Oklahoma ranks near the bottom in many key health status indicators. Most of these outcomes are related to conditions that Oklahomans must live with every day. Poverty, lack of insurance, limited access to primary care, and inadequate prenatal care, along with associated risky health behaviors (low fruit/vegetable consumption, low physical activity, a high prevalence of smoking) all contribute to the poor health status of our citizens.

The vision of the Oklahoma Health Improvement Plan (OHIP) involves local partnerships and communities working together to improve and sustain the physical, social, and mental well-being of all people in Oklahoma. The targeted flagship initiatives of children’s health improvement, tobacco use prevention, and obesity reduction will help to maximize opportunities for all Oklahomans to lead healthy lives. If you would like more information about OHIP, please visit the Oklahoma State Department of Health website at http://www.ok.gov/health/Organization/Board_of_Health/OHIP.html.

This report focuses on health factors and demographics in Delaware County. Awareness and thoughtful application of this health data can assist us in our joint endeavors to improve the health status of our local citizens.

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- **Primary Care Map** 11
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- **Oklahoma Health Improvement Plan** 12
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County Demographics

Population estimates\(^1\)
- 32.2% increase from 1990 to 2000
  (28,134 to 37,195)
- 8.7% increase from 2000 to 2008
  (37,195 to 40,425)
- Ranked 11th for growth in state

2008 Census Estimates\(^2\)
- Hispanic/Latino ethnicity = 2.8%
- Race
  - Whites = 74.7%
  - Native Americans = 23.8%
  - Blacks = 0.6%
- Age
  - Under 5 = 5.8%
  - 65 and over = 19.9%
  - Median age = 40.8 years

2000 Census\(^3\)
- Housing units
  - Occupied = 14,838 (67%)
  - Vacant = 7,452 (33%)
- Median age = 40.8 years
- State = 11.2%
  - National = 9.2%
- Families below poverty = 14.1%
  - State = 11.2%
  - National = 9.2%
- Individuals below poverty = 18.3%
  - State = 14.7%
  - National = 12.4%
- Families below poverty = 14.1%
  - State = 11.2%
  - National = 9.2%

Top 10 Leading Causes of Death

The top 10 leading causes of death\(^4\) table on the next page displays a broad picture of the causes of death in Delaware County. Since many health-related issues are unique to specific ages, this table provides causes of death by age group at a glance. The causes of death that are present across almost every age group have been highlighted. From 1983 to 1993 heart disease killed 1,129 people in Delaware County and is still the leading cause of death with all age groups combined. From 2006-2008, the total charges for all heart disease-related hospitalizations for Delaware County residents was $30,662,121.00, which translated to an average of $24,608.44 per discharge.\(^5\) Total charges are an indicator of community health, however, these are hospital-based charges and not payments or costs of actual illness. The direct and indirect costs of disease are actually much higher (i.e., loss of employee wages, loss of tax revenue, loss of years of life).

State of the County’s Health Report

Page 2
## Top 10 Causes of Death by Age Group

**Delaware County 2002-2006**

<table>
<thead>
<tr>
<th>Rank</th>
<th>0-4</th>
<th>05-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>All Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CONGENITAL ANOMALIES</td>
<td>4</td>
<td>&lt; 4</td>
<td>19</td>
<td>16</td>
<td>19</td>
<td>39</td>
<td>101</td>
<td>665</td>
</tr>
<tr>
<td>2</td>
<td>PERINATAL PERIOD</td>
<td>&lt; 4</td>
<td>CONGENITAL ANOMALIES</td>
<td>HOMICIDE</td>
<td>CANCER</td>
<td>HEART DISEASE</td>
<td>HEART DISEASE</td>
<td>HEART DISEASE</td>
<td>CANCER</td>
</tr>
<tr>
<td>3</td>
<td>BRONCHITIS/EMPHYSEMA/ASTHMA</td>
<td>&lt; 4</td>
<td>HEART DISEASE</td>
<td>SUICIDE</td>
<td>CANCER</td>
<td>UNINTENT. INJURY</td>
<td>DIABETES MELLITUS</td>
<td>BRONCHITIS/EMPHYSEMA/ASTHMA</td>
<td>STROKE</td>
</tr>
<tr>
<td>4</td>
<td>SEPTICEMIA (BLOOD POISONING)</td>
<td>&lt; 4</td>
<td>SUICIDE</td>
<td>HOMICIDE</td>
<td>DIABETES MELLITUS</td>
<td>DIABETES MELLITUS</td>
<td>BRONCHITIS/EMPHYSEMA/ASTHMA</td>
<td>STROKE</td>
<td>UNINTENT. INJURY</td>
</tr>
<tr>
<td>5</td>
<td>SIDS</td>
<td>&lt; 4</td>
<td>HIV</td>
<td>SEPTICEMIA (BLOOD POISONING)</td>
<td>&lt; 4</td>
<td>4</td>
<td>8</td>
<td>20</td>
<td>STROKE</td>
</tr>
<tr>
<td>6</td>
<td>UNINTENT. INJURY</td>
<td>&lt; 4</td>
<td>SEPTICEMIA (BLOOD POISONING)</td>
<td>&lt; 4</td>
<td>4</td>
<td>8</td>
<td>10</td>
<td>ALZHEIMER'S DISEASE</td>
<td>STROKE</td>
</tr>
<tr>
<td>7</td>
<td>STROKE</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>STROKE</td>
</tr>
<tr>
<td>8</td>
<td>STROKE</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
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<td>SUICIDE</td>
</tr>
<tr>
<td>9</td>
<td>SEPTICEMIA (BLOOD POISONING)</td>
<td>&lt; 4</td>
<td>STROKE</td>
<td>HOMICIDE</td>
<td>FOUR CAUSES TIED</td>
<td>SUICIDE</td>
<td>INFLUENZA/PNEUMONIA</td>
<td>INFLUENZA/PNEUMONIA</td>
<td>PARKINSON'S DISEASE</td>
</tr>
<tr>
<td>10</td>
<td>STROKE</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>&lt; 4</td>
<td>PARKINSON'S DISEASE</td>
</tr>
</tbody>
</table>

Note: The numbers less than 4 have been shown as "< 4" to protect the privacy of the subjects.

Data source: Vital Statistics, Health Care Information Division, Oklahoma State Department of Health

Produced by: Community Development Service, Oklahoma State Department of Health

March 2009
**Nutrition & Overweight**

With obesity at epidemic levels, steps need to be taken to control this issue. Surveillance systems have improved and been expanded to obtain more accurate county-level data. While efforts continue on this front, communities must utilize this information to improve the problem itself. With health care costs being, on average, $395 more for a person under the age of 65 who is obese than a person of the same age who is not obese, estimated health care costs related to obesity for Delaware County soar to almost $3.5 million. These costs only go up when the 65 and over population are included.

The Youth Risk Behavior Surveillance System (YRBS), while not producing county-level data, shows that in 2005, 2007, and 2009 combined, 15.8% of high school children participating in the survey classified themselves as overweight. Further, 14.7% classified themselves as obese. Interestingly, 8.9% of the males said they were obese compared to 5.8% of females. This trend was reversed in the overweight category with 8.0% of females and 7.8% of males, statewide. Although, neither weight category is statistically significant by gender.

According to the Behavioral Risk Factor Surveillance System (BRFSS, 2003 & 2005), 87.6% of Delaware County adults did not eat the recommended 5 servings of fruits and vegetables a day. Increasing fruit and vegetable consumption is an economical way to control many health-related issues such as obesity and diabetes.

**Physical Activity & Fitness**

The increasing inactivity of the U.S. population is contributing to an increase in numerous poor health-related outcomes. Physical inactivity robs the body of precious energy needed to function properly, in turn health declines, and rates of various chronic diseases escalate.

According to the 2003-2008 BRFSS, it is estimated that 35.8% (10,930) of people in Delaware County had no leisure activity in the past month (at the time they were surveyed) and over half of the adults (62.1%) did not reach the recommended physical activity level.

Statewide, 55% of high school students did not participate in physical activity for at least 60 minutes per day on five or more days in a week. Efforts need to be made to increase physical activity for our youth to build long-term healthy habits.
Diabetes

As stated previously, poor nutrition and lack of physical activity are linked to many chronic issues including diabetes. It is often hard to distinguish between Type I and Type II diabetes in large datasets but looking at the overall impact of diabetes is necessary to examine a community’s health.

From 2006 to 2008, there were 148 hospital discharges for diabetes among Delaware County residents. This accounted for a total of 583 days in the hospital and $1,869,515.00 in total charges. This was an average of 3.9 days and $12,631.86 in charges.

According to the 2004-2008 BRFSS, it is estimated that 12.6% (3,847) of Delaware County citizens have been diagnosed by a health professional as having diabetes.

In 2007, the per capita annual healthcare costs for people with diabetes was $11,744 compared to $5,106 for people without diabetes. Persons with diabetes accumulate an estimated $50,944,576.16 in health care costs in one year for Delaware County. Actual hospital charges account for only 1.3% of the total health care impact of diabetes.

Teen Births

While births to teen mothers (age 15 to 19) have been on the decline in both the U.S. and Oklahoma, Oklahoma has moved down in the rankings according to the United Health Foundation. In 1993, the rate for teen births in the U.S. was 60.3 per 1,000 15-19 year old females and 67.1 in Oklahoma, ranking 35th in the country. In 2003, the rate decreased to 47.7 in the U.S. and 59.7 in Oklahoma, accounting for a decrease of 21% and 11%, respectively. However, while the rate decreased, Oklahoma continued to fall in the rankings (41st). In 2009, the rate of teen births stayed the same for Oklahoma (59.6) but the state ranked 45th in the country.

Children of teen mothers are more likely to display poor health and social outcomes than those of older mothers, such as premature birth, low birth weight, higher rates of abuse and neglect, and are more likely to go into foster care or do poorly in school.

According to Oklahoma Vital Statistics, Delaware County had a teen birth rate of 75.2 in 2007, which accounted for a 22.0% increase from 2003 (61.5) and a 8% decrease from 1993 (81.8). The map represents a five-year average of teen birth rates, 2003-2007.

On average in Oklahoma, births to teen mothers accumulate $3,807 a year for each teenage birth, which is often passed on to citizens. With an average of 82.0 births per year (2003-2007), teen pregnancy costs the citizens of Delaware County $262,400.00 a year.
Infant Mortality

Protecting the most vulnerable populations is a task for every Oklahoman, socio-demographic variables have repeatedly been shown to affect infant mortality and birth weight. Income, education, race/ethnicity, access to medical care and social services, and social support are just a few of the characteristics that alter these rates, both positively and negatively. Differences in infant mortality rates are most apparent within racial categories. From 2003-2005 within the U.S., the infant mortality rate among white mothers was 5.7 deaths per 1,000 live births, while black or African American mothers had an infant mortality rate of 13.3 and American Indian mothers a rate of 8.4. Interestingly, Hispanic mothers had rates similar to white mothers.

Within Oklahoma, this trend continues. From 2002-2006, the infant mortality rate was highest for black or African American mothers (16.0), followed by American Indian (8.4), White (7.1), and Asian (5). The Hispanic infant mortality rate was 7.9.

With an average of 412 infant deaths a year across Oklahoma, it is difficult to obtain stable county-level data by race. From 2002-2006, the overall infant mortality rate for Delaware County was 4.8. This accounted for a 40% decrease from the state rate of 8.0 deaths per 1,000 live births.

In addition, the infant mortality rate in Delaware County accounted for 825 years of potential life lost based on an average age of death in Oklahoma of 75 years of age.

Low Birth Weight

Birth weight has been a long standing indicator of long-term health outcomes as birth weight has been linked to certain adult chronic conditions such as high blood pressure, Type II diabetes, and heart disease. Low birth weight is defined as any baby born weighing less than 2,500 grams or 5 pounds and 8 ounces (including very low birth weight = less than 1,500 grams/3 pounds, 5 ounces). Low birth weight is associated with premature births, multiple births, birth defects, chronic health problems or infections in the mother, smoking, alcohol or drug use, placental problems, inadequate maternal weight gain or socioeconomic factors. Understanding the trends behind low birth weight can assist in pinpointing causes specific to a community.

In Oklahoma from 2003-2007, 8.1% of the live births were less than 2,500 grams. As with infant mortality, babies born to black or African American mothers have the highest rates of low birth weight (14.1%), followed by White (7.5%), American Indian and Asian (6.9% each). This trend is similar to the national data.

In Delaware County, from 2003-2007 the low birth weight rate was 7.9%. This was a 3% decrease from the state and national low birth weight rate. Because of the small numbers that occur in this category, county level data by race is unavailable.
Injury and Violence

Across the nation and the state of Oklahoma, unintentional and violence-related injuries are on the rise. Unintentional injuries account for the 5th leading cause of death in the United States and Oklahoma for 2002-2006. For persons ages 1 to 44 in Oklahoma, unintentional injuries are the leading cause of death.⁴

This trend does not change much in Delaware County. Unintentional injuries are the leading cause of death for ages 5 to 44 in Delaware County.

It is estimated that for every motor vehicle-related death $1.3 million in economic costs are incurred (2008 data).¹⁶ For Delaware County, which has an average of 13.6 motor vehicle-related deaths a year⁴, the estimated economic costs are almost $17.7 million a year.

Violence-related injuries (homicide and suicide) in Delaware County are ranked in the top 10 causes of death for persons from 15 to age 64 and suicide is the 9th leading cause of death for all ages.⁴

Tobacco Use Prevention

According to the 2005 State of the State’s Health Report¹⁹, tobacco use among Oklahomans has remained fairly stable from 1990 to 2002. The good news is that total cigarette sales in Oklahoma (tribal and non-tribal combined) have dropped from 98.2 packs per capita in fiscal year 2005 to 86.7 packs per capita during fiscal year 2008. The national average dropped during this same time period.²⁰

Tobacco use is no longer just the problem of the individual but also the community as a whole. With health care costs on the rise, targeting areas such as tobacco use is an effective way to control those costs. The Oklahoma Tobacco Helpline (1-800-QUIT-NOW), supported jointly by the Oklahoma Tobacco Settlement Endowment Trust and the Oklahoma State Department of Health, continues to experience high call volume. Over 37,800 Oklahomans received free cessation assistance through the Helpline in fiscal year 2009.²⁰ Since inception of the Helpline in August 2003, over 110,000 Oklahomans have received free cessation assistance.²⁰

The CDC estimated that a person who used tobacco accrued over $3,300 in health care costs per year.²¹ According to the BRFSS (2005-2009)⁸, it is estimated that 25.0% (7,633) of adults in Delaware County use tobacco of some sort. Medical costs accumulated by those persons are over $25.2 million a year for Delaware County.
### States of the County's Health Report

#### Delaware County

<table>
<thead>
<tr>
<th>Healthy People 2010 Indicators</th>
<th>Most Recent Data: Year(s)</th>
<th>2010 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prevalence of Obese (Aged 18+)</td>
<td>2002-2008 28.7%</td>
<td>15%</td>
</tr>
<tr>
<td>No Leisure-Time Physical Activity (Aged 18+)</td>
<td>2002-2008 37.5%</td>
<td>20%</td>
</tr>
<tr>
<td>Prevalence of Smoking (Aged 18+)</td>
<td>2002-2008 27.7%</td>
<td>12%</td>
</tr>
<tr>
<td>Infant Mortality (Per 1,000 of births)</td>
<td>2002-2006 4.8%</td>
<td>4.5</td>
</tr>
<tr>
<td>Low Birth Weight Infants (Percent of live births)</td>
<td>2002-2007 8.0%</td>
<td>5%</td>
</tr>
<tr>
<td>Very Low Birth Weight Infants (Percent of live births)</td>
<td>2002-2007 1.3%</td>
<td>0.9%</td>
</tr>
<tr>
<td>First Trimester Prenatal Care (Percent of births)</td>
<td>2002-2007 72.9%</td>
<td>90%</td>
</tr>
<tr>
<td>Prevalence of Diabetes (Aged 18+)</td>
<td>2002-2008 12.4%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Lack of Health Insurance (Aged 18-64)</td>
<td>2002-2008 27.7%</td>
<td>0%</td>
</tr>
<tr>
<td>Prevalence of Binge Drinking (Aged 18+)</td>
<td>2002-2008 11.6%</td>
<td>6%</td>
</tr>
<tr>
<td>Coronary Heart Disease Death *</td>
<td>2002-2006 251.4</td>
<td>166.0</td>
</tr>
<tr>
<td>Cancer Death *</td>
<td>2002-2006 186.1</td>
<td>159.9</td>
</tr>
<tr>
<td>Unintentional Injury Death *</td>
<td>2002-2006 64.2</td>
<td>17.5</td>
</tr>
<tr>
<td>Transportation-Related Death *</td>
<td>2002-2006 37</td>
<td>9.2</td>
</tr>
</tbody>
</table>

Note: * means (Age-adjusted death per 100,000 to the 2000 U.S. standard population).

References:

2. Centers for Disease Control and Prevention (CDC), Wide-Ranging Online Data for Epidemiologic Research: Data for Oklahoma and United States.
3. CDC, National Center for Chronic Disease Prevention and Health Promotion, the Behavioral Risk Factor Surveillance System (BRFSS): Data for Oklahoma and United States.
4. Oklahoma State Department of Health (OSDH), OK2SHARE, BRFSS: Data for Oklahoma Counties.
5. OSDH, OK2SHARE, Vital Statistics: Data for Oklahoma Counties.
# Health Care Cost Summary

## Cardiovascular Disease (Heart Disease)
- Average hospital discharges per year\(^5\) = 415
- Average charges\(^5\) = $24,608.44
- Total—$10,219,886.72 a year

## Teen Pregnancy
- Average 82 births to females aged 15-19 a year\(^{12}\)
- $3,200 in costs a year\(^{13}\)
- Total—$262,400.00 a year

## Obesity
- 29.2% of population\(^8\) (8,915)
- $395 in additional medical costs per person aged 18-64\(^6\)
- Total—$3,521,425.00

## Motor Vehicle-Related Injury Death
- Average 13.6 deaths per year\(^4\)
- $1,300,000.00 in economic costs per death\(^{16}\)
- Total—$17,680,000.00 a year

## Tobacco Use
- 25.0% of population\(^8\) (7,633)
- $3,300 in health care costs\(^{21}\)
- Total—$25,188,900.00 a year

## Diabetes
- Average hospital discharges per year\(^5\) = 49.3
- Average charges\(^5\) = $12,631.86
- Total—$623,171.67 a year

## Grand Total for Delaware County:
\$57,495,783.39
County Health Department Usage

County Health Department Unduplicated Clients, and Visits by Program, Delaware County, State Fiscal Year 2009

Data Note: Data is reflective of all services offered in a county, including county health departments and contracts.

Population-Based Services by Event Type, Delaware County, SFY09

<table>
<thead>
<tr>
<th>Event Type</th>
<th>Number of Events</th>
<th>Total Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group Screening</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Health Fair</td>
<td>1</td>
<td>200</td>
</tr>
<tr>
<td>Meeting/Taskforce/Coalition</td>
<td>13</td>
<td>153</td>
</tr>
<tr>
<td>Presentation/Class</td>
<td>88</td>
<td>4,843</td>
</tr>
<tr>
<td>Surveys/Assessment</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>107</strong></td>
<td><strong>5,266</strong></td>
</tr>
</tbody>
</table>

Population-Based Services by Main Topic, Delaware County, SFY09

<table>
<thead>
<tr>
<th>Topic</th>
<th>Number of Events</th>
<th>Total Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Stages</td>
<td>5</td>
<td>152</td>
</tr>
<tr>
<td>DHS Child Care Consultation</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Discipline/Behavior Management</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>General Health Department Services</td>
<td>10</td>
<td>119</td>
</tr>
<tr>
<td>Infectious Disease</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Nutrition and Overweight</td>
<td>30</td>
<td>903</td>
</tr>
<tr>
<td>Oral Health</td>
<td>54</td>
<td>3,938</td>
</tr>
<tr>
<td>Parenting Skills</td>
<td>2</td>
<td>49</td>
</tr>
<tr>
<td>Physical Activity/Fitness</td>
<td>1</td>
<td>45</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td><strong>107</strong></td>
<td><strong>5,266</strong></td>
</tr>
</tbody>
</table>
If you have an after-school program that is interested in learning more about CATCH Kids Club, a physical activity and nutrition program for children grades K-5, please contact the local health educator or Kathy Payne for information.

Primary Care Coverage Map

Rate of Primary Care Physicians per 100,000 Population, 2009 - 2010

Legend
Per 100,000 Population
- 13.2 - 23.6
- 23.7 - 35.4
- 35.5 - 52.3
- 52.4 - 91.8
- 91.9 - 200.2

Note: The number of Primary Care Physicians for each county is represented under the county name.

Source: 2009-2010 Physician Survey, Office of Primary Care and Rural Health, Community Development Service, Oklahoma State Department of Health
Oklahoma Health Improvement Plan

For the complete OHIP including a full list of partners, visit <www.ok.gov/health> and click the "Oklahoma Health Improvement Plan" link.
10. United Health Foundation, America's Health Rankings, www.americashealthrankings.org
20. Oklahoma State Department of Health, Tobacco Use Prevention Service.
The Oklahoma Turning Point Initiative is public health improvement in action involving partnerships between the state and county departments of health, local communities, and policy-makers. The Oklahoma Turning Point engine is fueled by a community-based decision making process whereby local communities tap into the capacities, strengths, and vision of their citizens to create and promote positive, sustainable changes in the public health system, and the public’s health.

We are at a cross roads in our state and in Delaware County. Please come and be part of the solutions that will lead Oklahoma and Delaware County to becoming a healthy place to live, work and learn.

“If we are together nothing is impossible. If we are divided all will fail.” - Winston Churchill

If you are interested in learning more about Turning Point or becoming involved in local activities, please contact:

Neil Hann, MPH, CHES
Community Dev., OSDH
1000 NE 10th
Oklahoma City, OK 73117
(405) 271-6127
Email: Neil@health.ok.gov
Website: www.okturningpoint.org

Delaware County Community Partnership

**Coalition Priorities:**
1. Community Assessment
2. Connection to resources
3. Car seat distribution
4. School supplies/health fair

**2009 Significant Outcomes:**
- Reorganization of DCCP

**Key Activities:**
- Reviewing and Updating By Laws
- Huckleberry Festival
- Delaware County Fair
- Christmas in July
- Pelican Festival
- REC Day
- Resource Directory
- Freedom House Transitional/Emergency Housing for Women
- Genesis 1 Program Prison Ministry
- Walk for Life