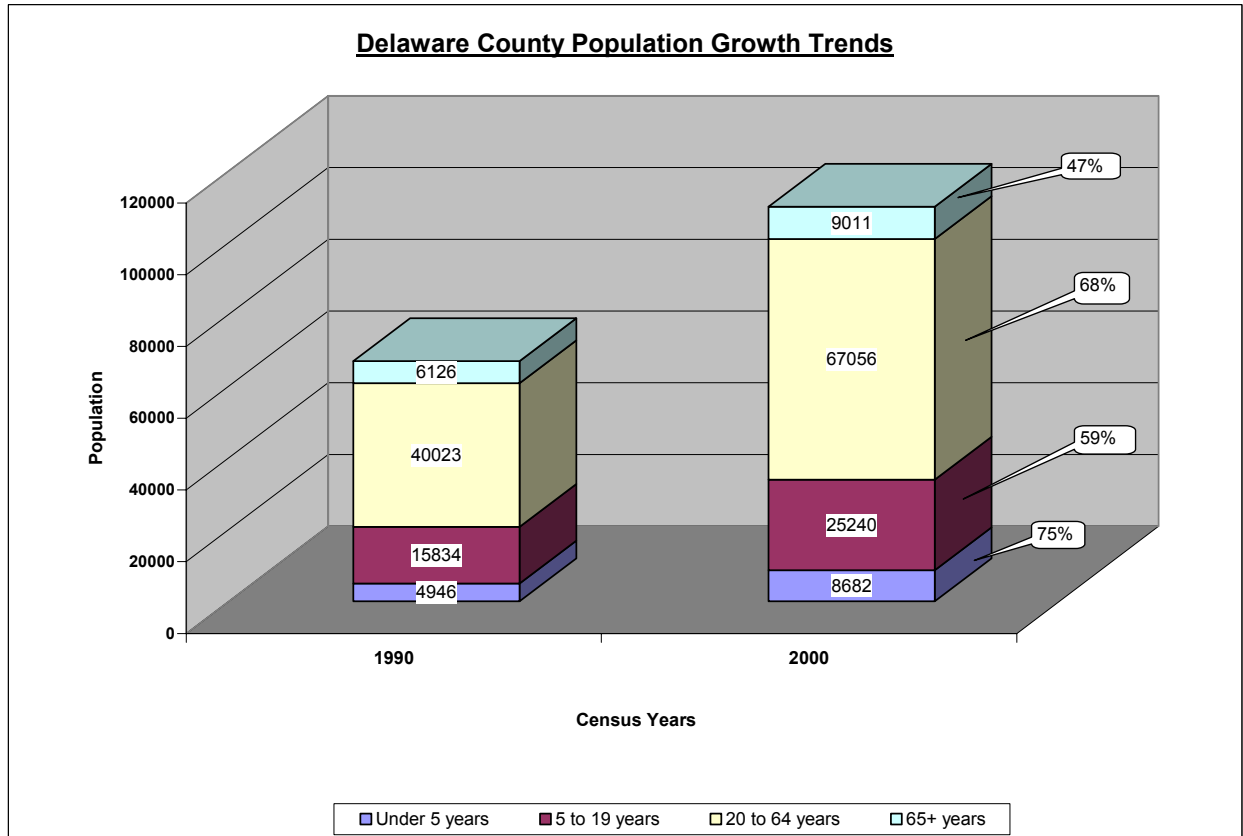


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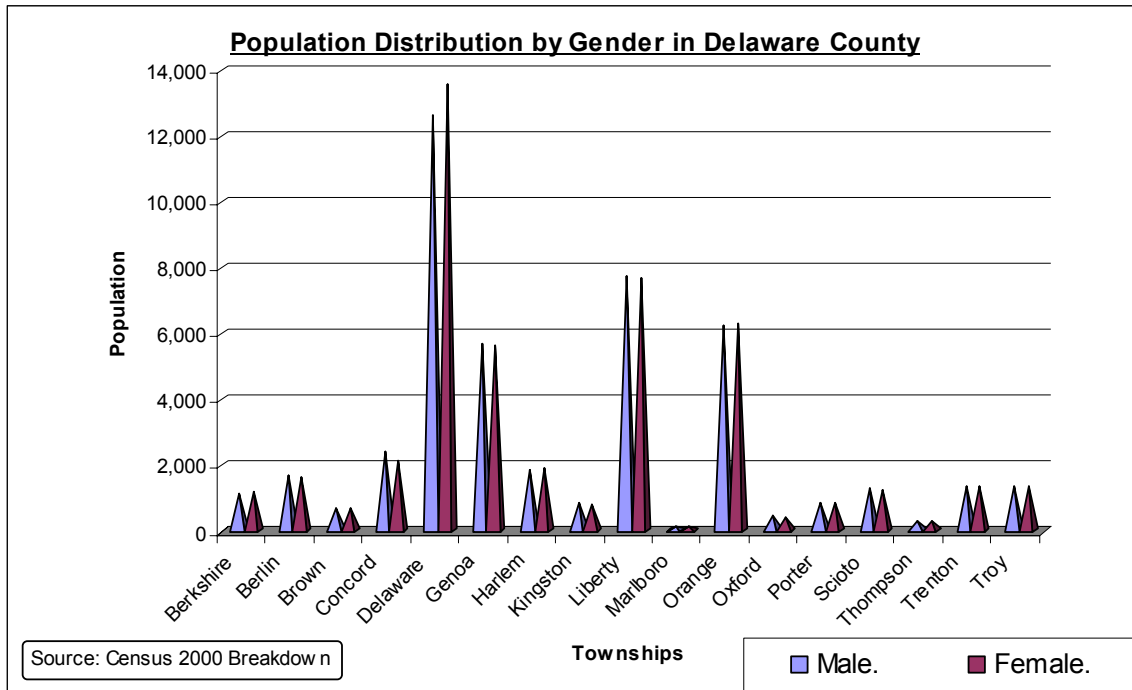


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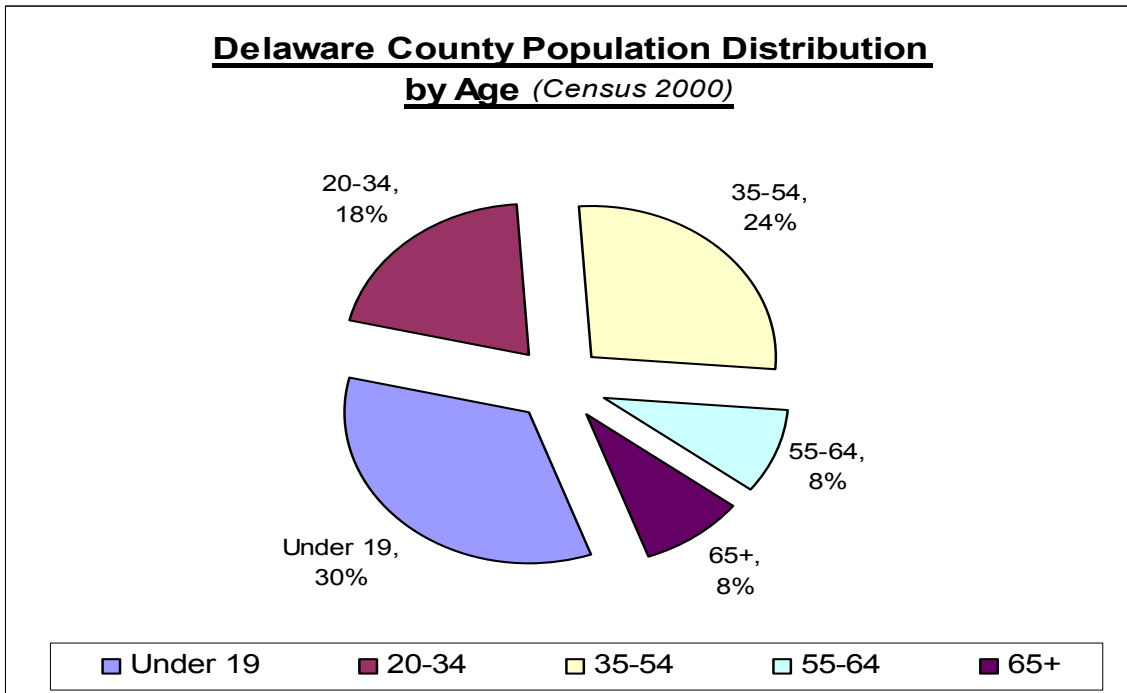


Fig.13

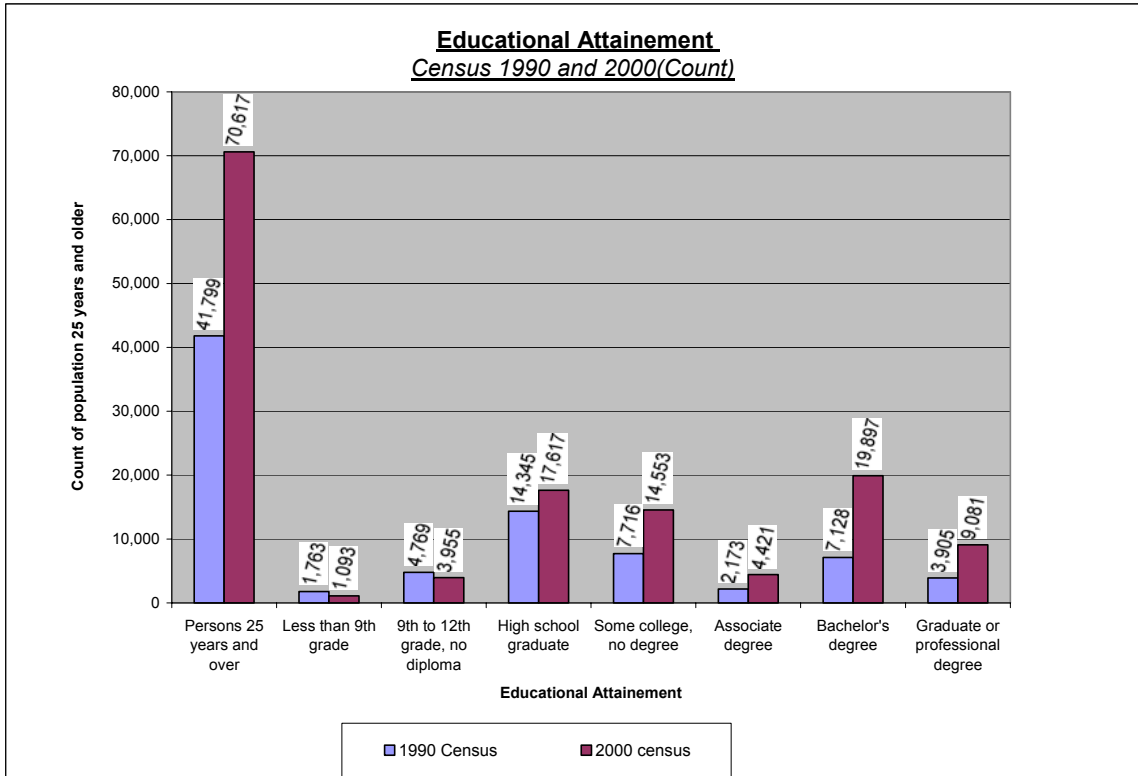


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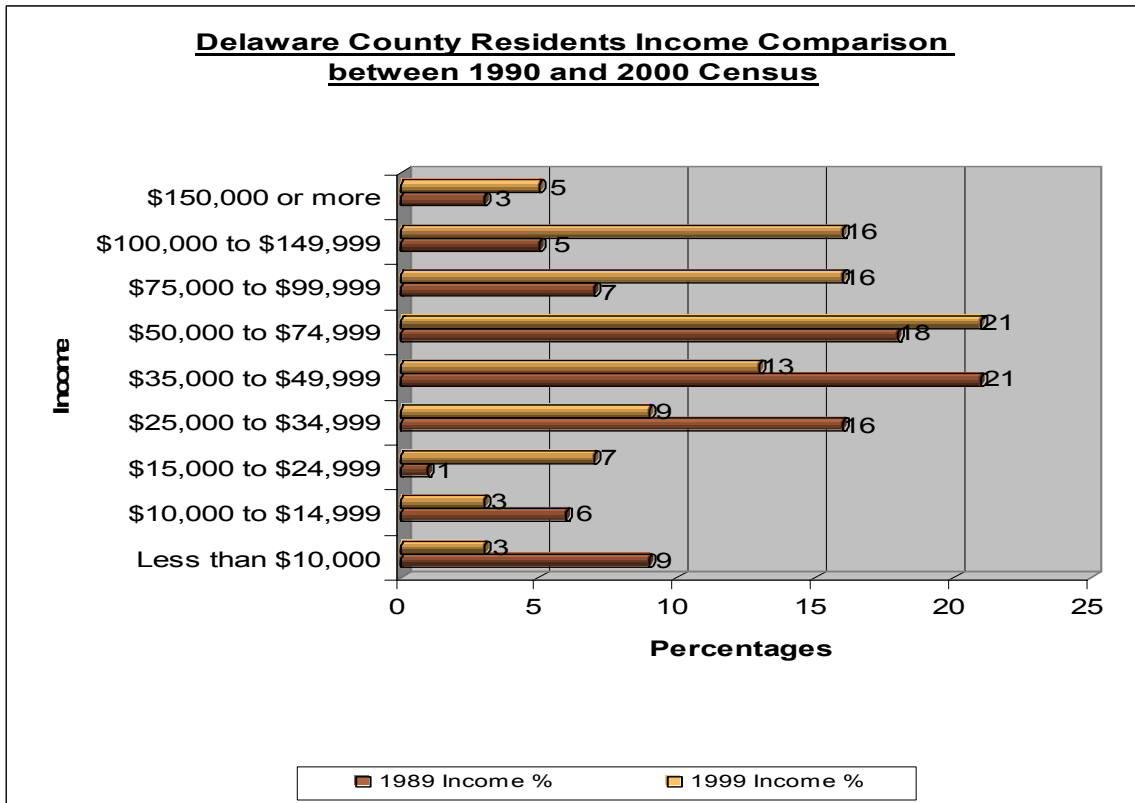
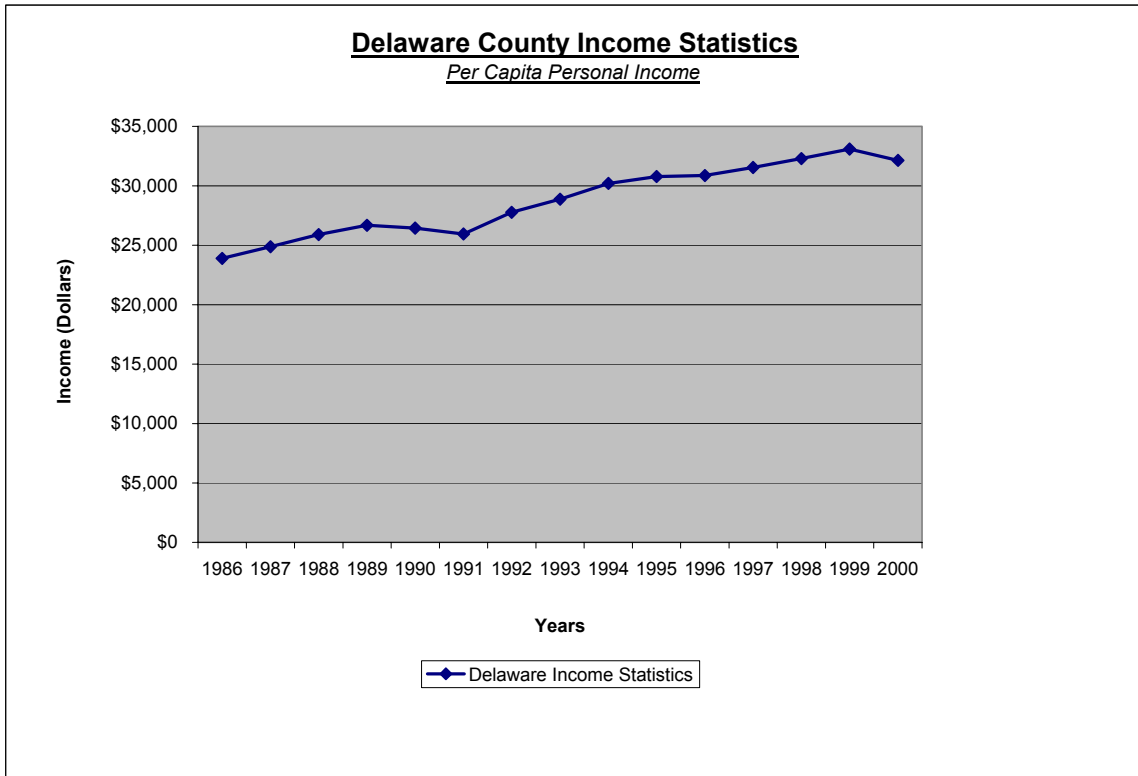


Fig.15



<http://www.osuedc.org/profiles/>

Fig.16

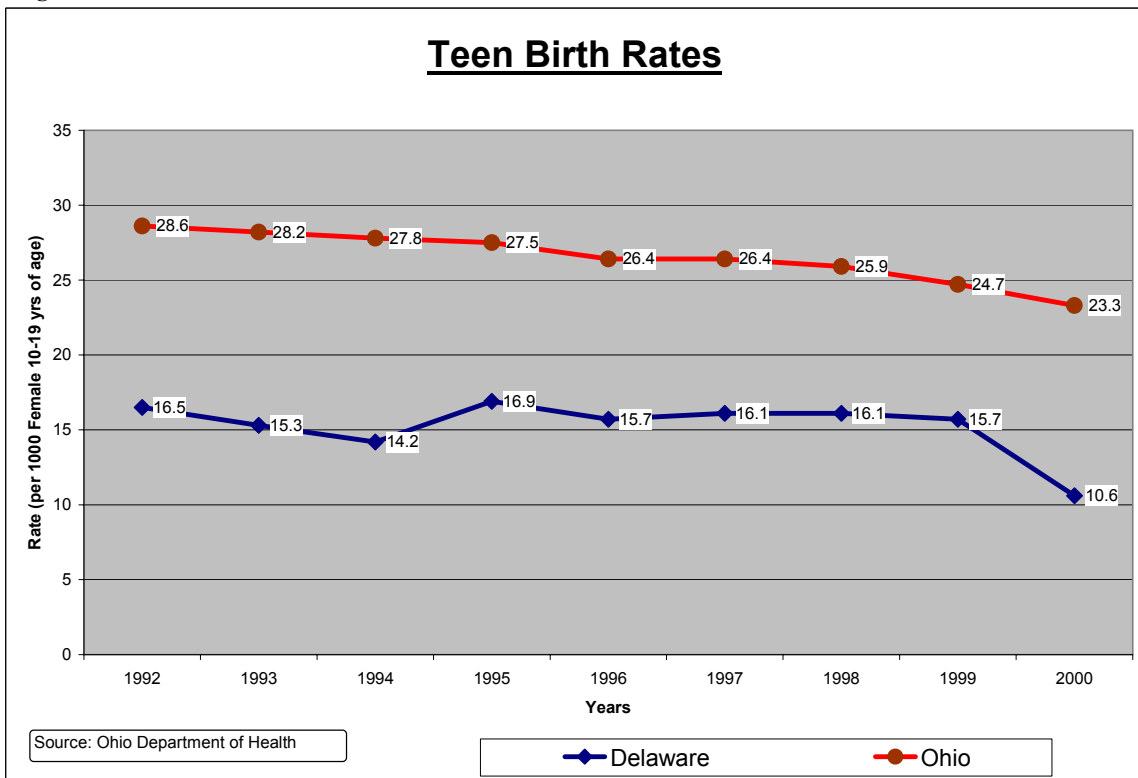


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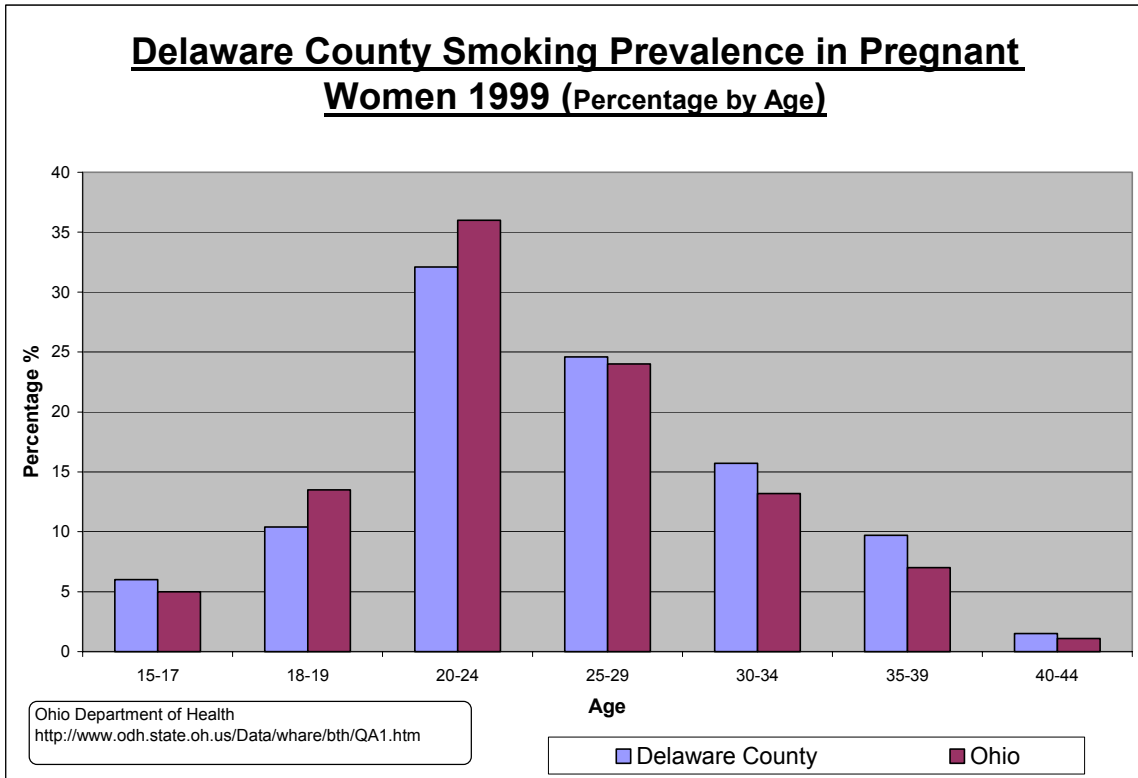


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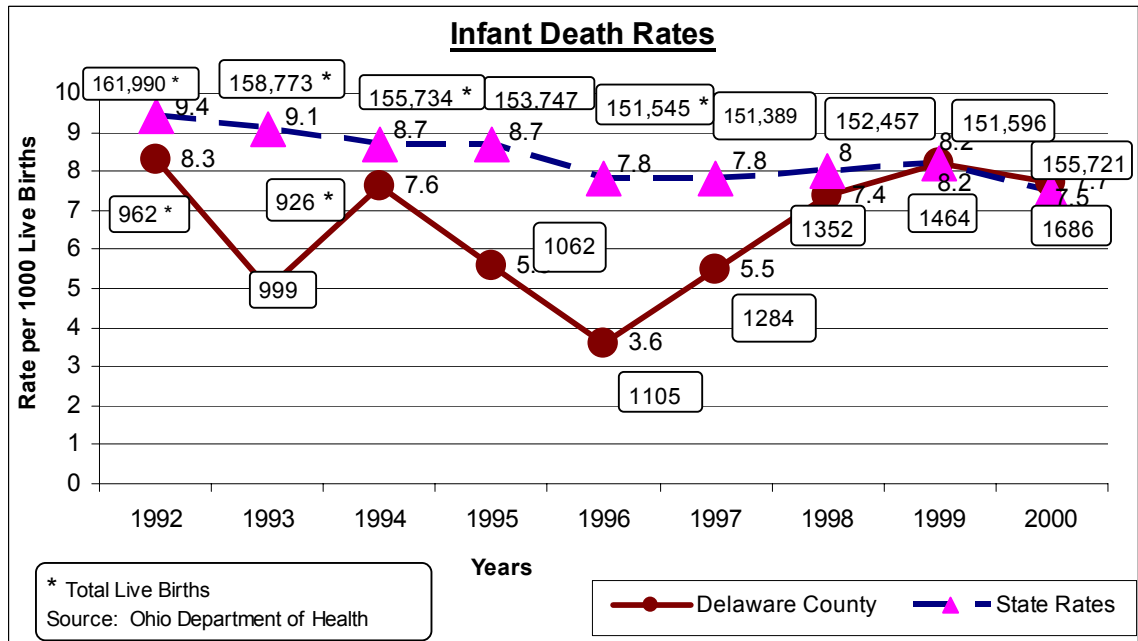


Fig.19

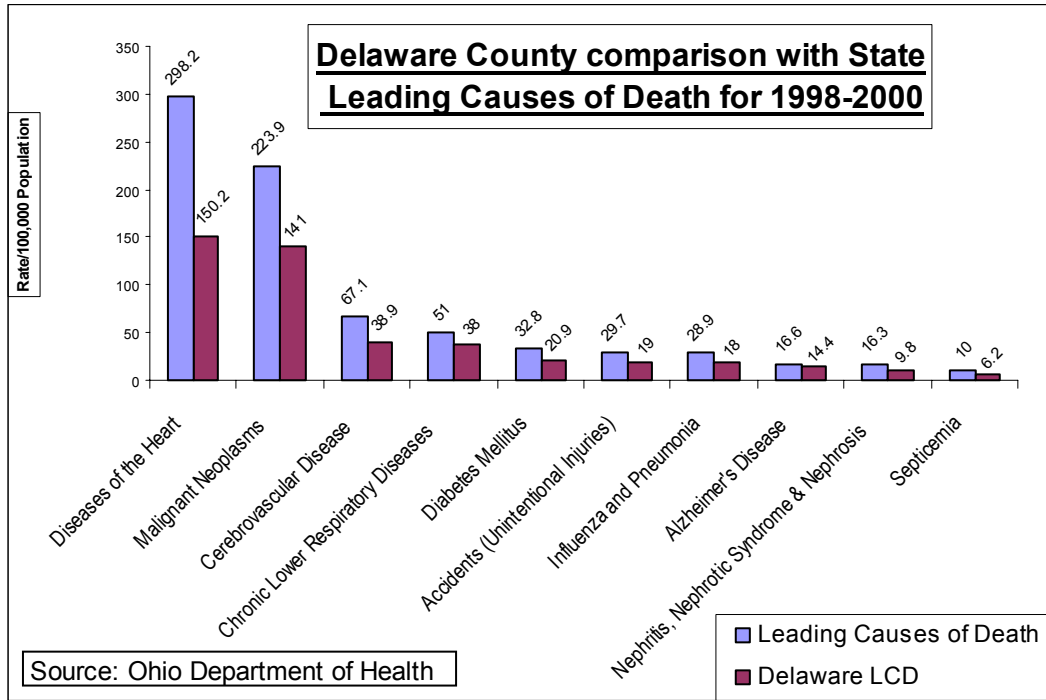


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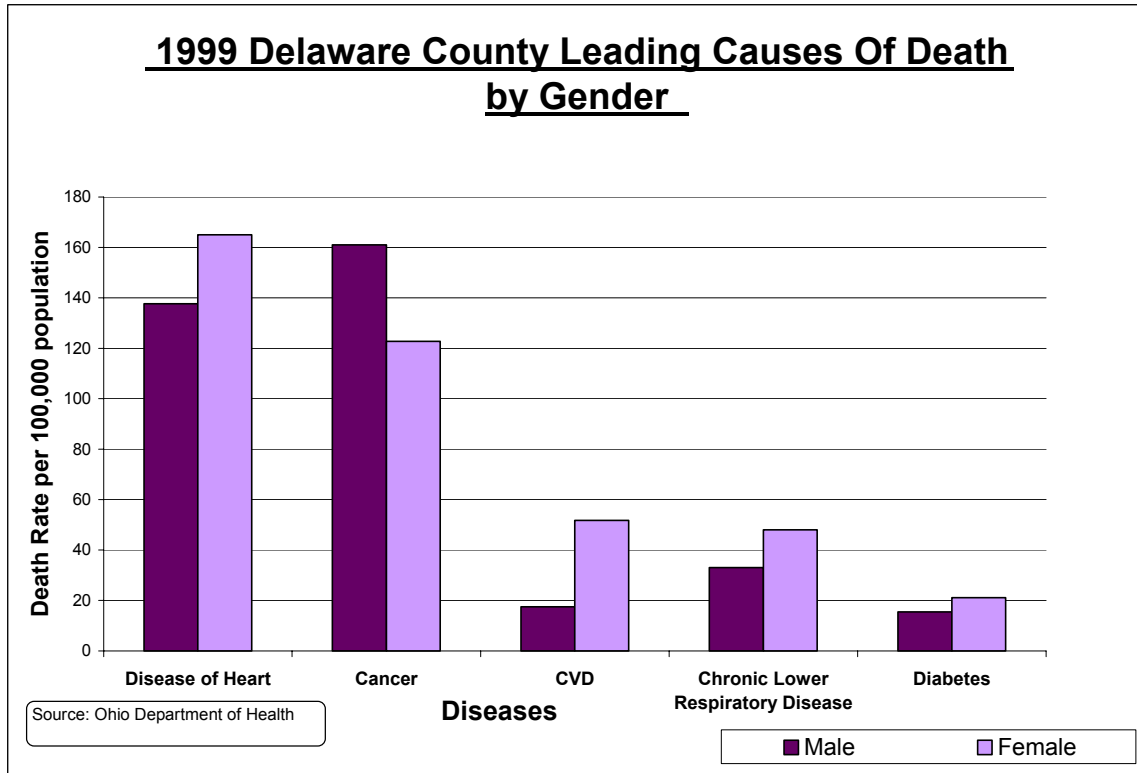


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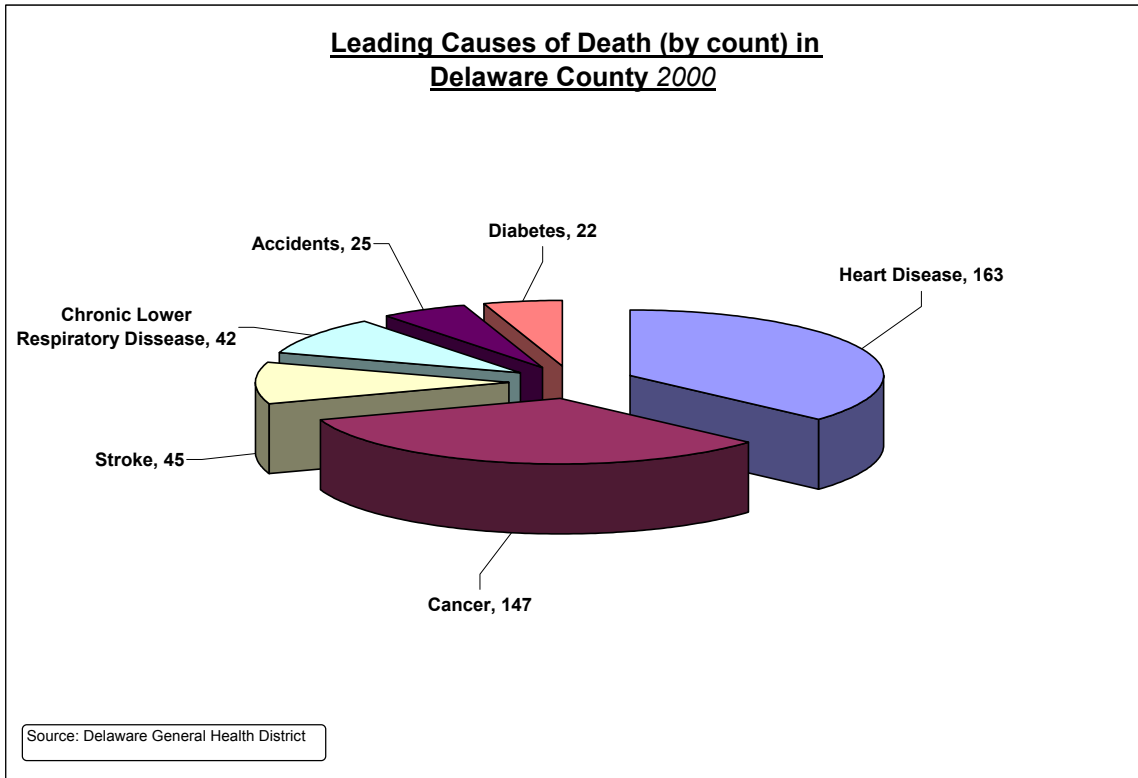


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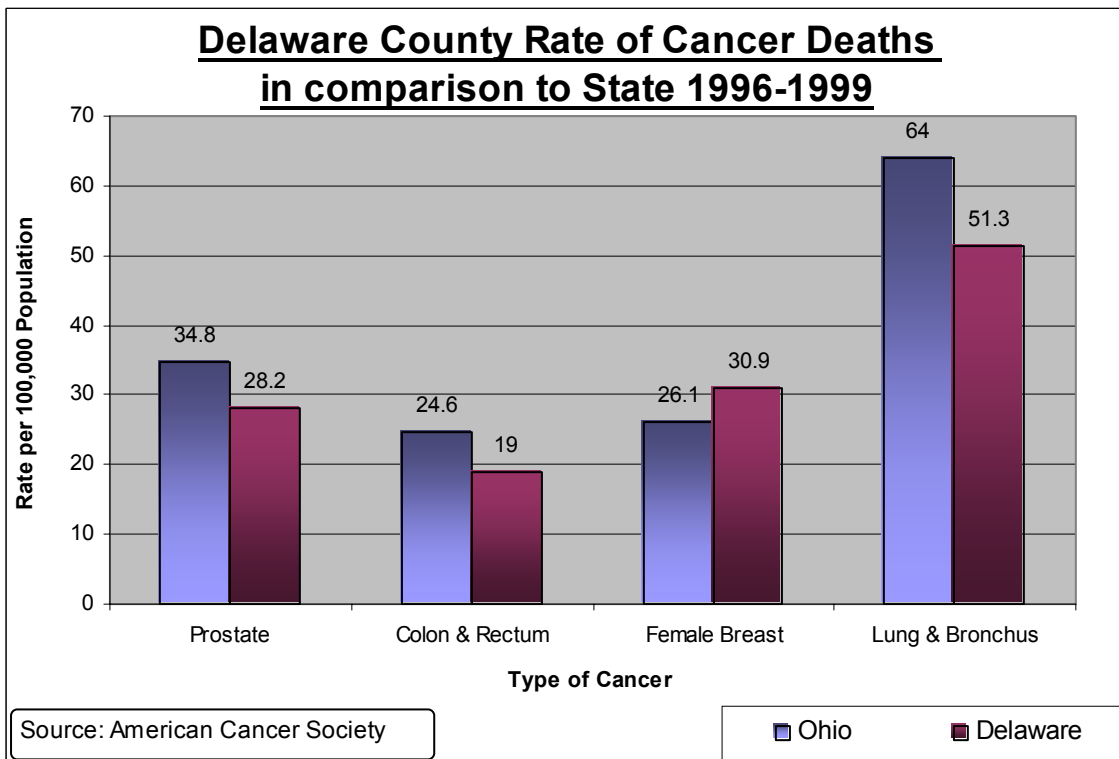


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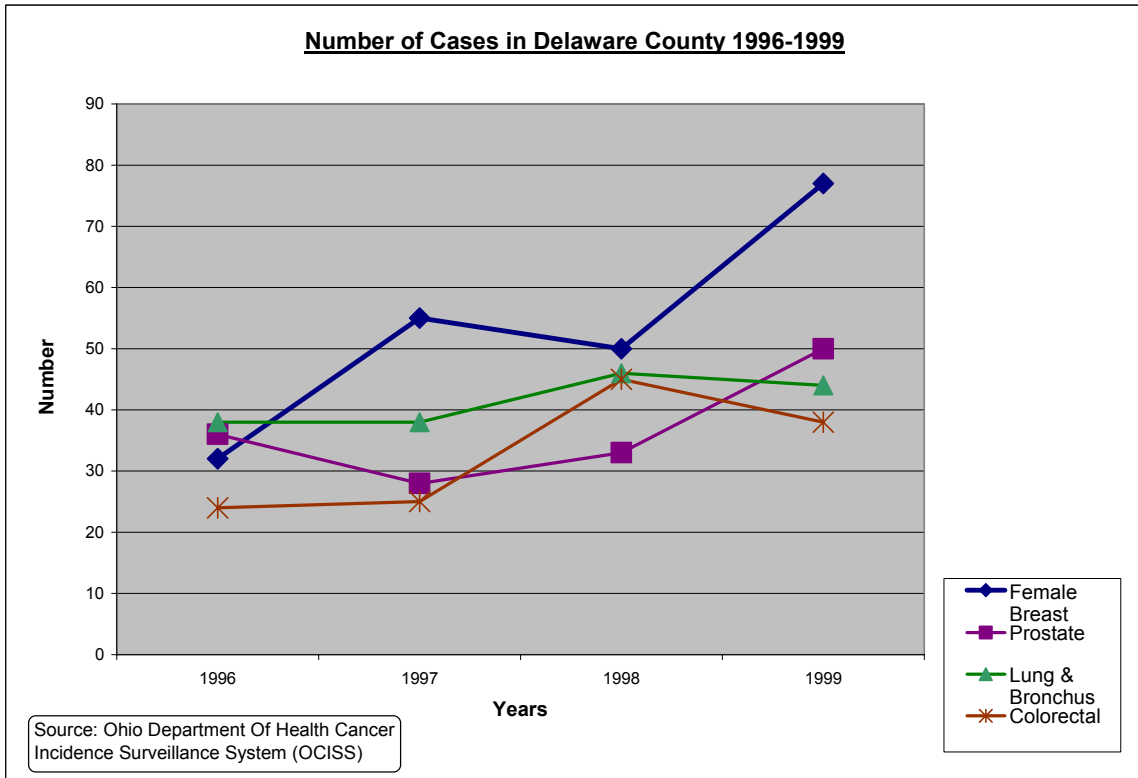


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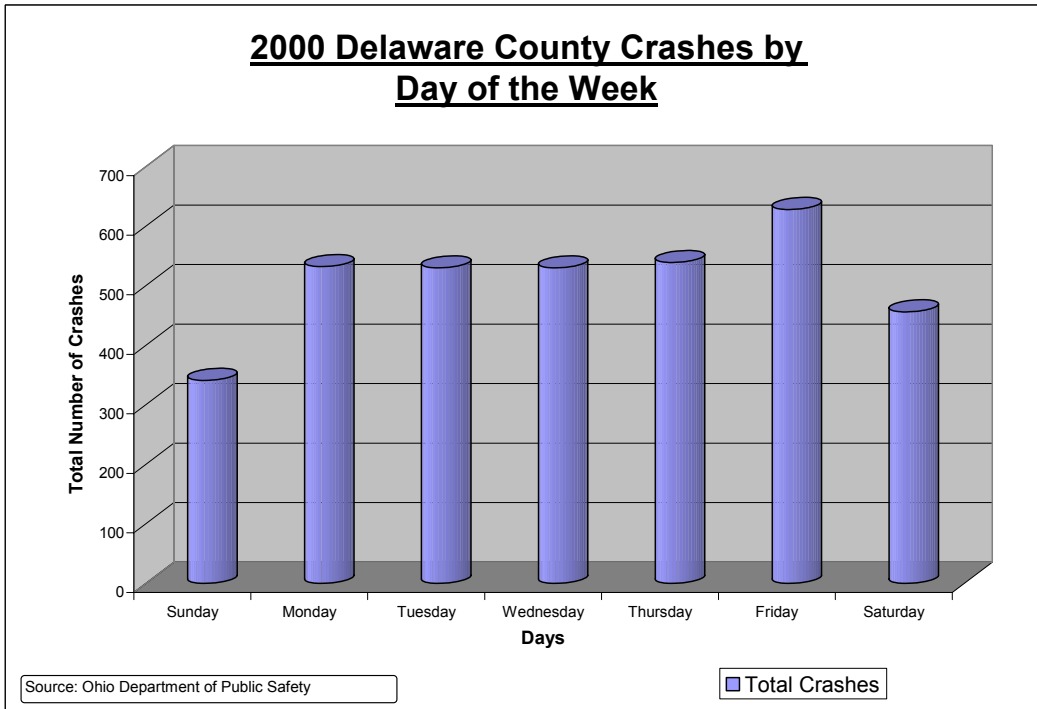


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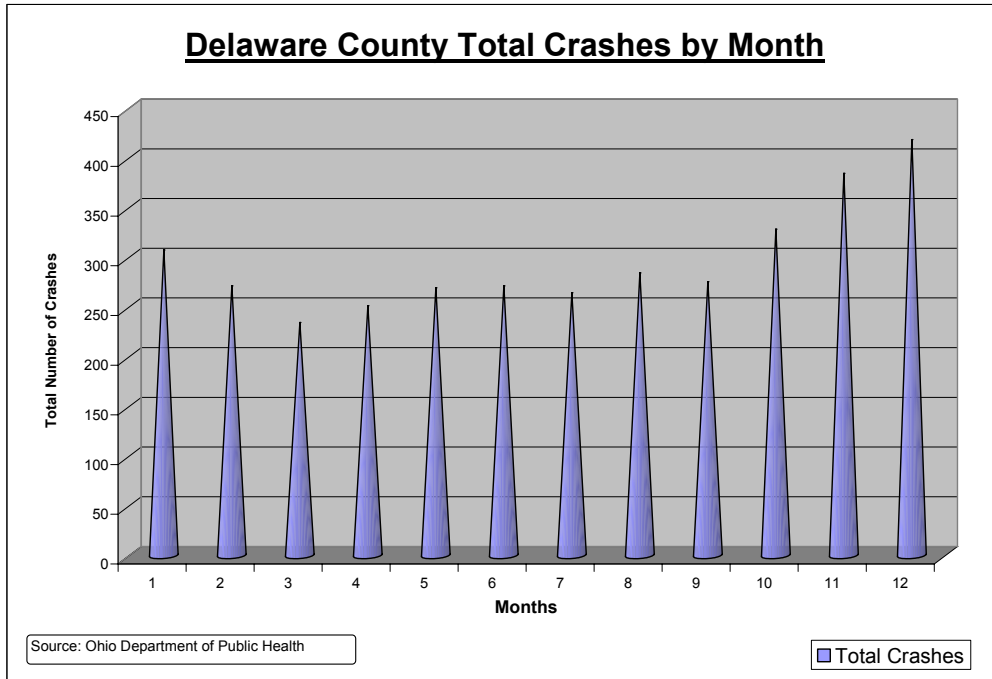


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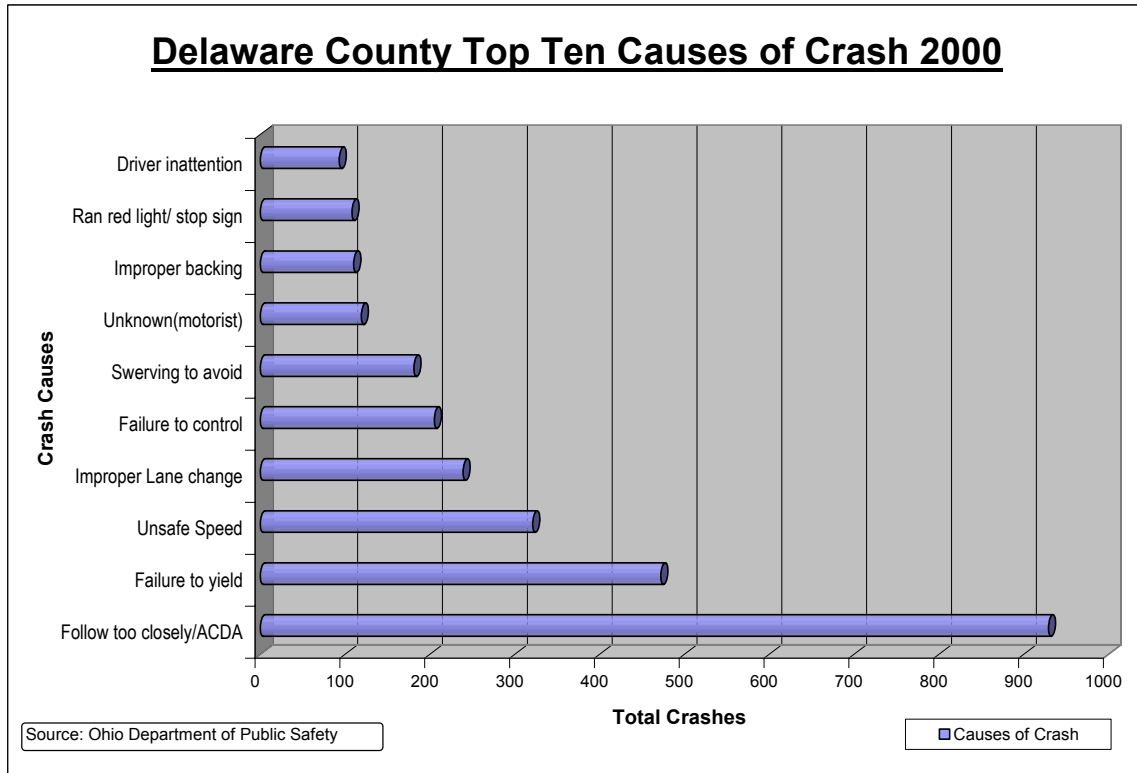


Fig.27

