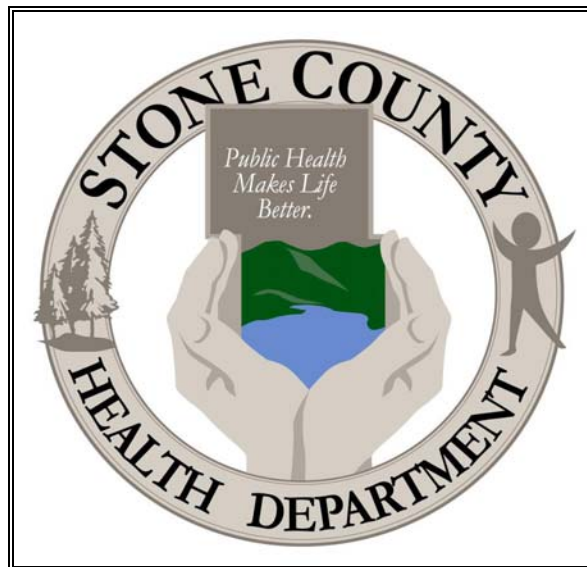


THE HEALTH OF THE COMMUNITY

A Community Assessment of Stone County, Missouri

June 2007



Prepared by:

**Angela Sponsler Ford, MPA, BSN
Administrator
Stone County Health Department**

&

**Jennifer Rogers, MS, BSN
Community Assessment Consultant**

Table of Contents

| | Page Number |
|--|-------------|
| Introduction | 8 |
| Chapter One: Demographic, Education, Socioeconomic..... | 9 |
| Demographics of Stone County | 10 |
| Population and Age Distribution | 11 |
| Table 1.1, Population Estimates | 11 |
| Table 1.2, Age Group..... | 11 |
| Table 1.3, Gender..... | 12 |
| Race/Ethnicity Analysis..... | 13 |
| Table 1.4, Population by Race/Ethnicity | 14 |
| Table 1.5, Education Level | 14 |
| Household Characteristics..... | 15 |
| Table 1.6, Household Type..... | 15 |
| Economic Indicators..... | 16 |
| Income Characteristics | 16 |
| Table 1.7, Per Capita Income..... | 16 |
| Table 1.8, Percent of Households in Income Range..... | 16 |
| Figure 1.1, Percent of Households in Income Ranges..... | 17 |
| Figure 1.2, Percent of Families in Income Ranges | 17 |
| Table 1.9, Federal Poverty Guidelines..... | 18 |
| Table 1.10, Poverty Distribution by Age and Gender | 18 |
| Education and Poverty | 19 |
| Figure 1.3, Education of Persons Age 25 and Over | 19 |
| Figure 1.4, Education by Gender | 19 |
| Table 1.11, Percent below Poverty by Age | 20 |
| Table 1.12, Female Headed Households below Poverty | 20 |
| Table 1.13, Families below Poverty | 20 |
| Unemployment..... | 21 |
| Figure 1.5, Unemployment Rate..... | 21 |

| | |
|---|-----------|
| Table 1.14, Disability and Employment Status | 21 |
| Special Housing Characteristics | 22 |
| Table 1.15, Plumbing Facilities by Household..... | 22 |
| Table 1.16, Kitchen Facilities by Household..... | 22 |
| Table 1.17, Telephone Availability by Household..... | 22 |
| Commuting Characteristics..... | 23 |
| Table 1.18, Number Daily Commuting Into Stone County..... | 23 |
| Table 1.19, Number Daily Commuting Within Stone County | 23 |
| Summary of Social Economic Indicators | 24 |
| Chapter Two: Environmental Health Risk Indicators | 26 |
| Analysis of Indicators Related to Lead Exposure..... | 27 |
| Analysis of Indicators Related to Water Supply..... | 27 |
| Analysis of Indicators Related to Wastewater Systems | 28 |
| Analysis of Indicators Related to Hazardous Waste..... | 29 |
| Chapter Three: Public Safety and Domestic Violence | 30 |
| Crime..... | 31 |
| Figure 3.1, Arrest Totals for Select Offenses | 31 |
| Figure 3.2, Emergency Room Patients by Assault | 32 |
| Figure 3.3, Rate of Assault Injuries | 32 |
| Domestic Violence | 33 |
| Table 3.1, Domestic Violence Reported..... | 33 |
| Homicide | 33 |
| Table 3.2, Number of Homicides..... | 33 |
| Registered Sex Offenders | 34 |
| Table 3.3, Number of Sex Offenders by Residence | 34 |
| Alcohol and Drugs | 34 |
| Table 3.4, Illegal Drug Lab Incidents | 34 |
| Figure 3.4, Alcohol/Drug Related Arrests | 35 |
| Figure 3.5, Prison Admissions for Alcohol/Drug..... | 35 |
| Table 3.5, Alcohol Related Hospitalizations/ER Visits..... | 36 |
| Table 3.6, Drug Related Hospitalizations/ER Visits | 36 |

| | |
|---|-----------|
| Table 3.7, Alcohol Involved Crashes..... | 37 |
| Table 3.8, Drug Involved Crashes | 37 |
| Figure 3.6, Number Seeking Substance Abuse Treatment..... | 37 |
| Figure 3.7, Treatment for Substance by Addiction..... | 38 |
| Figure 3.8, Alcohol, Drug, Tobacco Related Deaths..... | 38 |
| Juvenile Law Violations | 39 |
| Figure 3.9, Juvenile Cases by Type | 39 |
| Tobacco Use..... | 39 |
| Chapter Three: Unintended Injury..... | 40 |
| Figure 4.1, Hospitalizations for Injury..... | 41 |
| Figure 4.2, Injuries by Age | 41 |
| Figure 4.3, Emergency Room Discharges by Injury | 42 |
| Figure 4.4, Inpatient Hospitalization by Injury | 42 |
| Figure 4.5, Motor Vehicle Accidents by Age..... | 43 |
| Figure 4.6, Motor Vehicle Accidents, Seat Belt in Use..... | 43 |
| Figure 4.7, Motor Vehicle Accidents by Vehicle | 44 |
| Figure 4.8, Head and Spinal Cord Injuries | 44 |
| Figure 4.9, Seat Belt Use during Accident | 45 |
| Figure 4.10, Helmet Use during Accidents for ATV, Cycles, Bikes ... | 45 |
| Figure 4.11, Motor Vehicle Related Deaths | 46 |
| Figure 4.12, Accidental Poisoning/Overdose | 46 |
| Figure 4.13, Rate of Over-Exertion Injuries..... | 47 |
| Chapter Five: Maternal and Child Health Indicators | 48 |
| Birth Trends | 49 |
| Figure 5.1, Live Births by Gender and Percent | 49 |
| Figure 5.2, General Fertility Rate | 49 |
| Teen Pregnancy..... | 50 |
| Figure 5.3, Teen (Under 18) Pregnancies, Births, Abortions | 51 |
| Table 5.1, Teen (Under 18) Pregnancies 1995-2005 | 51 |
| Figure 5.4, Pregnancies, Births, Abortions for Women <12 Yr Ed | 52 |
| Figure 5.5, Total Pregnancies, Births, Abortions, <12 Yr Ed Stone | 52 |

| | |
|--|-----------|
| Figure 5.6, Prenatal Care by Percent | 53 |
| Birth Spacing..... | 53 |
| Figure 5.7, Birth Spacing Less Than 18-Months..... | 53 |
| Characteristics of Live Births | 54 |
| Figure 5.8, Mothers Smoking During Pregnancy | 54 |
| Figure 5.9, Mothers 20% or More Overweight | 54 |
| Immunizations..... | 55 |
| Figure 5.10, Immunizations, Children <2 Yrs of Age..... | 55 |
| Child Abuse and Neglect | 55 |
| Table 5.2, Number of Probable Cause Child Abuse/Neglect..... | 55 |
| Childhood Obesity | 56 |
| Table 5.3, Overweight/Obesity of WIC Children..... | 56 |
| Dental Health | 56 |
| Chapter Six: Prevalence of Chronic Disease Risk Factors | 57 |
| Prevalence of Infectious Disease | 58 |
| Meningococcal Infections..... | 58 |
| Camphylobacter | 58 |
| Figure 6.1, Reported Camphylobacter Infections..... | 58 |
| Giardiasis | 59 |
| Figure 6.2, Reported Giardia Infections | 59 |
| Hepatitis A | 60 |
| Figure 6.3, Reported Hepatitis A Infections..... | 60 |
| Hepatitis B..... | 61 |
| Figure 6.4, Reported Hepatitis B Infections | 61 |
| Hepatitis C..... | 62 |
| Figure 6.5, Cases of Non-Acute Hepatitis C | 62 |
| Chlamydia | 63 |
| Figure 6.6, Reported Cases of Chlamydia | 63 |
| Gonorrhea..... | 64 |
| Figure 6.7, Reported Cases of Gonorrhea | 64 |
| HIV and AIDS | 64 |

| | |
|---|-----------|
| Salmonella..... | 65 |
| Figure 6.8, Reported Cases of Salmonella..... | 65 |
| Tuberculosis | 65 |
| Table 6.1 Reported Cases of Tuberculosis | 65 |
| Vector-Borne Diseases..... | 66 |
| Table 6.2, Rates of Reportable Vector-Borne Illness | 66 |
| Influenza..... | 67 |
| Figure 6.9, Reported Cases of Influenza..... | 67 |
| Figure 6.10, Deaths from Pneumonia and Influenza | 68 |
| Vaccine-Preventable Disease..... | 68 |
| Figure 6.11, Reported Cases of Pertussis | 68 |
| Chronic Disease and Injuries | 69 |
| Cancer | 69 |
| Figure 6.12, Rate of Total Cancer Deaths by Diagnosis | 69 |
| Cardiovascular and Cerebrovascular Disease..... | 70 |
| Figure 6.13, Mortality Rate of Heart Disease..... | 70 |
| Diabetes Mellitus | 70 |
| Figure 6.14, Mortality and Hospitalization Rate for Diabetes | 70 |
| Asthma | 71 |
| Figure 6.15, Mortality and Hospitalization Rate of Asthma | 71 |
| Figure 6.16, Mortality and Hospitalization Rate of COPD | 71 |
| Risk Factors..... | 72 |
| Figure 6.17, Behavioral Risk Factors for Health..... | 72 |
| Figure 6.18, Behavioral Risk Factors, Stone Co Residents..... | 72 |
| Table 6.3, Screening Test and Utilization..... | 73 |
| Chapter Seven: Leading Causes of Mortality | 74 |
| Figure 7.1, Mortality Rates by Disease..... | 75 |
| Figure 7.2, Mortality Rates Compared with Other Counties..... | 75 |
| Chapter Eight: Community Health Improvement Indicators | 76 |
| Health Care Providers and Facilities | 77 |
| Medicaid Providers | 77 |

| | |
|---|-----------|
| Emergency Response | 78 |
| Chapter Nine: Community Health Resource Indicators | 79 |
| Women, Infant, & Children Program | 80 |
| Wellness Services for Uninsured Adults | 80 |
| Infant and Child Car Seat Initiative | 81 |
| Safe Kids Coalition for Stone County | 81 |
| Children’s Smile Center..... | 81 |
| Healthy Families Taskforce | 81 |
| Love, Inc. | 81 |
| Christian Associates..... | 81 |
| Ozarks Area Community Action Core..... | 82 |
| Food Pantries..... | 82 |
| Gaps in Services..... | 82 |
| Community Health Assessment, Summary of Findings..... | 83 |
| Review of Community Health Status Indicators | 83 |
| Review of Behavioral Risk Factor Surveillance System..... | 83 |
| Three Significant Problems Affecting Health Status..... | 84 |
| Stone County Health Department Action – Addressing Significant Problems . | 84 |
| Works Cited and Consulted | 85 |

What is a Public Health Community Assessment?

Introduction

A community health assessment is a process by which community members gain an understanding of the health, concerns, and health care systems of the community by identifying, collecting, analyzing, and disseminating information on community assets, strengths, resources, and needs. A community health assessment usually culminates in a report, or a presentation, information about the health of the community as it is today, and about the community's capacity to improve the lives of residents. A thorough assessment involves scanning existing information about the community, developing a family focus, identifying community assets and their accessibility, and analyzing information. Assessments should view the community from multiple perspectives and recognize cultural, linguistic, ethnic, and economic diversity.

The Stone County Health Department will utilize this community assessment to assess and generate awareness of the issues being studied, and to promote citizen interest in creating change. A successful community assessment provides comprehensive, usable and accurate information for decision-making. Community assessments that result in this information begin with an assessment of the current situation. The current capacities of the community – services and other resources provided by local agencies, institutions and associations, and the skills and abilities of individual children and youth, and their families – are identified. Information on needs is collected through data that already exists (secondary data) and through newly collected data, also known as primary data. The gap between current capacities and needs is identified and ideas on how to eliminate the gap can be generated. Successful community assessments also begin with a vision of the future and allow questions to drive the information gathering process. Finally, community assessments that result in useful, comprehensive information address issues that stakeholders – people with an interest in the issue such as parents, students, agency personnel, government officials – perceive as important. A community health assessment can provide the basis for discussion and action to influence a change in the health behaviors of a community.

Opportunities for change and improvement in health behaviors arise from a positive look at what can be done with current resources. Resources might include the skills, time, talents, and ability of community residents; a history of community that binds individuals to a special place; organizations that are rooted and committed to the community; and strong networks of diverse people who share a common goal of investing in their community.

This report represents the initial step in assessing the community's health in Stone County. Community leaders, organizations, stakeholders, and planners will begin to discuss issues raised by the information presented in order to prioritize and identify the issues to be addressed. In addition, the residents of Stone County should review this information so that suggestions for improvement can be made and comments can be shared with the Stone County Health Department. The Stone County Health Department Board of Trustees and staff have every confidence that Stone County residents will continue to collaborate with us to assure a healthy community.

Angela Ford, MPA, BSN
Administrator, Stone County Health Department

Chapter 1

Demographic Information

Education

Socioeconomic Indicators

Demographics

Stone County is located in southwest Missouri on the northern board of Arkansas; the county is 34.5 miles long and 15 miles wide. The topography of Stone County is very rugged and is characterized by deep, narrow valleys below sharp ridges. Approximately 45 percent of Stone County has slopes of greater than 10 percent, with slopes of 20 percent or greater in the southern portion of the county. There are 463.2 square miles in land area and 47.7 square miles of water area in Stone County. The largest water area is Table Rock Lake consisting of 46 square miles of water and 483.2 miles of shoreline; Table Rock Lake is located in the southern end of the county. A small portion of the lake is located in Taney and Barry County, as well as northern Arkansas. Ground travel throughout Stone County is difficult due to the widespread area of Table Rock Lake and congested narrow winding roads.

The population of Stone County is estimated to be 30,931 (2005). From 1990 to 2000 the population changed at a rate of 4.5%, which ranked Stone County number fifteen in the state for population growth. According to OSEDA (2007), Stone County (along with the bordering counties of Christian and Taney) is now one of the top ten fastest-growing counties in Missouri. It is estimated that by the year 2020 the population of Stone County will be over 60,000.

Stone County is located in one of the highest volume tourist areas in Missouri, with an estimated 60,000 guests traveling into Stone County on any given day during the tourist season of March through December. Twenty-one percent of employment is related to arts, entertainment, recreation, lodging, and food services with Silver Dollar City Attraction Park employing over 2,500 individuals. An average of 12,500 tourists visit Silver Dollar City on a daily basis from March through December (with 20,000 attending during seasonal festivals). Park attractions include a World Fest that brings in performers and guests from all over the world. The park is located in Branson West on the boarder of Stone and Taney County and is considered part of the Branson City tourist attractions.

The 2000 U.S. Census reported that 5,698 commuters from surrounding counties work in Stone County. As the development and population continues to grow, the significance of the daily influx of commuters and guests into Stone County is becoming increasingly important. As these individuals enter and leave the county, the population increases and decreases substantially on a daily bases. This poses many potential challenges for the Stone County Health Department and the health departments of surrounding counties. Potential challenges include but are not limited to disease surveillance, emergency response, environmental impact/pollution, and traffic/transportation issues. Consequently, as the population in the region continues to increase more cooperation between the county health departments will be necessary to avoid public health problems that easily move across jurisdictional boundaries.

Population and Age Distribution

Population shifts among Missouri regions have followed similar patterns for many years. Shifts have been from rural Agricultural areas to urban areas to rural areas rich in recreational amenities. Projections show that these patterns will continue, and that there will be more movement from older urban centers to their less densely settled fringes and to newer urban areas (OSED, 2007).

Table 1.1

| Population Estimates and Projections for Stone County, 1990-2020 | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|
| Year | 1990 | 2000 | 2004 | 2005 | 2010 | 2020 |
| Stone Co. | 19,078 | 28,658 | 30,720 | 30,931 | 38,992 | 60,000 |
| Missouri | 5,117,073 | 5,595,211 | 5,754,618 | 5,800,310 | 5,808,392 | 6,199,882 |

Source: U.S. Census Bureau, 2006, and MU Extension Service, 2007

In 2005, the total population of Stone County was 30,931 persons, and the total population for the state of Missouri was 5,800,310 (MO Dept. of Health and Senior Services, 2007). The table below compares the most recent population of Stone County to the total population of Missouri.

Table 1.2

| Age Group | Co. Pop. | Co. % | State Pop. | State % |
|------------------|-----------------|--------------|-------------------|----------------|
| Under 15 | 5,009 | 16.00% | 1,129,720 | 19.50% |
| Age 15-24 | 3,345 | 11.00% | 838,180 | 14.50% |
| Age 25-44 | 7,325 | 24.00% | 595,986 | 28.00% |
| Age 45-64 | 8,854 | 28.50% | 463,253 | 25.00% |
| Over 65 | 6,398 | 20.50% | 773,171 | 13.00% |

Source: U.S. Census Bureau, 2007

In the age groups containing those aged 44 and under the population percentages for Stone County were lower than the state average. In groups aged 45 and above, the population percentages were higher than the state average. This can be attributed to several factors, including the popularity of the “Lakes Area” as a retirement destination as well as the affordability of residing in Stone County compared to other areas.

Table 1.3

| Population Estimate for Stone County by Gender, 1995-2005 | | | | | | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Year | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
| Sex | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. | No. |
| Male | 12,499 | 12,938 | 13,169 | 13,403 | 13,804 | 14,052 | 14,134 | 14,421 | 14,736 | 15,005 | 15,152 |
| Female | 13,076 | 13,515 | 13,740 | 13,969 | 14,366 | 14,606 | 14,735 | 15,013 | 15,367 | 15,633 | 15,779 |
| All | 25,575 | 26,453 | 26,909 | 27,372 | 28,170 | 28,658 | 28,869 | 29,434 | 30,103 | 30,638 | 30,931 |

Source: Missouri Department of Health and Senior Services, 2007

Review of the reported populations in Stone County for each age group from 2000 to 2005 revealed no significant change in population distribution for any given age group.

According to the Office of Social and Economic Data Analysis (OSED A 2007), Stone County (along with the bordering counties of Christian and Taney) is one of the top ten fastest-growing counties in Missouri and is considered a “metropolitan county” in that it does have strong socioeconomic ties to the central city of the region, which is Springfield.

The data collected propose that a large portion of the population of Stone County is between 35 and 64 years of age. As this group continues to age, and with the increased rate of individuals retiring to Stone County, it will likely add an increasing burden to the healthcare system in Stone and surrounding counties. It is important at this time to begin preparing for a surge in the healthcare needs and the environmental impact of this growing population.

Race/Ethnicity Analysis

In 2003, the non-white population accounted for approximately 3.3% of the total population. The breakdown is shown below in Table 1.4.

Table 1.4

| Population by Race and Ethnicity, 2003 | | |
|---|---------------|----------------|
| Race | Number | Percent |
| White alone | 29,286 | 97.8 |
| Black alone | 87 | 0.3 |
| American Indian/Alaskan Native | 168 | 0.6 |
| Asian/Pacific Islander | 72 | 0.2 |
| Hispanic | 331 | 1.1 |
| Multiracial | 328 | 1.1 |
| Total | 30,272 | |

Source: MU Extension Service, 2007

According to the social and economic profile produced by the University of Missouri extension office in 2005, Stone County reflects a non-white population of 2.2% with 1.1% of this population being Hispanic. Other racial/ethnic groups represented in this percentage black, American Indian, Asian/Pacific Islander, and those of mixed race. These figures do not account for any illegal aliens currently residing in the county. There is a substantial percentage of the illegal Hispanic population currently participating in the WIC program, potentially even in other counties.

The groups that could potentially experience disparity in health status or barriers to accessing health care or preventive services would be those who cannot speak or read English and those without means of transportation to a health service facility. Even with the lack of cultural/ethnic diversity, Stone County Health Department is staffed with bi-lingual English/Spanish staff in an effort to prepare for the anticipated continued growth of the Hispanic population in Stone County.

Education

As of 2000, the education statistics for age groups over 25 in Stone County are as follows:

Table 1.5

| Education Level | Co. Pop. | Co. % | State % |
|----------------------------------|----------|-------|---------|
| Less than High School/No Diploma | 4,086 | 19.6% | 18.7% |
| H.S. Diploma/GED | 8,076 | 38.8% | 32.7% |
| Some college, no degree | 5,675 | 27.3% | 27.0% |
| College graduate | 2,962 | 14.2% | 21.6% |
| 2004 HS Grad. Rate | - | 88.3% | 85.5% |

Source: Missouri Census Data Center, 2007

The percentage of those with a high school diploma is slightly higher than the state average, while the percentage of those with no diploma is higher than the state average. The percentage of those with a college degree is 14.2%, which reflects a difference of 7.4% compared to the state. The available data suggest that educational attainment in Stone County could contribute to increased health risks for the community, primarily because this sector of the population tends to be unaware of (or unconcerned about) the gravity of certain situations with respect to community health.

Household Characteristics

To provide a better understanding of the community, Table 1.6 examines housing characteristics. Data regarding family structure reflect that 20% of the families in Stone County are traditional (married couples with their own children <18) and 5.6% of the families in Stone County are single-parent families. The percentages for both groups are below the state average, thus suggesting that family types and sizes indeed contribute to increased health risks due to a lack of understanding the importance of preventive healthcare maintenance, lack of available time/money to pursue health care, and lack of transportation to health care providers. Important characteristics such as single mothers with children (4.2%) and households over 65 years old help to gauge the numbers of families who may have special needs.

Table 1.6

| Housing Data By Household Type - Stone County and Missouri, 2000 | | | | |
|---|---------------|----------------|------------------|----------------|
| | Stone | | Missouri | |
| Type of Household | Number | Percent | Number | Percent |
| Family Households | 8,843 | 74.9 | 1,520,559 | 66.5 |
| Married Couples | 7,647 | 64.8 | 1,150,439 | 50.3 |
| Married Couples with own children, <18 | 2,308 | 20 | 475,959 | 20.8 |
| Single Parent Families | 847 | 5.6 | 328,935 | 14.3 |
| Single Mothers | 504 | 4.2 | 169,653 | 12.0 |
| Other families | 532 | 4.5 | - | - |
| Non-family Households | 2,979 | 25.1 | 764,721 | 33.9 |
| Persons Living Alone | 2,524 | 21.4 | 634,528 | 27.8 |
| Householder 65 years and over | 1,212 | 10.3 | 216,420 | 9.5 |
| Total Households | 11,822 | 100 | 2,285,280 | 100.0 |

Source: US Census Bureau, 2007

Economic Indicators

Data concerning the connection between economics and health have shown that people in the lower economic strata usually experience more negative health consequences. Traditionally, families in poverty have less access to routine health care, less nutritious diets, and engage in other lifestyle practices that negatively affect health. Besides poverty, other economic factors are useful in identifying trends in the community that impact health. For instance, increased employment rates for the population may indicate more access to health insurance coverage leading to increased overall community health. Conversely, an increase in unemployment could indicate that some families would lose access to their source of routine preventive health care.

Income Characteristics

Table 1.7 lists the per capita income for the years 2000-2005 and shows the change in percent of change in per capita income between 2000 and 2005. While this figure indicates that Stone County has experienced a larger percent increase in per capita income as compared to the state, this does not take into account the influence of the larger metropolitan areas of Missouri.

Table 1.7

| Per Capita Income - Stone County and Missouri - 2000-2005 | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|---------------------|
| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | % Change, 2000-2005 |
| Stone | 22,104 | 22,948 | 22,884 | 23,283 | 24,585 | 25,946 | 17.3% |
| Missouri | 27,240 | 27,810 | 28,362 | 29,082 | 33,081 | 31,231 | 14.6% |

Source: US Census Bureau, 2007

While the majority of households in Stone County reported income above \$20,000, 27% of the residents were below \$25,000. Table 1.8 compares Stone County with Missouri, and indicates that the county has higher percentages of the population with incomes between \$10,000 and \$50,000.

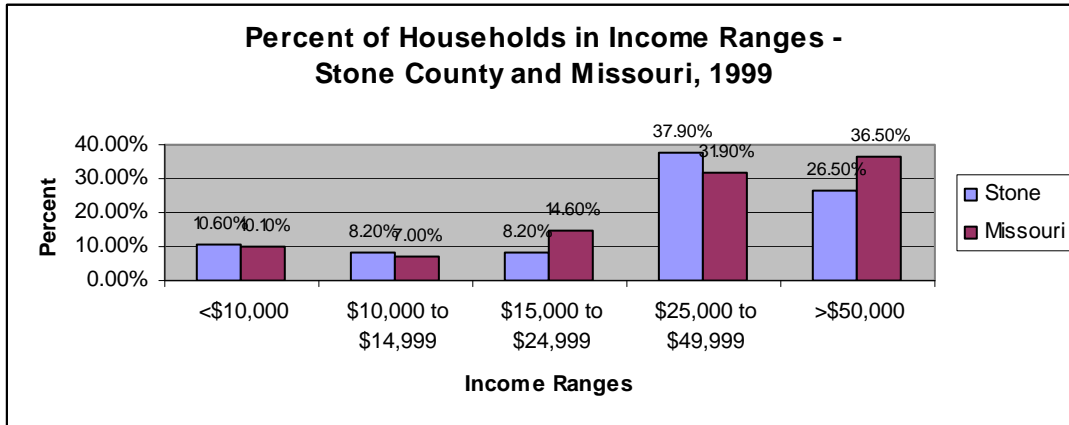
Table 1.8

| Percent of Households in Income Ranges - Stone County and Missouri, 1999 | | | | | |
|--|-----------|----------------------|----------------------|----------------------|-----------|
| | <\$10,000 | \$10,000 to \$14,999 | \$15,000 to \$24,999 | \$25,000 to \$49,999 | >\$50,000 |
| Stone | 10.6% | 8.2% | 8.2% | 37.9% | 26.5% |
| Missouri | 10.1% | 7.0% | 14.6% | 31.9% | 36.5% |

Source: US Census Bureau, 2007

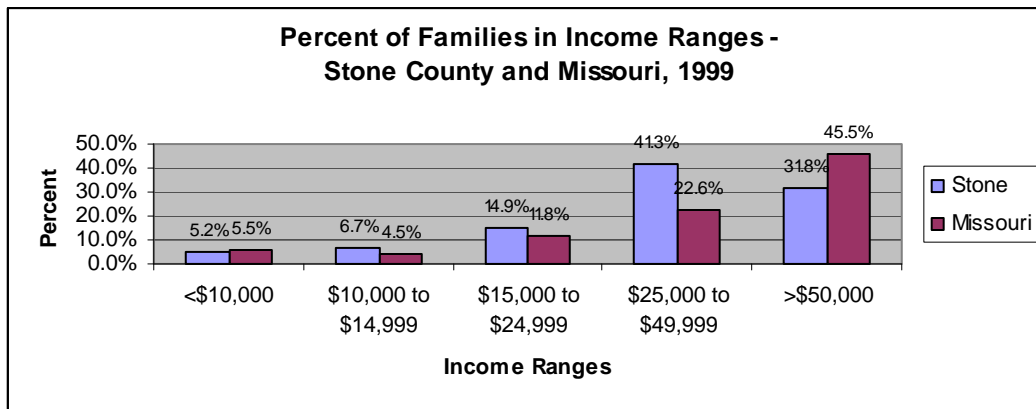
The information in Figures 1.1 and 1.2 illustrates the distribution of income for Stone County for households and families. Household income represents total income for members of a household regardless of relationship, whereas family income is based on familial relationships. Both measures indicate that a significant majority of households and families have incomes below \$49,999.

Figure 1.1



Source: U.S. Census Bureau, 2007

Figure 1.2



Source: U.S. Census Bureau, 2007

The family incomes presented in Figure 1.2 are also important when considering poverty levels. The federal poverty levels (Table 1.9) consider the number of children in relation to income. Thus, a family unit of five with an income of \$19,000 is below the poverty level while a family of 3 is not. This should be taken into account when examining this data. Also, because of the classification used by the Bureau of the Census, the number of families is less than the total number of households. The result is that the percentages of poverty within income groups could vary.

The federal poverty guidelines are used to define poverty states for families based on family size. These guidelines (Table --) are used to determine the poverty status for families by government

agencies. The figures below are also used to determine distribution for WIC (Women, Infants, and Children).

Table 1.9

| Federal Poverty Guidelines | | |
|-----------------------------------|------------------|------------------|
| Size of Family Unit | Year 2000 | Year 2008 |
| 1 | \$8,350 | \$18,889 |
| 2 | \$11,250 | \$25,327 |
| 3 | \$14,150 | \$31,765 |
| 4 | \$17,050 | \$38,203 |
| 5 | \$19,950 | \$44,641 |
| 6 | \$22,850 | \$51,079 |
| 7 | \$25,750 | \$57,517 |
| 8 | \$28,650 | \$63,955 |
| Ea. Add'l person add: | \$2,900 | \$6,436 |

Source: Federal Register

The table below shows poverty distribution according to age and gender for Stone County in 1999. The table reflects that 58.8% of the population in poverty is female, while 41.2% is male. The largest portion in poverty is the female age group of 18-34 years, supporting the data reflecting the large number of single mothers living in poverty in Stone County.

Table 1.10

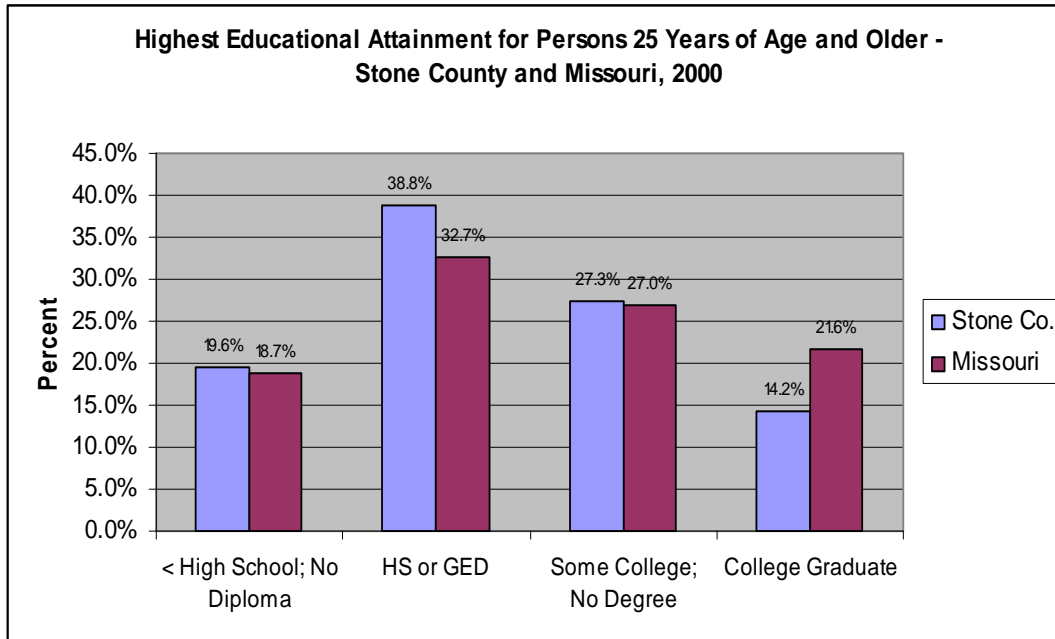
| Poverty Distribution by Age and Gender – Stone County, 1999 | | |
|--|-------------|---------------|
| | Male | Female |
| ≤5 years | 138 | 159 |
| 5-17 years | 454 | 443 |
| 18-34 years | 253 | 501 |
| 35-64 years | 561 | 675 |
| ≥65 years | 110 | 320 |
| Total | 1516 | 2098 |

Source: U.S. Census Bureau; total = 3,614

Education and Poverty

Level of educational attainment and poverty both correlate with health status. The educational attainment for Stone County is displayed in Figures -- and --. Education attainment for persons 25 years of age and older is higher in Stone County than in Missouri, except at the college graduate level.

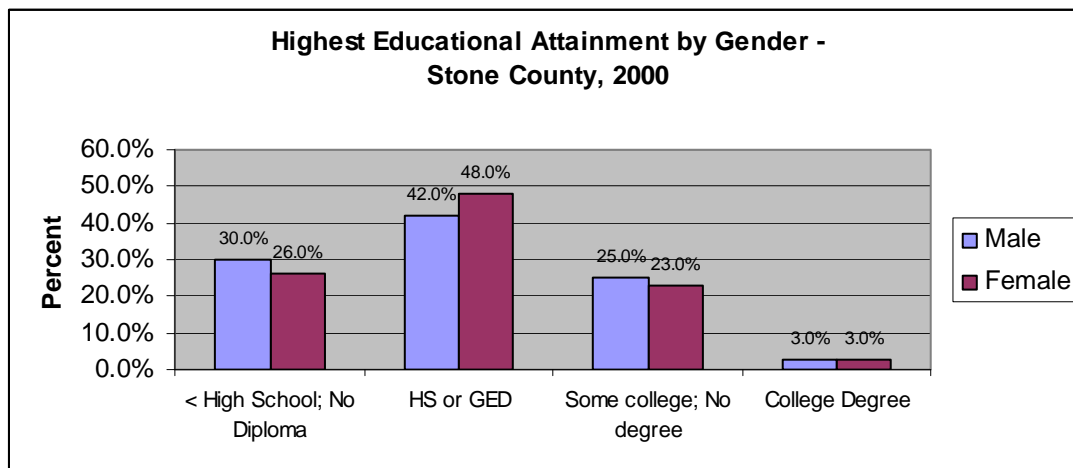
Figure 1.3



Source: Missouri Census Data Center, 2007

The highest educational attainment by gender is presented in Figure --. Both males and females have comparable levels of educational attainment.

Figure 1.4



Source: US Census Bureau, 2007

Table 1.11 presents the percentage of individuals under the age of 18 and those over the age of 65 below poverty levels according to their reported 1999 income. The number of individuals in both age groups living below poverty decreased during the 1990s in both Stone County and Missouri.

Table 1.11

| Percent of Persons Below Poverty Level by Age - Stone County, 1999 | | |
|---|------------------|------------------|
| | ≤18 Years | ≥65 Years |
| Stone | 19.00% | 8.10% |
| Missouri | 15.30% | 9.90% |

Source: U.S. Census Bureau, 2007

In Table 1.12, the number of female householders below poverty with children is examined. The percent of female householders without a husband present who are living in poverty is 27.6%. The percentage of single mothers with children living in poverty is 39.2%.

Table 1.12

| Female-Headed Households Below Poverty Level - Stone County, 1999 | | | |
|--|--------------|---------------------------------|----------------------------------|
| | Total | Number Living in Poverty | Percent Living in Poverty |
| Female Householders | 843 | 233 | 27.6 |
| Female Householders with related children under 18 | 549 | 215 | 39.2 |

Source: U.S. Census Bureau

Of all families in Stone County, 8.5% were living at or below poverty levels in 1999.

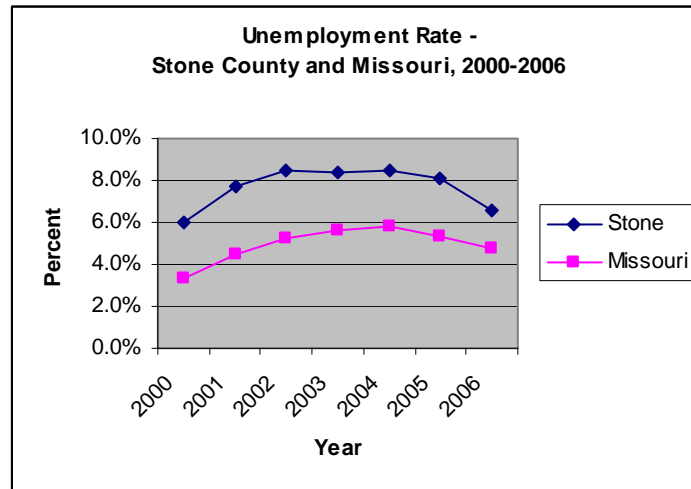
Table 1.13

| Families Below Poverty - Stone County, 1999 | | |
|--|-------------------------------|--|
| Total Families | Families Below Poverty | Percent of Families Below Poverty |
| 8,858 | 755 | 8.5% |

Unemployment

The unemployment rate for Stone County has traditionally been lower than the state's rate. Figure 1.5 compares the state and county unemployment rates. The highest unemployment rate for Stone County was 8.5% in 2002. Historically, the unemployment rate for Stone County has been higher than that of the state.

Figure 1.5



Source: US Department of Labor, Bureau of Labor Statistics

Disabled employed workers represented 9% of the population 21 to 64 years of age in Stone County, or 1,453 residents in 2000. Table 1.14 also identifies 24% of the population without a disability (or 3,827 residents) as not employed.

Table 1.14

| Disability and Employment Status - Stone County, 2000 | | |
|---|---------------|-------------------------------|
| | Total | Percentage of Total Workforce |
| Total Workforce Population, 21-64 years | 16,047 | 100 |
| With a Disability | 3,228 | 20 |
| Disabled and Employed | 1,453 | 9 |
| Disabled and Not Employed | 1,775 | 11 |
| Without Disability | 12,759 | 80 |
| Employed | 8,932 | 56 |
| Not Employed | 3,827 | 24 |

Source: US Census Bureau, 2007

Special Housing Characteristics

Tables 1.15 and 1.16 identify the number of plumbing and kitchen facilities in households as reported by the year 2000 census. Within Stone County, 45 (0.4%) residences lacked complete plumbing facilities and 46 (0.4%) lacked complete kitchen facilities.

Table 1.15

| Plumbing Facilities by Household - Stone County, 2000 | |
|--|---------------|
| Total Households | 16,241 |
| Households with complete plumbing facilities | 16,196 |
| Households without complete plumbing facilities | 45 |

Source: U.S. Census Bureau

Table 1.16

| Kitchen Facilities by Household - Stone County, 2000 | |
|---|---------------|
| Total Households | 16,241 |
| Households with complete kitchen facilities | 16,195 |
| Households without complete kitchen facilities | 46 |

Source: U.S. Census Bureau

Table 1.17

| Telephone Availability by Household - Stone County, 1999 | |
|---|---------------|
| Total Households | 16,241 |
| Households with telephone services | 15,798 |
| Households without telephone services | 443 |

Source: U.S. Census Bureau

Negative health consequences could result from any of these circumstances. For instance, insufficient kitchen facilities could result in food-borne illness. Likewise, lack of plumbing facilities could result in poor hygiene practices (which could contribute to the spread of disease), and lack of telephone services could result in delayed healthcare in the case of an emergency.

Commuting Characteristics

The socioeconomic situations in surrounding counties also affect Stone County, as indicated by identified commuting patterns. The 2000 US Census reported that Stone County had 992 residents who commuted to work in another county.

The actual number of workers who commuted to work in Stone County in 1999 is listed in Table 1.18. Most of these commuters were from Greene and Taney counties. Consequently, the “daytime population” in Stone County increases substantially as a result of the commuters. The population growth in areas surrounding Stone County influences commuting patterns of area workers as seen in Table 1.19. The 2000 U.S. Census reported that 5,698 commuters from surrounding counties worked in Stone County.

Table 1.18

| Number of Workers Daily Commuting From County of Residence Into Stone County, 1999 | |
|---|-------------------|
| Commuting From: | Number of Workers |
| Taney Co. MO | 2,905 |
| Greene Co. MO | 1,564 |
| Christian Co. MO | 548 |
| Barry Co. MO | 300 |
| Carroll Co. AR | 212 |
| Lawrence Co. MO | 169 |

Source: Missouri Census Data Center, 2007

Table 1.19

| Number of Workers Daily Commuting From Stone County to County of Work, 1999 | |
|--|-------------------|
| Commuting To: | Number of Workers |
| Taney Co. MO | 275 |
| Christian Co. MO | 241 |
| Greene Co. MO | 213 |
| Barry Co. MO | 151 |
| Carroll Co. AR | 57 |
| Lawrence Co. MO | 55 |

Source: Missouri Census Data Center, 2007

Summary of Social and Economic Indicators

Population and Change: Over the period from 2000 to 2005, Stone County's population increased by 2,273, going from 28,658 to 30,931 in 2005. This was a change of 7.9 percent, as compared with Missouri (3.7%).

Components of Change: Natural Increase is defined as births minus deaths. Stone County had 21 more deaths than births between 2000 and 2005. Net migration is the difference between the number of people who moved into an area and the number of people who moved out. So a negative net migration means a net loss of persons due to migration, while a positive value represents a net gain. Between 2000 and 2005, Stone County had a net migration of 2,294.

Age: In 2005, Stone County reported 20.7 percent of its residents were 65 and older compared to 13.3 percent statewide. At the same time, the proportion of young people under 18 in the county was 19.5 percent. Missouri reported 23.8 percent during the same period.

Diversity: As of the 2005 estimates from the Census Bureau, 97.7 percent of the population in the county was White (30,220). The county reported 78 Blacks (0.3%), 90 Asians (0.3%) and 204 American Indian (0.7%). There were 491 Hispanics (1.6%).

Place of Residence: Estimates for 2005 show that no population lived in places of 2,500 or more and 8.1 percent of the population lived in places of 2,500 or less in Stone County. Those living in smaller places account for 14.3 percent of the county's population and 77.6 percent lived in unincorporated areas; the largest town is the Kimberling City (2,457).

Housing: According to the Census Bureau's estimates, there were 17,194 housing units in Stone County in 2005. The homeownership rate in 2000 was 81.2 percent compared to 70.3 percent statewide. The median value of owner-occupied housing units in 2000 was \$102,700 compared with a statewide median value of \$89,900.

Households and Families: There were about 11,824 households in the county according to the 2000 decennial census. Families comprised 74.9 percent of households (8,858). About 20.0 percent of households were married couples with children under 18, which was less than for the state overall (23.3 percent). Single parent families in Stone County (5.6%) were fewer than Missouri (9.1%).

Families and Children: Median family income for Stone County was \$36,844 in 1999 compared to \$46,044 for Missouri.

- The 2004 poverty rate in Stone County was 14.3 percent, which was higher than that of the state (13.0%). The poverty rate among children (24.2%) was higher than that of the state (18.5%).
- Kids Count Indicators show that low birth weight infants decreased to 7.4 percent and births to teenage mothers were 50.2 per 1,000 girls. The area also reported child abuse cases at a rate of 60.6 per 1,000 for 2005 compared to 40.5 per 1,000 statewide.

Jobs by Sector: The November 2006 unemployment rate was 5.3 percent compared with 4.8 percent statewide. There were 14,350 jobs in Stone County in 2005. Retail Trade accounts for more than 12.4 percent of the total jobs (1,774). Construction (1,726), Real estate and rental and leasing (1,265) and other services, except public administration (1,144) are the next highest categories.

Agriculture: The 2002 Census of Agriculture reported 645 farms in the county with total sales of about \$12,379 million and production expenses of \$12,588 million. There was \$-209 million in net farm income reported in the county with 5.7 percent of all farms having sales of \$100,000 or more and 68.8 percent of farms with less than \$10,000 in sales.

County Income Patterns: Stone County generated over \$742,119 million of total personal income in 2004. Per capita income was \$24,222 compared with \$30,475 for Missouri. Significant source of income were: Personal current transfer receipts \$179,363 (24.2%); Dividends, interest, and rent: \$117,734 (15.9%); Retail Trade: \$50,105 (6.8%); Construction: \$37,107 (5.0%).

Commuting: In Stone County, 54.0 percent of workers commute outside their home county to work in 2000. Statewide, 33.4 percent of workers traveled between 30 and 60 minutes to work, while in Stone County 37.1 percent traveled as long. At the same time, 8.4 percent of workers traveled more than 60 minutes to work compared with 5.4 percent statewide.

Educational Attainment: In Stone County, about 14.2 percent of residents aged 25 years and over (2,962) were college graduates in 2000 compared with 21.6 percent statewide. An additional 5,675 residents 25 and over in Stone County had some college education (27.3%) compared with 27.0 percent of all Missourians of that age.

The high school graduation rate in Stone County (90.0%) in 2005 as reported by the Missouri Department of Education and Secondary Education was higher than the state (85.8%).

Disabilities: There were 2,407 persons age 65 and older in the county who reported having a disability in 2000 (45.6%). The corresponding Missouri rate is 55.3 percent. Among the working age population (aged 16 to 64) in Stone County 2,183 reported some work disability, a rate of 12.2 percent compared to a state rate of 10.8 percent.

Health Status Indicators: In 2003, over 19 percent of Stone County residents report their health was "fair or poor" compared with 16.9 percent statewide. While 12.3 percent of Missourians reported having no health coverage, the percent without coverage in Stone County was estimated to be 21 percent. State health data report the top two prevalence indicators for the county was High Blood Pressure (20.1%) and High Cholesterol (35 years and older)(30.5%). Missouri reported 28.5 percent and 37.3 percent in those same categories.

Age-adjusted Mortality: Age-adjusted mortality rates (deaths per 100,000cases) in Stone County for motor vehicle accidents (28.3) were significantly higher than Missouri rates (20.2).

Source: University of Missouri Extension, Office of Social and Economic Data Analysis

Chapter 2

**Environmental
Health Risk Indicators**

Analysis of indicators related to lead exposure

According to the Missouri Department of Health and Senior Services and the national census conducted in 2000, the national average of pre-1950 housing decreased from 27% in 1990 to 22% in 2000. Missouri is above the national average, with 23.6% of its existing housing units being constructed before 1950. Stone County reports 8.6% of its housing as being built before 1950.

According to the 2000 census, the older homes are spread throughout the county, with over 60% of these homes being located in the central part of the upper third of Stone County. Approximately 20% of these homes are located along the Northeastern edge of the county. Another 20% of these homes are located in the lower two-thirds of the county, with yet another 20% scattered along the northern and Northwestern borders of the county. According to the Missouri DHSS, Stone County is considered a targeted, or low-risk, area where lead testing is offered at 12 months of age and again at 24 months of age. After that, annual questionnaires are completed and additional testing is conducted based on positive responses to the questionnaire.

Also according to the 2000 census, the population of Stone County included 1,866 children under the age of six years. Approximately ten percent of those children were tested for unsafe levels of blood lead. The number of children with identified blood lead poisoning has increased, with six children (three percent of those tested) being identified in Stone County with blood lead levels of ≥ 10 mcg/dL. Some of this increase is likely due to increased testing of children that are in high-risk categories and programs that include children from lower socioeconomic groups who are more likely to reside in older (pre-1950) housing.

With an average wage per job at \$23,148 (2003 estimate), affordable safe housing becomes an issue. The fair market rent in 2006 for a one-bedroom apartment in Stone County was \$398 per month, a two-bedroom apartment was \$526 per month, and a three-bedroom apartment was \$690 per month. The median monthly cost for houses with a mortgage in Stone County in 2000 was \$784 per month. Continued testing of children under the age of five remains an important activity of the Stone County Health Department.

Analysis of indicators related to water supply

Stone County area is underlain by Jefferson City Dolomite and the Roubidoux Formation in the upland, with Gasconade Dolomite of Ordovician located in the valleys. Karst topographic features are common throughout Stone County. Karst features develop in areas of bedrock with high carbonate content. The bedrock is easily dissolved by a dilute carbonic acid found in the atmosphere, vegetation, and shales. Water infiltrates the bedrock and is channeled through natural cracks, joints, faults, and bedding planes resulting in underground caves and sinkholes.

The soils in Stone County vary from shallow to deep, with soil cover from thin to none on the steep slopes. Soil type and underlying geologic features has a significant impact on county development. The proliferation of septic systems can impact water quality due to underground conduits characteristic of karst areas. Improperly installed or maintained septic systems can discharge poorly treated or untreated waste into excessively drained soil and into ground water. Fragipan or shallow depth to bedrock can increase construction costs, and highly permeable soils can contribute to contamination of underground drinking water.

Continuous demand for underground water can increase the cost of constructing wells, which have to be drilled deeper below the surface. The total withdrawal of fresh water for public drinking water supply in Stone County is 1.94 millions of gallons per day, all from underground water.

A land survey completed by geologist at the Missouri Department of Natural Resources (MDNR) indicated that there are currently over 4,000 domestic water wells in Stone County (2006). There are no records in existence prior to 1986; therefore, no reliable data are available for comparison prior to that time. The MDNR data indicated that there are 13-community or public water systems in Stone County that are owned, operated, and maintained by a village, city, or other designated district. (A public water supply is a system with at least 15 service connections.) In addition, there are an estimated 100 community systems that are operated and maintained by individual homeowners' associations in a subdivision. Frequently a resident of the community is responsible to maintain the community well, because many associations have difficulty collecting maintenance fees the training and maintenance of the system may not meet MDNR standards.

Due to the large number of individual wells, community water systems, and city systems that do not add fluoride, the majority of the residents in Stone County are not exposed to fluoride through their drinking water. The public water supply for Crane is manually fluoridated, and, according to the MDNR, is the only fluoridated public water supply in Stone County.

Analysis of indicators related to wastewater systems

In 2006, Stone County issued approximately 329 new on-site sewage construction permits. Since the on-site wastewater sewage regulations were enacted in 1993, 4,677 new septic construction permits have been issued, and 550 existing septic systems have been repaired since 1995. Additionally, at the time of this assessment, there were 97 lodging facilities, 197 food establishments, and ten "bed-and-breakfast" establishments in Stone County that are licensed and in compliance with waste disposal guidelines.

By 2010 three large housing and two tourist developments will be completed in Stone County. One development, located at Branson West, is over 900 acres and consists of a convention center, hotel, 18-hole golf course, shopping areas, single houses, and condos. Included in this development are 360 housing units for employees. Another housing development, located south of the Kimberling City Bridge, will have over 100 single housing units.

With the projected increase in population, demand for building sites that will support a safe and functional wastewater system becomes a major issue for future environmental concerns. Due to the topography of the land, conventional wastewater systems may not meet the requirements to successfully protect the environment and groundwater in Stone County. Through federal grants, the Table Rock Water Quality, Inc. is funding alternative wastewater systems that will efficiently function in terrain that is steep and/or rocky.

Because of the increase in the population of Stone County, and the increased number of tourist visiting the area ten-months out of the year, maintaining safe drinking water and wastewater systems is a major focus for the Stone County Health Department.

Analysis of indicators related to hazardous waste

According to information from the MDNR, there are no hazardous waste generators in Stone County (either small- or large-quantity), and the nearest hazardous waste storage facility is located in Springfield. There were four documented incidents of hazardous substances being released in Stone County in 2004, (compared to 300 statewide); two incidents each of ammonia and acetone being released, one being due to human error and three being intentional. All were related to the production of an illicit drug, specifically methamphetamine.

There are currently 15 turkey houses in Stone County that are in Class 1C. These are located in areas where there is ample grassland to which animal waste can be applied without consequence to the environment.

Chapter 3

**Public Safety and
Domestic Violence**

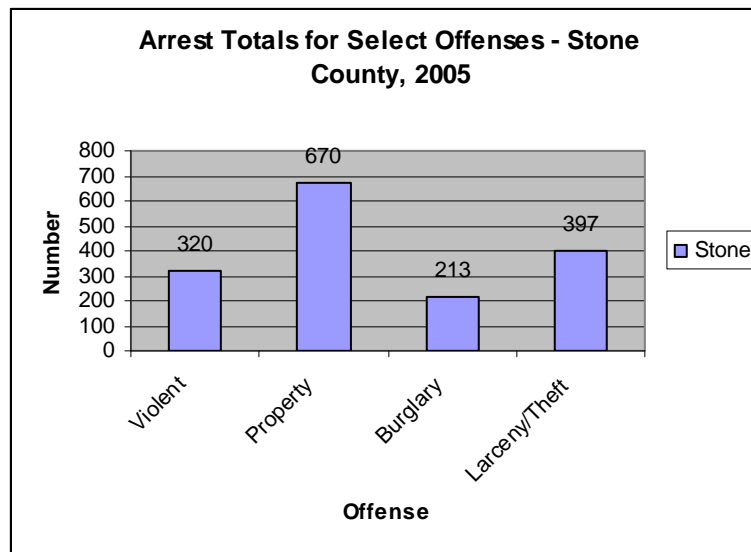
Public Safety/Domestic Violence

Social issues such as crime and substance abuse affect individuals and families across the county on a daily basis. These problems result in negative health effects in the community both directly and indirectly. Victims and their families experience most of the direct harm from these social problems. Indirect harmful consequences include economic and psychological harm experienced by the community. Social issues ultimately impact levels of fear, stress, forms of abuse, and problems at work or with family life. Unfortunately, many people in Stone County have to cope with these problems constantly.

Crime

The health of the community is negatively impacted by crime as stress, fear, injuries, and addictions prevent some county residents from reaching their fullest potential. Victims, family members, and those who commit these acts will have their lives permanently altered. Additionally, as the community is exposed to reports of these incidents, the population's perception of their community's level of safety will change. The numbers of different types of arrests are shown in Figure 3.1. Property crime accounted for most of the arrests in 2005 with larceny/theft accounting for the second highest total.

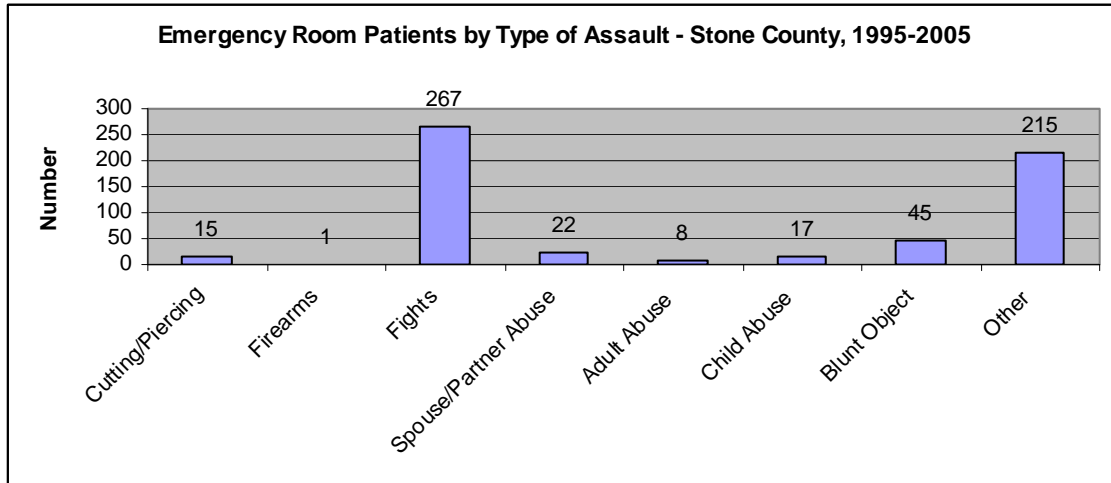
Figure 3.1



Source: Uniform Crime Reporting, Federal Bureau of Investigation

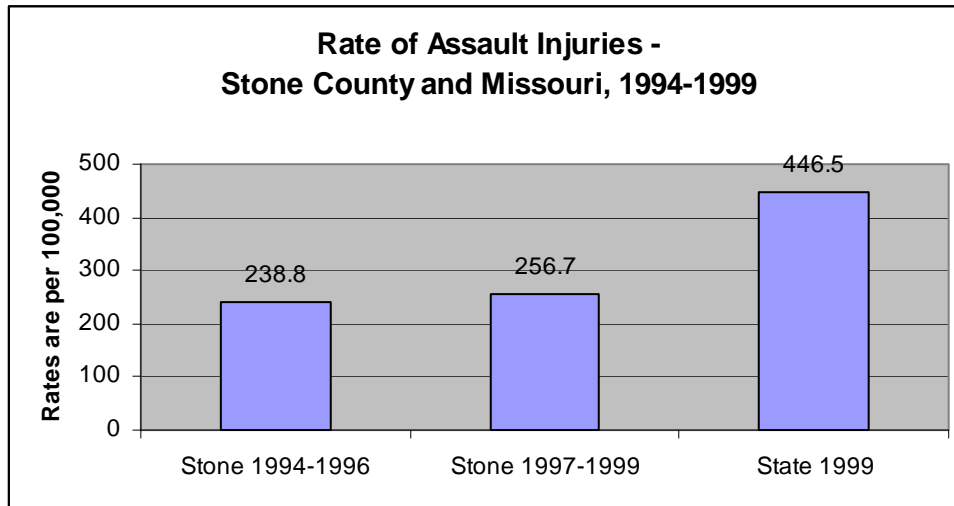
Figure 3.2 shows some characteristics of assaults that were reported in Stone County from 1995 to 2005. From 1995 to 2005, eight deaths occurred in Stone County due to assaults and 590 assault injuries were reported. Fights and beatings were reported to be the causes in 45% of the assault injuries reported by emergency room patients. Figures 3.2 and 3.3 compare the rates of assault injury in Stone County and Missouri.

Figure 3.2



Source: Missouri Department of Health and Senior Services; n = 590

Figure 3.3



Source: Missouri Department of Health and Senior Services; n = 590

Domestic Violence

Domestic violence incidents from 2002, 2003, and 2004 are shown in Table 3.2. Law enforcement agencies reported 1,112 incidents in Stone County between the years of 2002 and 2004.

Table 3.2

| Domestic Violence Reported in Stone County - 2002-2004 | | | |
|---|------|------|------|
| Year | 2002 | 2003 | 2004 |
| Number | 408 | 339 | 365 |

A potential problem concerning these data was that complete reporting of the number of domestic violence incidents was questionable. This problem of data uncertainty is present in the community regarding a number of issues because of limited funds, staff, and time. Although there was a decline in reported domestic violence from 2002 to 2003, data reflect an increase in 2004.

Homicide

Homicide numbers for the year 2001 through 2005 are listed for Stone County in Table 3.3.

Table 3.3

| Number of Homicides – Stone County, 2001-2005 | | | | |
|--|-------------|-------------|-------------|-------------|
| 2001 | 2002 | 2003 | 2004 | 2005 |
| 1 | 1 | 1 | 1 | 2 |

Source: Missouri Department of Health and Senior Services

Registered Sex Offenders

Table 3.4 lists the numbers of registered sex offenders by city. This list includes all sex offenders who are required to register with the sheriff's department. Some offenses committed by those registered included: rape, statutory rape, sodomy, child molestation, sexual assault, kidnapping, sexual abuse, sexual misconduct, incest, and indecent exposure.

Table 3.4

| Registered Sex Offenders by Reported Residence - Stone County, May 2007 | | | | | | | | | | | | | |
|---|-----------------|----------------|---------------------|------------------|---------------|--------------|---------------|----------------------|------------------------|--------------|----------------------|---------------------|-------------------|
| <i>Billings</i> | <i>Blue Eye</i> | <i>Branson</i> | <i>Branson West</i> | <i>Cape Fair</i> | <i>Clever</i> | <i>Crane</i> | <i>Galena</i> | <i>Highlandville</i> | <i>Kimberling City</i> | <i>Lampe</i> | <i>Ponce de Leon</i> | <i>Reeds Spring</i> | <i>Shell Knob</i> |
| 1 | 3 | 2 | 4 | 2 | 1 | 11 | 8 | 1 | 6 | 3 | 1 | 16 | 3 |

Source: Missouri State Highway Patrol, Uniform Crime Reporting, 2007

Alcohol and Drugs

The numbers of illegal drug lab incidents for 2001 and 2002 are reported in Table 3.5, and include seizures of labs, chemicals, equipment, and dump sites. There were 2,743 total incidents reported in Missouri during 2002, with 2,733 of those related to methamphetamine. In Stone County during 2002, seven emergency personnel and police officers were injured or exposed to harmful chemicals responding to fixed (5) and portable (2) methamphetamine drug lab facilities and complained of headaches afterward. In 2003, four police officers were exposed to various chemicals while processing the components of a methamphetamine lab for two hours and suffered headaches. In 2004, six police officers were exposed to the components of a methamphetamine lab and suffered from headaches and respiratory system problems.

Table 3.5

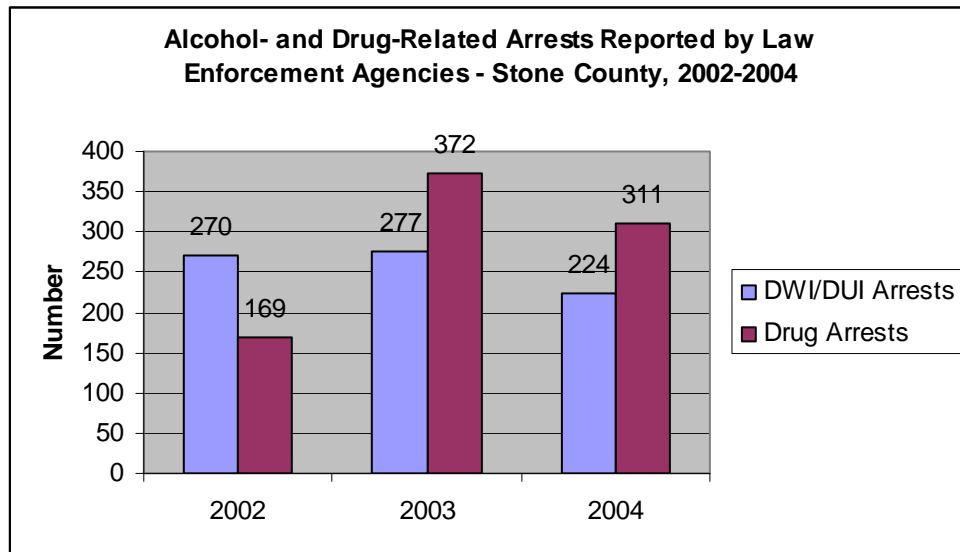
| Illegal Drug Lab Incidents - Stone County, 2002-2004 | | | |
|--|------|------|------|
| Year | 2002 | 2003 | 2004 |
| Number | 2 | 2 | 4 |

Source: Missouri Department of Health and Senior Services, 2007

An increasing number of DWI/DUI and drug arrests have occurred in Stone County. From 2002 to 2004 the number of DWI/DUI arrests decreased from 277 to 224, while drug arrests decreased from 372 to 311. A decrease was recorded for both categories from 2003 to 2004.

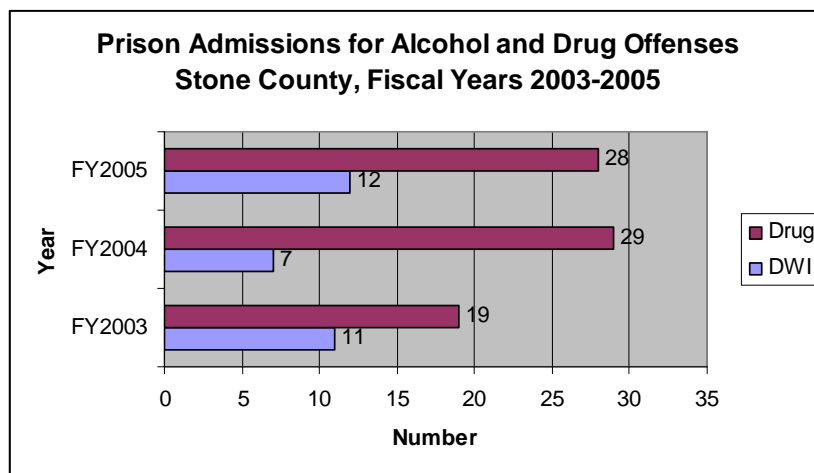
Figure 3.4 shows the total number of alcohol and drug arrests reported in Stone County. Alcohol arrests reflect DWI. Drug arrests included possession, sale, manufacture, or distribution of controlled substances. The percent of offenders sentenced to a correctional facility from 2003 to 2004 for alcohol- and drug-related offenses are illustrated in Figure 3.5. Of all the alcohol and drug related offenders who were incarcerated (106), 28% (30) were alcohol offenders and 72% (76) were drug offenders.

Figure 3.4



Source: Missouri Department of Health and Senior Services, 2007

Figure 3.5



Source: Missouri Department of Mental Health, 2007; Total = 106

The number and rate of alcohol and drug related emergency room visits are illustrated in Tables 3.6 and 3.7. Overall, more alcohol-related incidents were seen in the emergency room, with the number of drug-related emergency room (ER) visits increasing from 2002 to 2004.

Table 3.6

| Alcohol-Related Hospitalizations/Emergency Room Visits Stone County, 2002-2004 | | | |
|---|-------------|-------------|-------------|
| | 2002 | 2003 | 2004 |
| Direct Hospitalization | 47 | 43 | 54 |
| ER Hospitalizations | 93 | 84 | 93 |
| ER Outpatient | 64 | 65 | 57 |

Source: Missouri Department of Mental Health, 2007

Table 3.7

| Drug-Related Hospitalizations/Emergency Room Visits Stone County, 2002-2004 | | | |
|--|-------------|-------------|-------------|
| | 2002 | 2003 | 2004 |
| Direct Hospitalization | 41 | 44 | 54 |
| ER Hospitalizations | 31 | 47 | 52 |
| ER Outpatient | 59 | 66 | 69 |

Source: Missouri Department of Mental Health, 2007

Tables 3.8 and 3.9 show the trend in the number of drug and alcohol related traffic accidents in Stone County. In 2002, there were 373 alcohol related and 44 drug related accidents in Stone County. From 1998 to 2002, the majority of traffic accident injuries involved alcohol, Table 2.8.

Table 3.8

| Alcohol-Involved Crashes - Stone County, 2002-2004 | | | |
|---|-------------|-------------|-------------|
| | 2002 | 2003 | 2004 |
| Fatal Crashes | 9 | 4 | 6 |
| Injury Crashes | 93 | 74 | 77 |
| Property Damage Crashes | 30 | 17 | 26 |

Source: Missouri Department of Mental Health, 2007

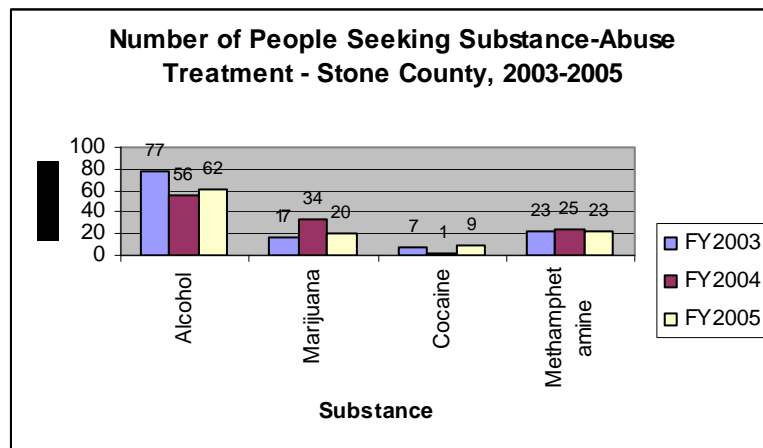
Table 3.9

| Drug-Involved Crashes - Stone County, 2002-2004 | | | |
|--|-------------|-------------|-------------|
| | 2002 | 2003 | 2004 |
| Fatal Crashes | 2 | 0 | 2 |
| Injury Crashes | 10 | 18 | 13 |
| Property Damage Crashes | 2 | 4 | 1 |

Source: Missouri Department of Mental Health, 2007

A comparison of the drugs for which people seek substance abuse treatment is shown in Figure 3.6. While alcohol abuse is by far the condition that is most often being treated, the number of those seeking treatment for methamphetamine abuse is on the rise.

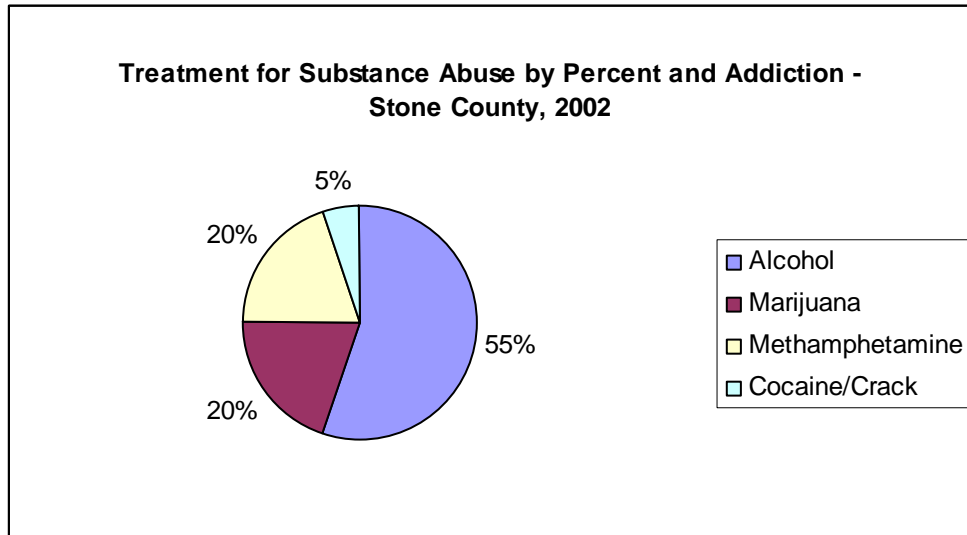
Figure 3.6



Source: Missouri Department of Mental Health, 2007; Total = 357

The three problem drugs for which substance abuse treatment is most often sought in Stone County are alcohol (55%), marijuana (20%), and methamphetamine (20%) (Figure 3.7). Cocaine and crack cocaine represent a combined total of 5%.

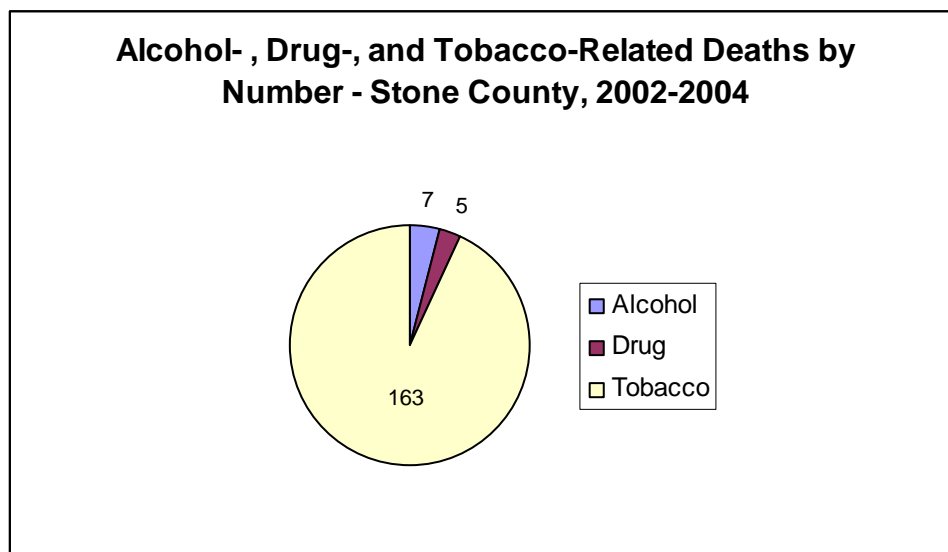
Figure 3.7



Source: Missouri Department of Mental Health, 2007

Figure 3.8 indicates a comparison of the number of deaths due to alcohol, drugs, and tobacco. Deaths in Stone County due to tobacco represented 93% (163) of the total deaths due to these substances from 2002 to 2004.

Figure 3.8

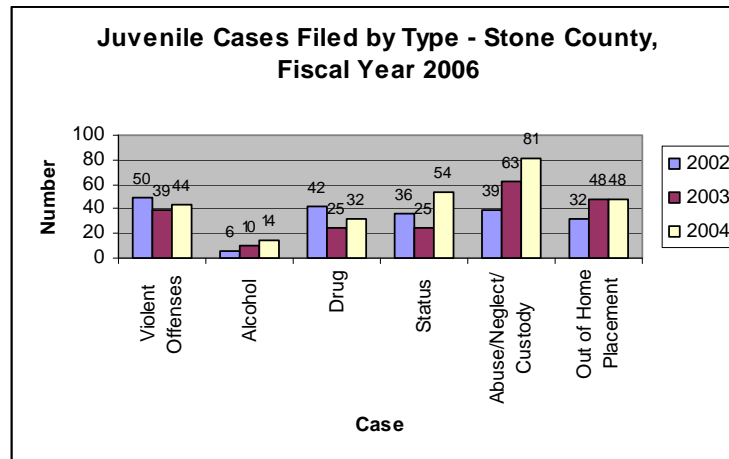


Source: Missouri Department of Mental Health, 2007

Juvenile Law Violations

Figure 3.9 provides an overview of juvenile court cases for certain offenses such as delinquency and status offenses (i.e. truancy or running away from home - only considered violations because of the age of the juvenile), as well as adoptions, emancipations, and abuse/neglect cases. Although this chart does not include arrests for every offense, this information does constitute the majority of arrests of juveniles in the county. This chart indicates that for the majority of arrests for those less than 18 years of age, juveniles are arrested more often for theft and violent offenses as compared to alcohol and drug offenses.

Figure 3.9



Source: Records of the 39th Circuit Court of Missouri, 2007

Figure 3.9 shows how the numbers of drug and alcohol offenses have varied. The number of juveniles arrested or referred to juvenile courts for drug offenses has been increasing since 2002.

Tobacco Use

Tobacco use continues to be a major health threat for the youth of Stone County. To a great extent, the chronic disease burden that the county will experience in the future will be a result of the current use of tobacco and other lifestyle choices by all residents including teens. In Missouri:

- 21.3% of high school students smoke.
- 11.5% of male high school students use smokeless or spit tobacco.
- 8,900 kids (under age 18) become new daily smokers each year.
- 352,000 kids are exposed to secondhand smoke at home.
- 14.4 million packs of cigarettes are bought or smoked by kids each year.
- Medicaid pays for \$532 million of annual smoking-related health care costs in Missouri. This equals \$604 per household in Missouri.
- An estimated \$460.9 million is spent on marketing efforts by the tobacco industry annually in Missouri

(TobaccoFreeKids.org, 2003)

Chapter 4

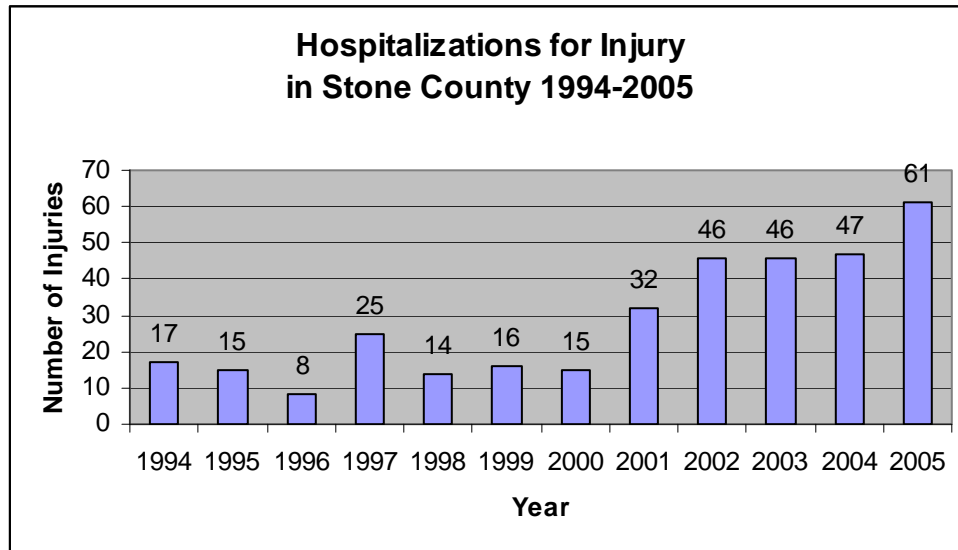
Unintended Injury

Unintended Injury

Injuries have an enormous impact on residents of Stone County. Injuries result in economic losses, as well as disabilities that affect quality and length of life. Some of these negative consequences can be avoided by following proper safety precautions.

The number of injuries requiring hospitalization shows an increase since 2000.

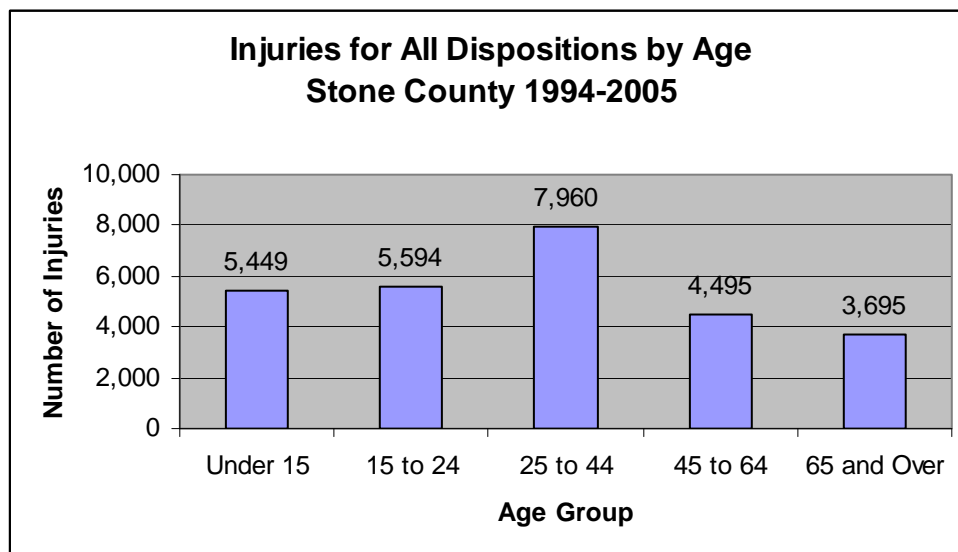
Figure 4.1



Source: Missouri Department of Health and Senior Services

The age group incurring the largest number of injuries is the 25- to 44-year range.

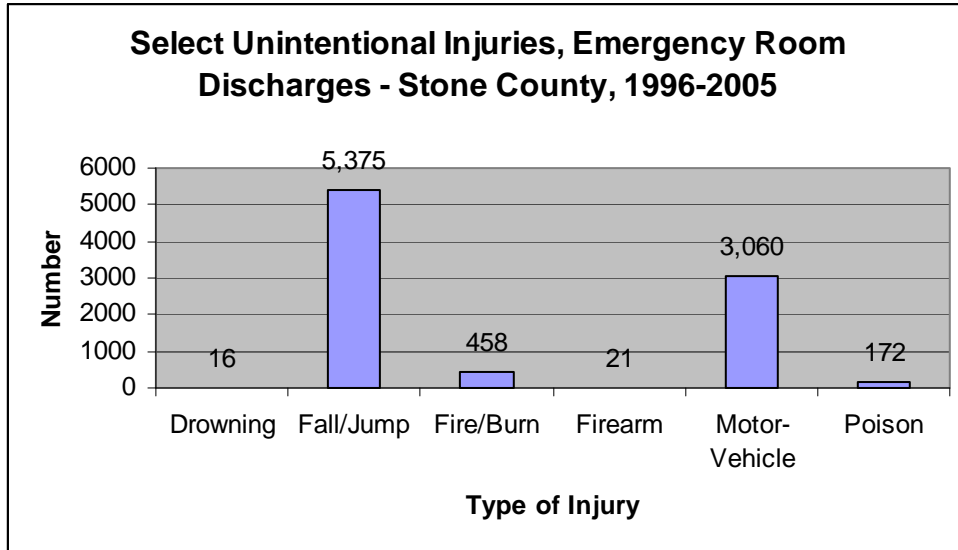
Figure 4.2



Source: Missouri Department of Health and Senior Services

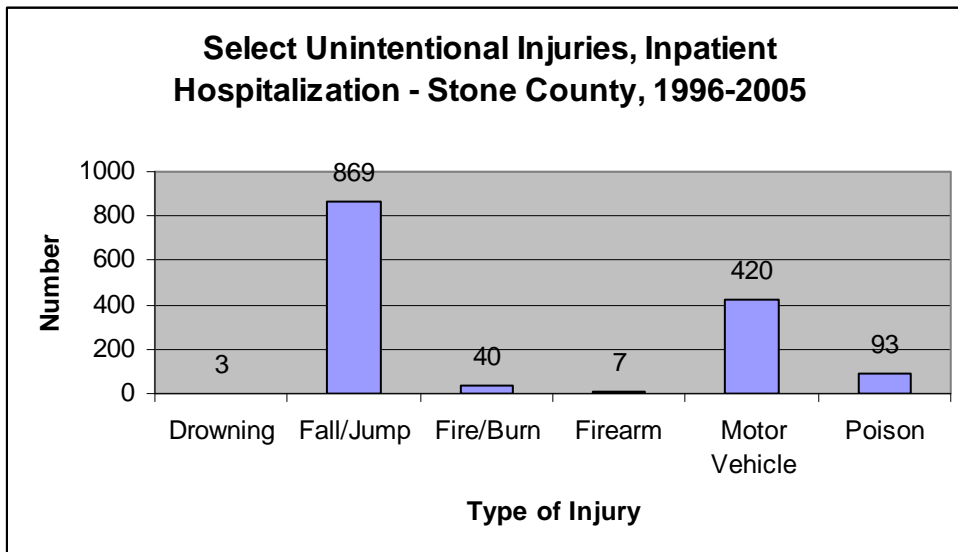
Figures 4.3 and 4.4 indicate the number of unintentional injuries by cause in Stone County for emergency room visits and inpatient hospitalizations.

Figure 4.3



Source: Missouri Department of Health and Senior Services; total 9,898

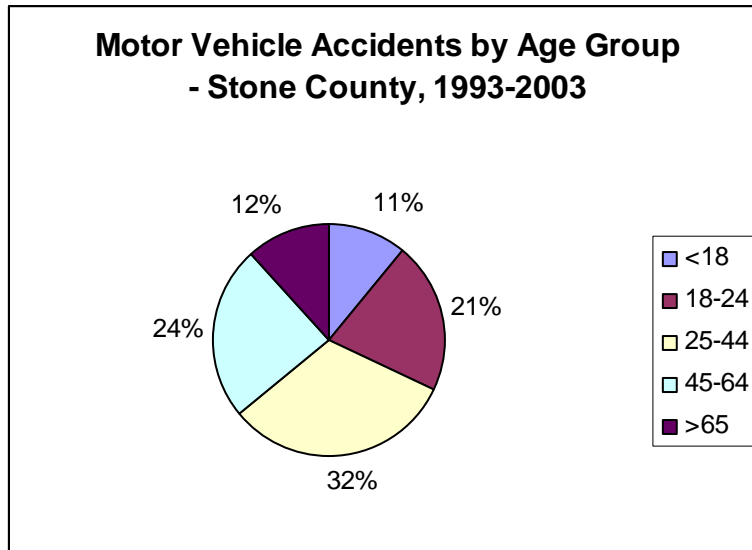
Figure 4.4



Source: Missouri Department of Health and Senior Services

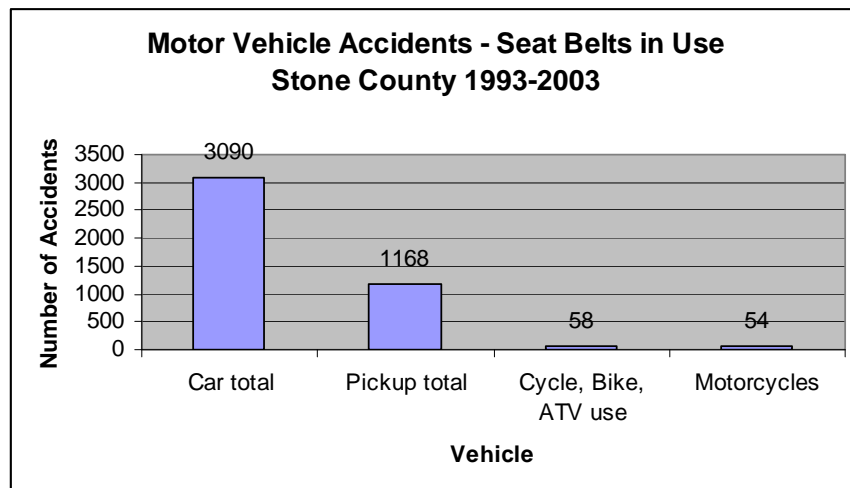
The age group with the largest percentage of reported motor vehicle accidents (including cars, pickups, large vehicles, motorcycles, and all-terrain vehicles) between 1993 and 2003 includes those between the ages of 25 and 44 (Figure 4.5).

Figure 4.5



The numbers of motor vehicle injuries where seat belts were in use in Stone County by type are shown in Figure 4.6. Accidents involving cars were by far the largest in number, with those involving pickups the second largest group.

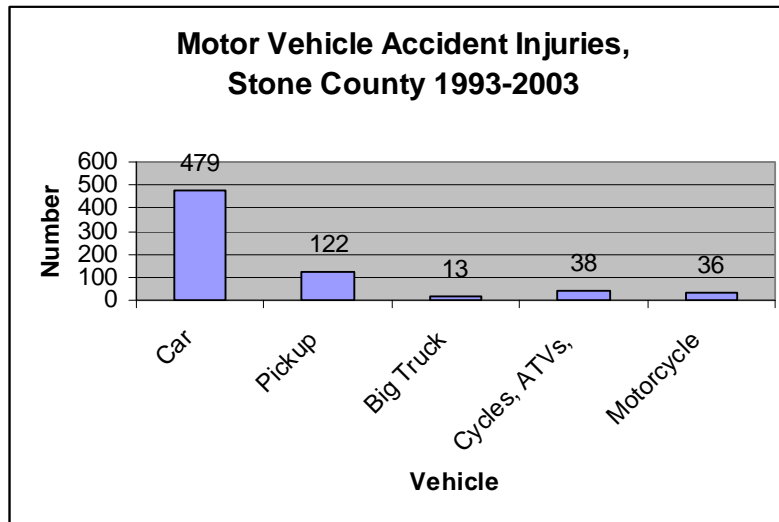
Figure 4.6



Source: Missouri Department of Health and Senior Services

Figure 4.7 shows the total number of injuries reported due to motor vehicle accidents. These data support what is shown in Figure 4.6.

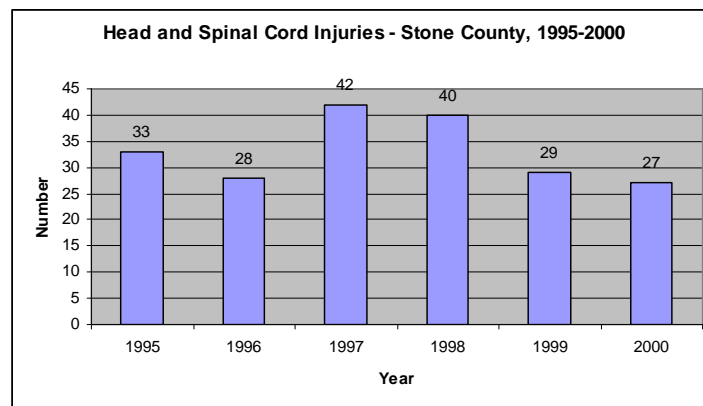
Figure 4.7



Source: Missouri Department of Health and Senior Services

Head and spinal cord injuries increased from 1996 to 1997, but have decreased each year between 1997 and 2000 (Figure 4.8).

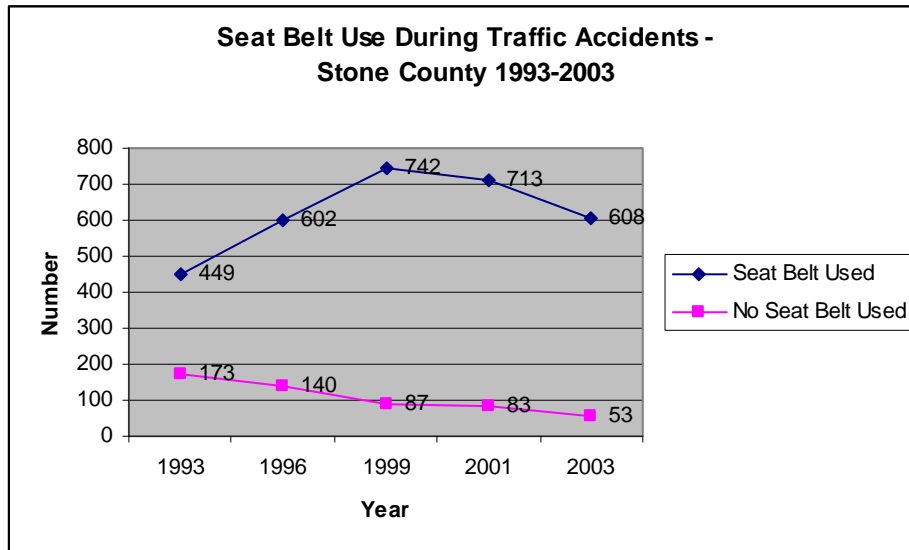
Figure 4.8



Source: Missouri Department of Health and Senior Services, 2007

The number of people involved in accidents that were wearing seatbelts increased between 1993 and 1999, but has since been decreasing (Figure 4.9).

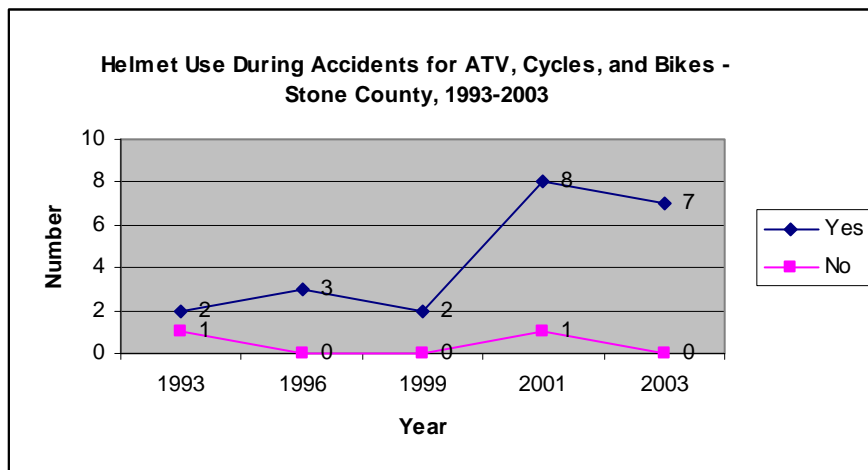
Figure 4.9



Source: Missouri Department of Health and Senior Services

Injuries and helmet use for motorcycle, ATV, and bike accidents are shown in Figure 4.10. Stone County has a higher likelihood of helmet use than the state overall.

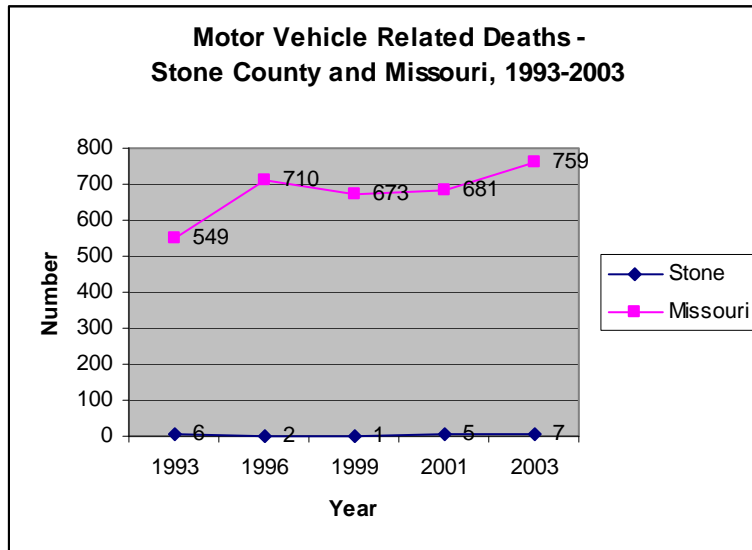
Figure 4.10



Source: Missouri Department of Health and Senior Services

Figure 4.11 indicates a relatively stable trend in motor vehicle deaths in Stone County from 1993 to 2003. There is an upward trend of death by motor vehicles in the state.

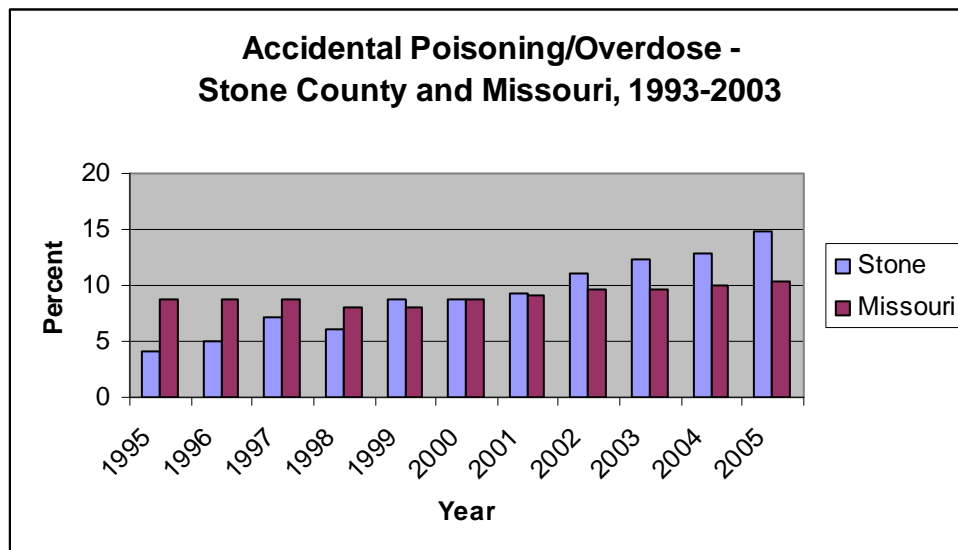
Figure 4.11



Source: Missouri Department of Health and Senior Services

The number of poison/overdose injuries in Stone County has steadily and dramatically increased since 1995 as compared to the state (Figure 4.12).

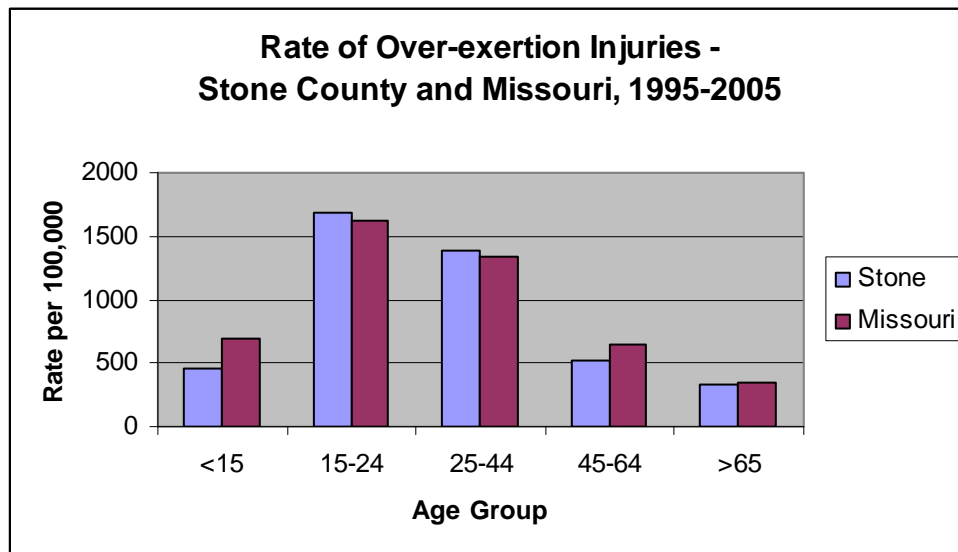
Figure 4.12



Source: Missouri Department of Health and Senior Services, 2007

Figure 4.13 and identifies the trend concerning over-exertion injuries. Stone County's rate of over-exertion injuries was higher than the state rate in the 15-24 and 25-44 age groups.

Figure 4.13



Source: Missouri Department of Health and Senior Services, 2007

Chapter 5

**Maternal and
Child Health Indicators**

Maternal and Child Health Indicators

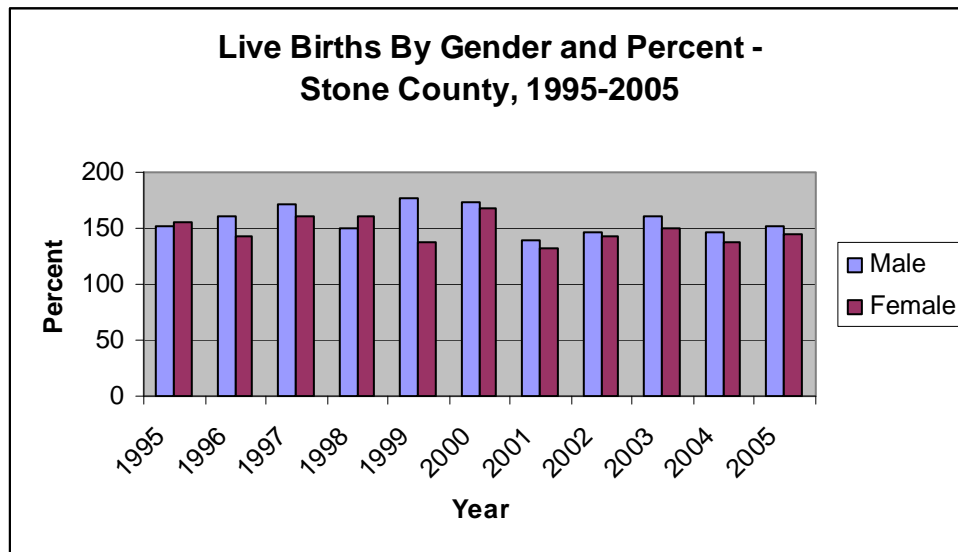
Maternal and child health issues are of great importance as healthier mothers, infants, and children contribute to the continued overall health of the community. Infants and children who are exposed to alcohol, tobacco, child abuse, and poor nutrition may develop detrimental health conditions such as asthma, diabetes, and obesity early in life. Because of this, severe chronic diseases such as heart disease can develop at younger ages leading to a decreased life expectancy.

A variety of maternal and child health issues such as teen pregnancy, infant deaths, poverty, child abuse, and maternal tobacco use are examined in this chapter. These issues are very important and can have severe consequences for the overall health of our community. Healthier children and mothers can ultimately result in a healthier, happier, and more productive community.

Birth Trends

Figure 5.1 displays the trend in the number of live births in Stone County from 1995-2005. Over the span shown below, 51.5% of the newborn population in Stone County is male, and 48.5% is female. There is little variance between the overall county and the state birth percentages. Stone County was behind the state percentages in 1995 and in 1998, but has surpassed the state every other year reported below.

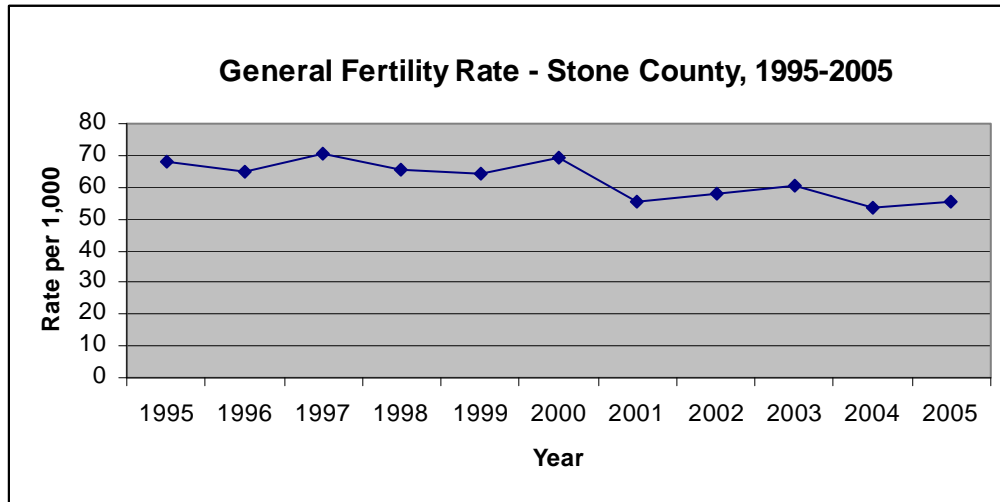
Figure 5.1



Source: Missouri Department of Health and Senior Services, 2007

The **General Fertility Rate** refers to the total number of live births per 1,000 women aged 15 to 44 for a given year. The General Fertility Rate for Stone County (Figure 5.2) indicated a decreasing trend overall from 1995 to 2005, while infant death rates for Stone County have been low and varied little from year to year from 1995-2005 (Figure 5.3).

Figure 5.2

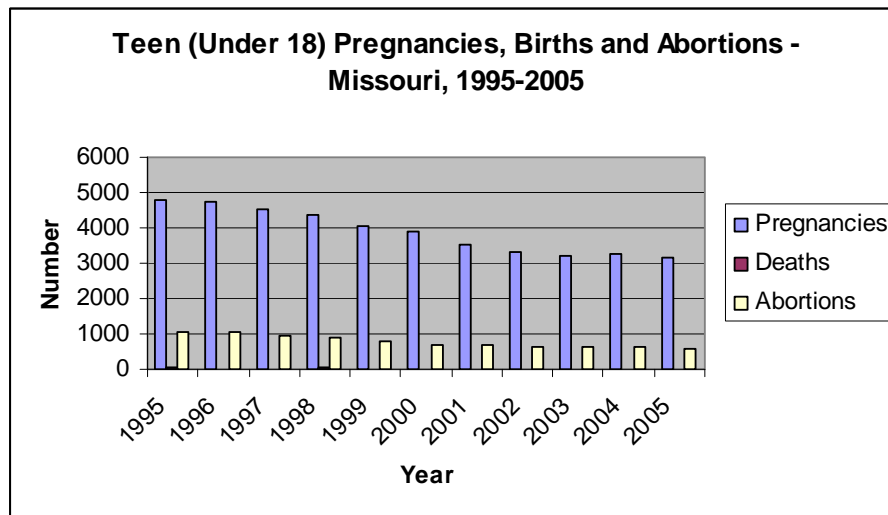


According to the Missouri Department of Health and Senior Services, the number of children and infants who died from unintentional injuries in Stone County is so low that the rates are not stable and are therefore unable to be compared with those of the state.

Teen Pregnancy

Figure 5.3 displays the total number of pregnancies for females less than 19 years of age. The number of pregnancies overall in Missouri for those under 19 years of age has decreased significantly since 1995, causing a decrease in the number of teen births. The figure for teen pregnancy in Stone County remains relatively stable, with 2001 reflecting the highest number of teen pregnancies (72) over a ten-year period.

Figure 5.3



Source: Missouri Department of Health and Senior Services, 2007

Table 5.1

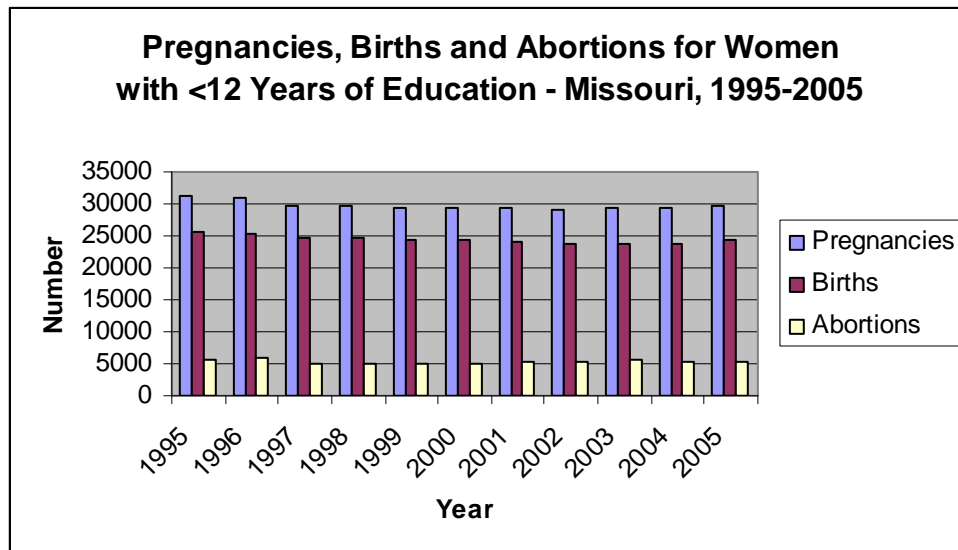
Table 5.1 shows the total number of teen pregnancies in Stone County between 1995 and 2005. Due to confidentiality rules, information on the disposition of the outcomes is unavailable.

| Year | Number |
|------|--------|
| 1995 | 23 |
| 1996 | 22 |
| 1997 | 24 |
| 1998 | 11 |
| 1999 | 18 |
| 2000 | 26 |
| 2001 | 17 |
| 2002 | 24 |
| 2003 | 13 |
| 2004 | 21 |
| 2005 | 14 |

Source: Missouri Department of Health and Senior Services, 2007

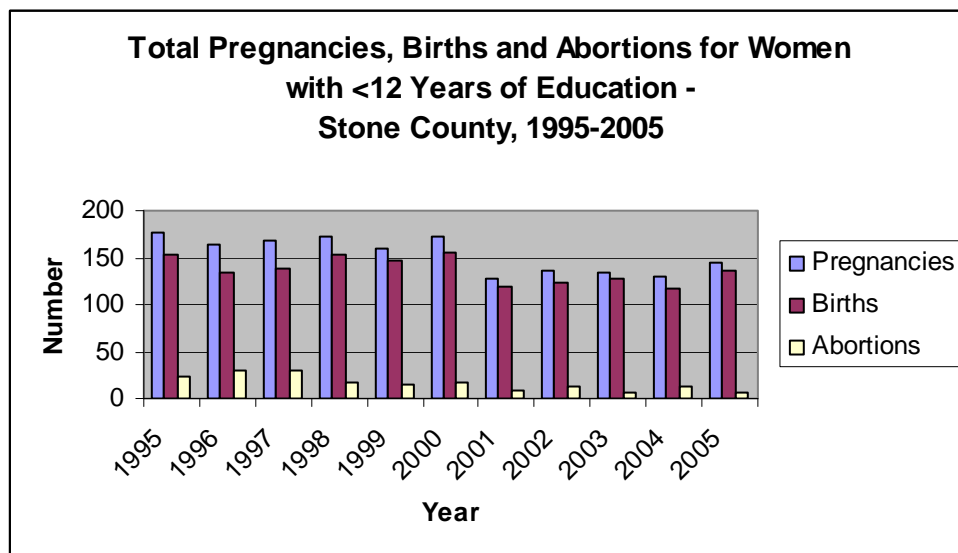
Figures 5.4 and 5.5 represent the numbers of total pregnancies, births, and abortions for women in Missouri and in Stone County with less than 12 years of education. Missouri and Stone County are comparable in these figures, and for both it appears that those with less than 12 years of education are the most likely to have an infant who died.

Figure 5.4



Source: Missouri Department of Health and Senior Services, 2007

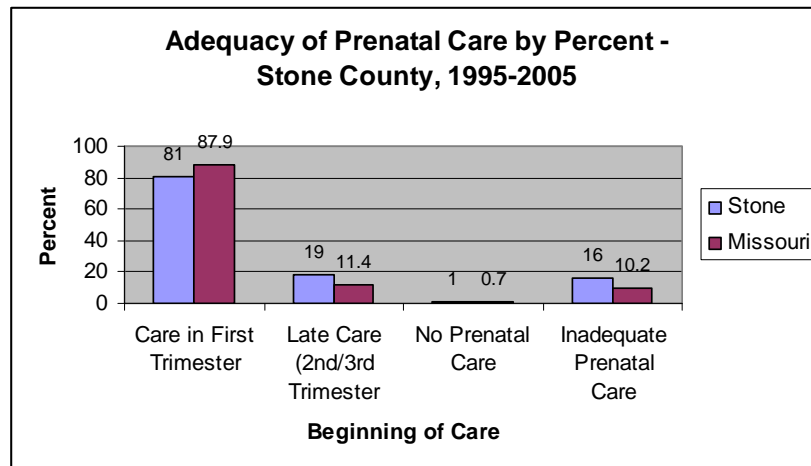
Figure 5.5



Source: Missouri Department of Health and Senior Services, 2007

Figure 5.6 reflects that the majority of Stone County residents who had infants received prenatal care beginning in the first trimester (this is considered adequate care). A lesser percentage overall received inadequate prenatal care (care beginning after the first trimester of pregnancy). Inadequate prenatal care is defined as fewer than five prenatal visits for pregnancies less than 37 weeks, fewer than eight visits for pregnancies 37 weeks or longer or care beginning after the first four months of pregnancy. If adequacy of prenatal care could be determined even if month care began or visits were unknown, then these records were included. A very small percentage received no prenatal care for pregnancies occurring between 1995 and 2005.

Figure 5.6



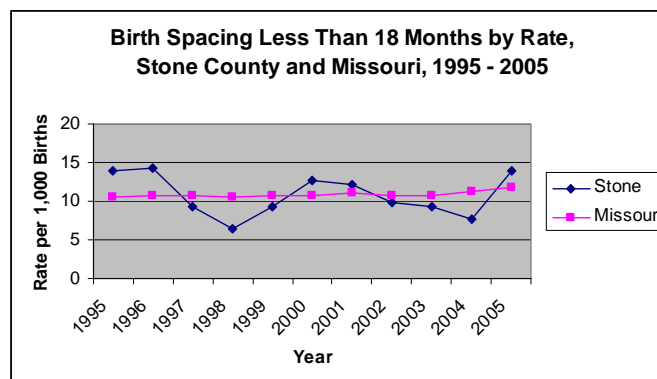
Source: Missouri Department of Health and Senior Services, 2007

Birth Spacing

Figure 5.7 show no specific trend in birth spacing less than 18 months in Stone County; however, the rate of these births did decline between 2000 and 2004, with a sharp increase in 2005. The state of Missouri has remained in the 10%-12% range from 1995-2005.

Child spacing is important, as research has shown that increasing child spacing beyond 2 years increases the likelihood of healthier infants and mothers. In particular, mothers are more likely to avoid anemia and other nutritional deficiencies, death during childbirth, and third trimester bleeding.

Figure 5.7

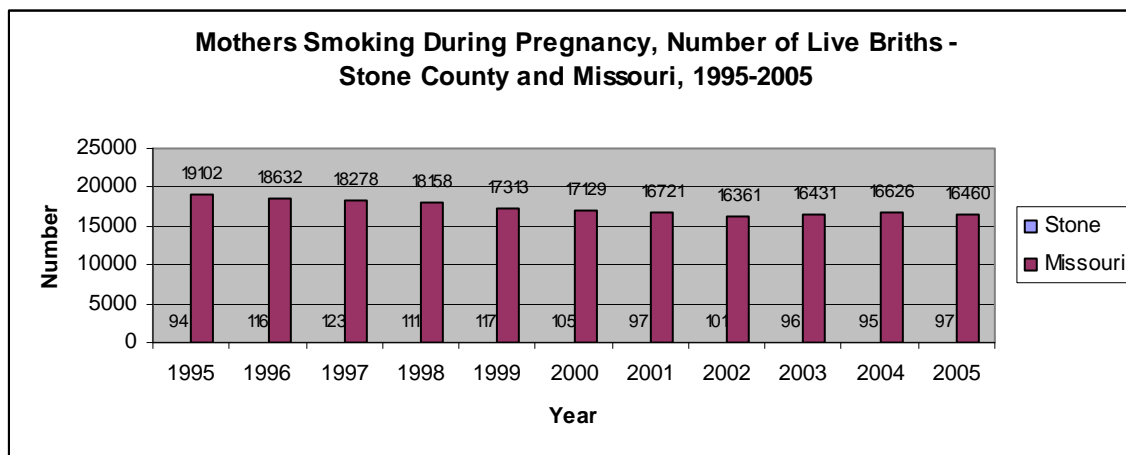


Source: Missouri Department of Health and Senior Services, 2007

Characteristics of Live Births

The percent of expectant mothers who smoke declined from 117, of the total live births, in 1999 to 95 in 2004 (Figure 5.8). Overall, across the state, there is a trend of decline in the number of mothers who smoke.

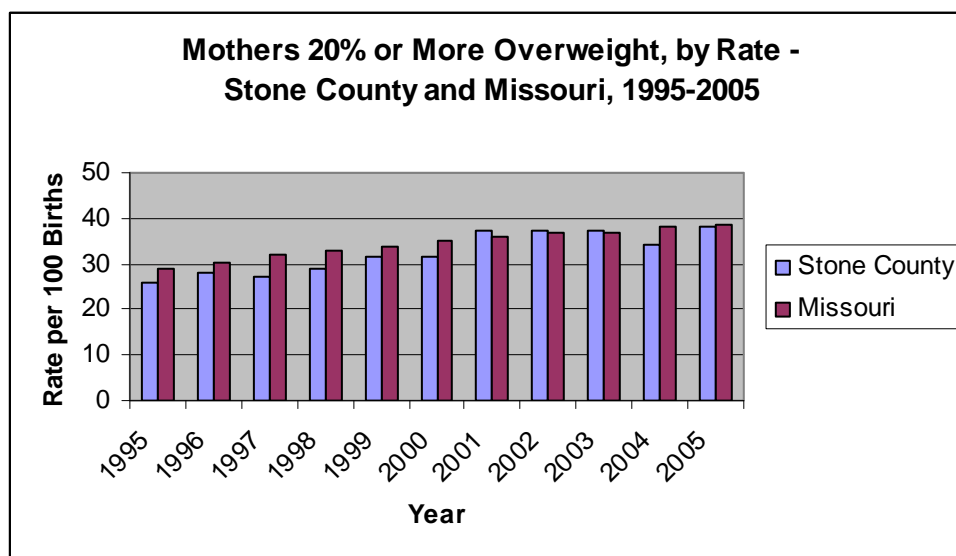
Figure 5.8



Source: Missouri Department of Health and Senior Services, 2007

The percent of mothers who are overweight in Stone County steadily increased from 1995 to 2001 (Figure 5.9). There was a slight decrease in 2004. Stone County has remained comparable to the state with regard to mothers who are 20% or more overweight.

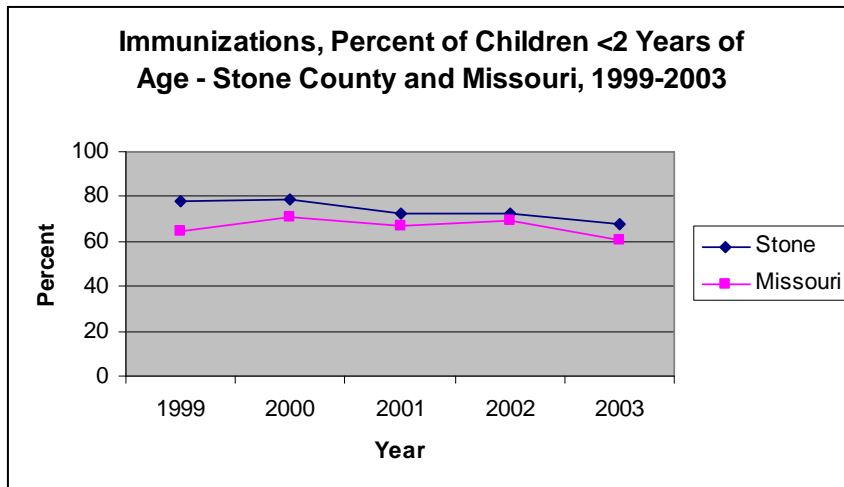
Figure 5.9



Source: Missouri Department of Health and Senior Services, 2007

Figure 5.10 illustrates the percent of children who were immunized in public clinics from 1999 to 2003. The percent of children under 2 years of age who were immunized has declined from 1999 to 2003 in Stone County. As of 2002, the percent of children who were immunized in Stone County was 68% as compared to Missouri (60%).

Figure 5.10



Source: Missouri Department of Health and Senior Services, 2007

Child Abuse and Neglect

From 2001 to 2005 the number of probable-cause incidents of child abuse and neglect in Stone County investigated by the Department of Social Services increased by approximately 30%. Table 5.2 illustrates that from 2001 until 2004, the number of incidents statewide increased. In 2005, there was a significant decrease in reported abuse/neglect cases.

Table 5.2

| Number of Probable Cause Child Abuse/Neglect Incidents - Stone County, 2001=2005 | | |
|--|-------|----------|
| Fiscal Year | Stone | Missouri |
| 2001 | 254 | 55,705 |
| 2002 | 334 | 55,293 |
| 2003 | 313 | 56,331 |
| 2004 | 337 | 56,538 |
| 2005 | 331 | 54,624 |

Source: Missouri Department of Health and Senior Services, 2007

Childhood Obesity

Obesity, diabetes and asthma are debilitating diseases that will impact the quality of life of those who live with these conditions. Children who are obese have a greater chance of developing these and other chronic diseases and complications because of these underlying conditions. Table 5.3 presents the data concerning WIC children who were identified as 2004.

Table 5.3

| Overweight and Obesity Data of WIC Children - Stone County, 2004 | | |
|---|---------------------|-----------------|
| Percent | | |
| Children: | Stone County | Missouri |
| Overweight, <5 Years | 12.9 | 15.8 |

Source: Missouri Department of Health and Senior Services, 2007

Dental Health

Dental health is an important aspect of overall health. Strides are being made to provide better dental health care access to all income levels in Stone County. At this time, the Smile Clinic, located in Ozark, Missouri (Christian County) is a program available for children living in the counties of Stone and Christian who are on Medicaid. Due to the location, transportation is a major barrier to children in Stone County (and parts of Christian) from receiving the full benefit of this clinic. The Elks Lodge also works with Stone County Health Department to help subsidize dental care for those in dire need. Additionally, one dentist in Crane will treat children who are enrolled in Medicaid and have severe dental issues. At this time there are no dental services for individuals over the age of eighteen enrolled in Medicaid and living in Stone County.

Chapter 6

**Prevalence of
Chronic Disease Risk Factors**

Prevalence of Infectious Disease

Communicable diseases are those that are transmitted from person to person, or animal to person, and involve microorganisms such as bacteria, viruses, fungi, or parasites. Specific modes of transmission are required for each pathogen to spread. Preventing the continued spread of these diseases involves breaking the chain of transmission. Identification of specific diseases in the population is one step in disease surveillance and prevention. This chapter will focus on the prevalence of certain diseases in Stone County reported by area hospitals, labs, and physicians as required by law. This list of diseases is not exhaustive, but it will focus on those reportable diseases that are a common threat to public health.

The data will illustrate trends in the number or rate for specific diseases. For comparison, the average incidence of some diseases will also be shown for the county. Use of the arithmetic mean, i.e. average, for comparison is a useful way to indicate changes that are present over time.

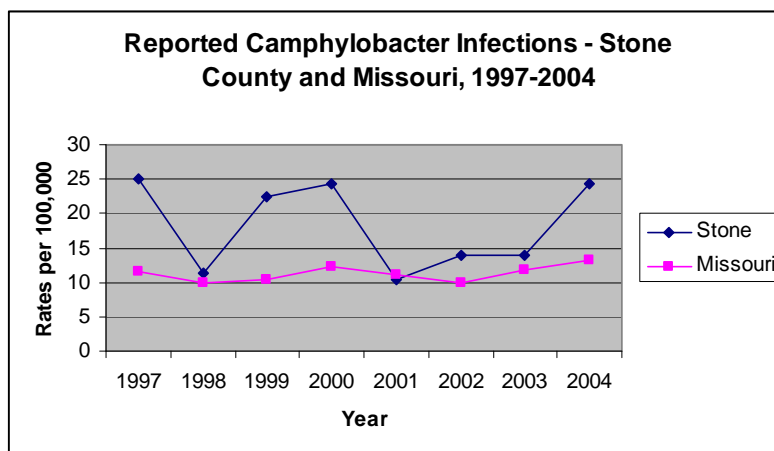
Meningococcal Infections

Meningitis (aseptic and bacterial) became a reportable disease in 1994, with the earliest record available for Stone County being 1997. Stone County had no cases reported from 1997 through 2004, with the exception of 2001 when the rate per 100,000 population was 3.49, more than three times the state rate of that year (1.04). These data can be verified through the Missouri Department of Health and Senior Services website.

Camphylobacter

Camphylobacter is a zoonotic bacterial enteric disease caused most commonly by *Camphylobacter jejuni*. This illness is characterized by diarrhea, abdominal pain, malaise, fever, nausea, and vomiting. The disease occurs worldwide and is a common source of “traveler’s diarrhea.” The mode of transmission occurs orally through contaminated food, water, or contact with infected pets and farm animals. Figure 6.1 indicates the number of cases of Camphylobacter infections shows no specific trend except that Stone County is over the state average.

Figure 6.1



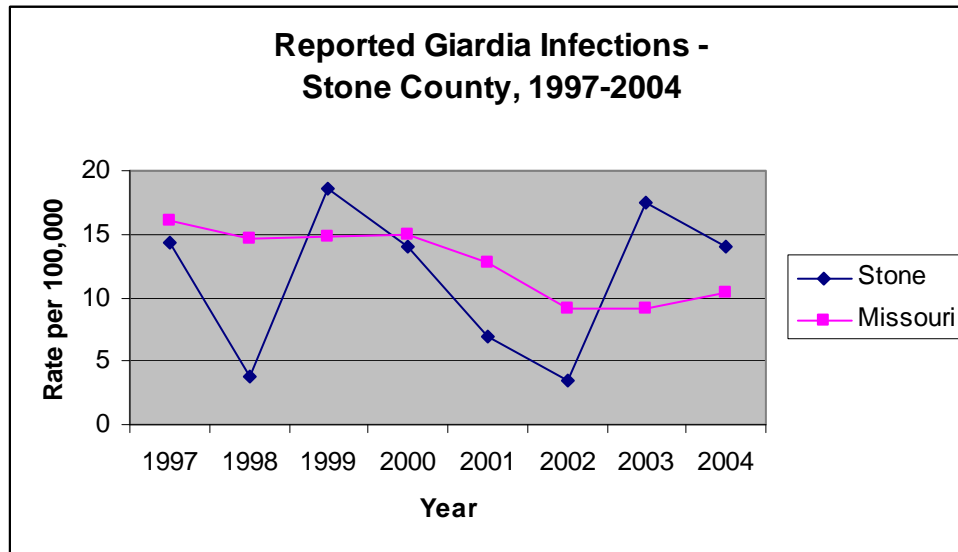
Source: Missouri Department of Health and Senior Services, 2007

Giardiasis (*Giardia enteritis*)

Giardiasis is a protozoan infection caused by *Giardia lamblia*. This infection may cause severe intestinal symptoms including diarrhea, abdominal cramps, fatigue, and weight loss. This disease occurs worldwide, with children usually being infected more often than adults. The primary mode of transmission is fecal–oral with large-scale outbreaks sometimes occurring in day care centers or institutional settings. Outbreaks could possibly be attributed to groundwater contamination related to the breakdown of old septic systems in the county.

Stone County has been below the state rate except for 1999, 2003, and 2004, when there were substantially more infections in Stone County than in the state as a whole (Figure 6.2).

Figure 6.2



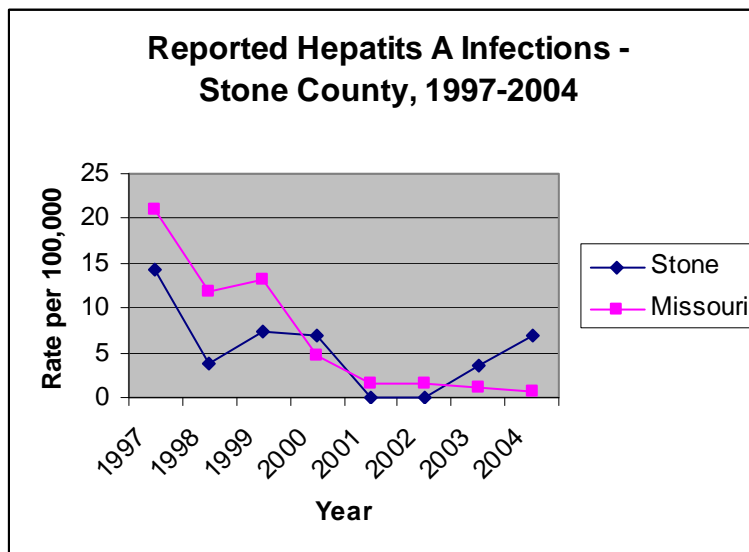
Source: Missouri Department of Health and Senior Services, 2007

Hepatitis A

Approximately 30% of those infected with the hepatitis A virus (HAV) do not have signs or symptoms of infection. Symptoms of HAV infection include fatigue, abdominal pain, nausea, vomiting, joint pain, jaundice, and loss of appetite. Death rarely occurs in those who are infected with the virus. . Hepatitis A virus is transmitted through the blood and body fluids of an infected person. Hepatitis A is spread primarily through the fecal-oral route.

As shown by Figure 6.3. , the rate of infection statewide has decreased dramatically. The trend alternately increases and decreases in Stone County, perhaps due to the fact that there are many activities that involve the use of lake water, which could harbor the Hepatitis A virus via human and animal waste. Higher incidents of hepatitis A could be attributed to the increased use of methamphetamine because users who are infected often share a common drinking vessel. Another factor influencing the incidence of hepatitis A in the summer could also be related to poor sanitation and training of seasonal workers in food establishments.

Figure 6.3

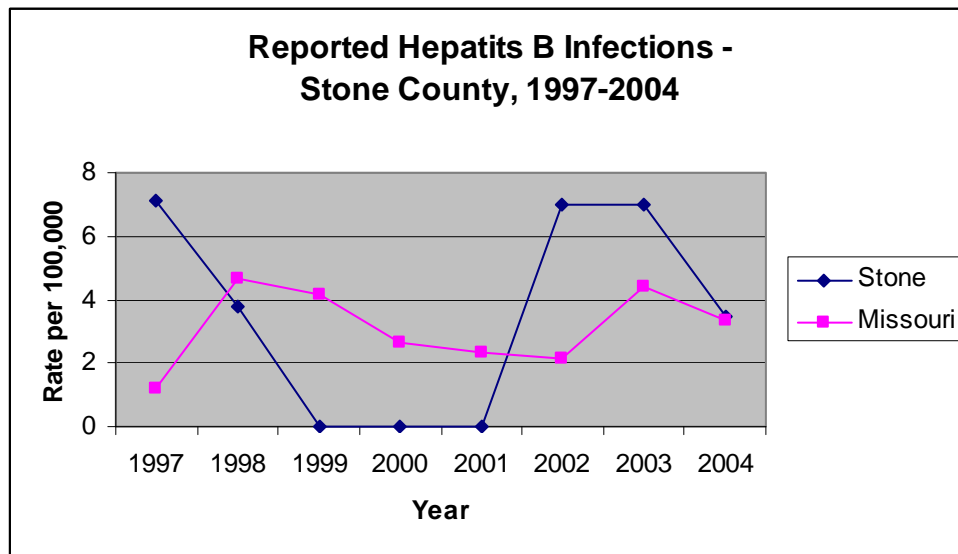


Source: Missouri Department of Health and Senior Services, 2007

Hepatitis B

Approximately 30% of those infected with the Hepatitis B virus (HBV) do not have signs or symptoms of infection. Symptoms of HBV infection include fatigue, abdominal pain, loss of appetite, nausea, vomiting, joint pain and jaundice. Death occurs in 15-25% of those who are chronically infected with the virus. Children who are infected rarely exhibit signs or symptoms. Hepatitis B virus is transmitted through the blood and body fluids of an infected person. Methods of transmission include unprotected sex, sharing of intravenous needles and from mother to child during pregnancy. Figure 6.4 illustrates that an increasing number of cases have been reported in Stone County with a significant jump from 2001 to 2003.

Figure 6.4



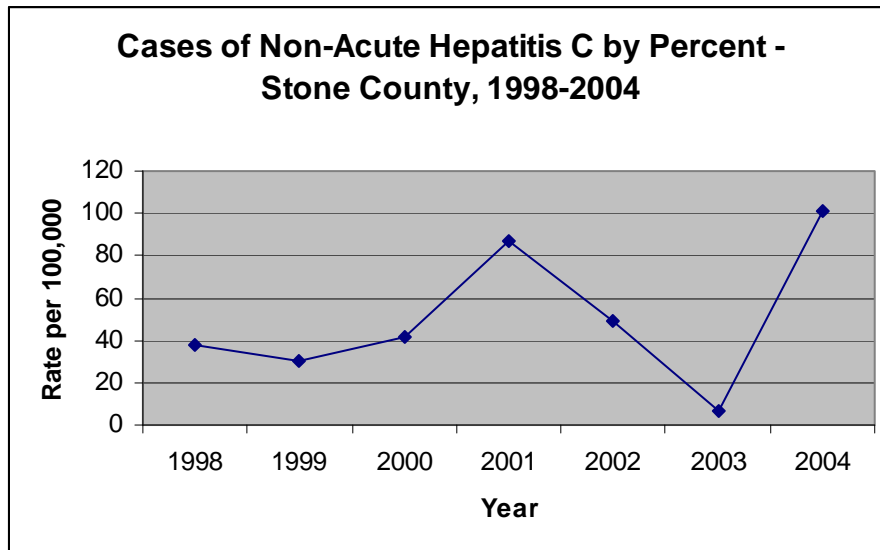
Source: Missouri Department of Health and Senior Services, 2007

Hepatitis C

Approximately 80% of those infected with the Hepatitis C virus (HCV) do not have signs or symptoms of infection. Symptoms of HCV infection include fatigue, abdominal pain, decreased appetite, nausea, dark urine and jaundice. Death occurs in <3% of those who are chronically infected with the virus. However, 70-85% of those initially infected will develop a chronic infection with 70% of those individuals eventually developing chronic liver disease. Chronic Hepatitis C infection is the leading cause of liver transplants. The virus is transmitted through blood and body fluids of an infected person. Common methods of transmission include sharing of intravenous needles, tattoos, body piercing, or sharing of items such as razors or toothbrushes that might have had blood on them. Hepatitis C is a hearty virus and can survive up to 4 weeks outside the body in certain conditions. Unlike Hepatitis B, the risk of transmission of Hepatitis C through sex is considered low.

Figure 6.5 illustrates the trends that are occurring in Stone County. The number of new cases of non-acute Hepatitis C identified and reported increased dramatically from 1999 to 2001 with decreases in 2002 and 2003. However, the rate is at an all-time high in Stone County according to the 2004 data.

Figure 6.5

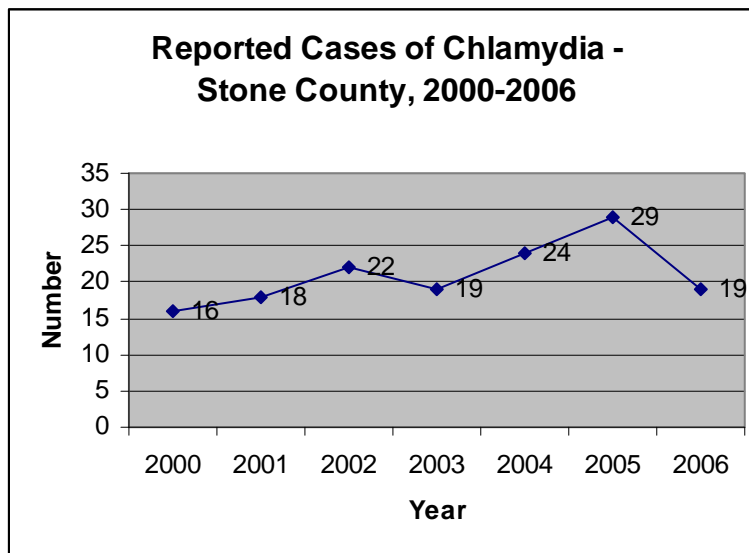


Source: Missouri Department of Health and Senior Services, 2007

Chlamydia

Chlamydia is a sexually transmitted infection caused by the bacteria *Chlamydia trachomatis*. Infection can occur in the anus, oral cavity, female cervix, and male urethra. If untreated, severe complications can occur. Figure 6.6 illustrates the increasing trend present in Stone County from 2000 to 2006.

Figure 6.6

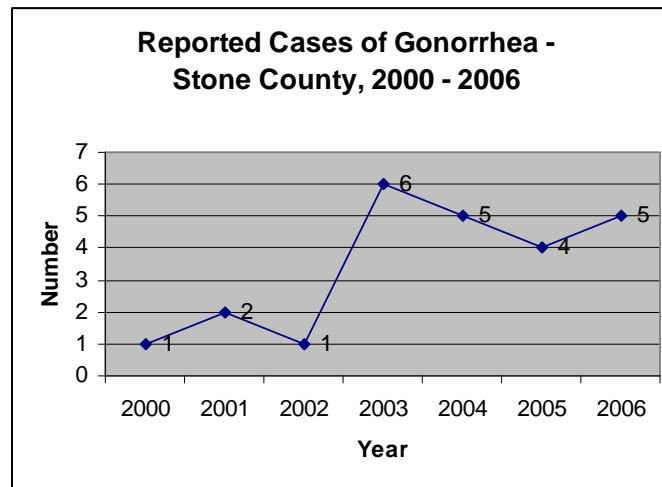


Source: Missouri Department of Health and Senior Services, 2007

Gonorrhea

Gonorrhea is a sexually transmitted infection caused by the bacteria *Neisseria gonorrhoeae*. The disease is characterized by a purulent discharge 2 to 7 days after exposure. If left untreated, females can develop pelvic inflammatory disease that can result in infertility. Figure 6.7 indicates the trend in Stone County by number from 2000 to 2006. Although a decrease was observed in the early 2000's, an increase was observed from 2003 to 2006.

Figure 6.7



Source: Missouri Department of Health and Senior Services, 2007

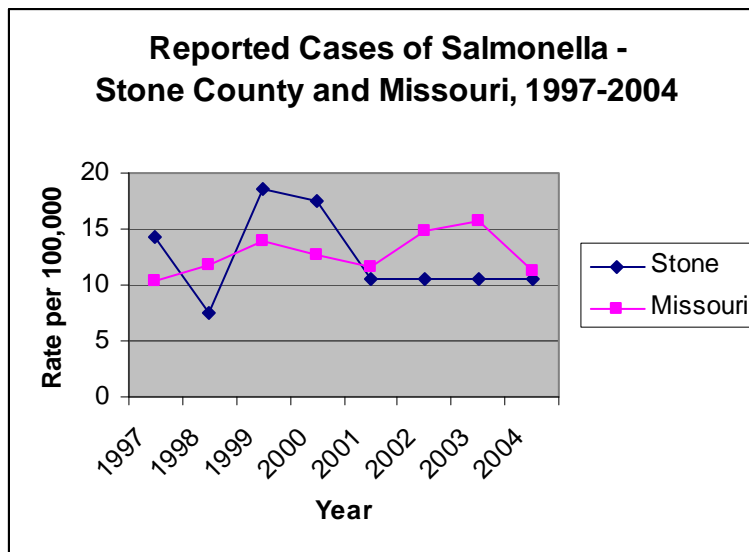
HIV and AIDS

The Human Immunodeficiency Virus (HIV) is the causative agent that leads to Acquired Immune Deficiency Syndrome (AIDS). Better treatments are available to slow the progression to AIDS, but a cure still does not exist. According to the 2005 Epidemiologic Report for STD/HIV in Missouri, between 1982 and 2005, there have been 14 cases of HIV/AIDS in Stone County. This figure does not include persons diagnosed in Missouri correctional facilities.

Salmonella

Salmonella is a bacterial disease transmitted through the fecal-oral route and can be food borne. Major risk factors include cross contamination and improper temperature handling during food preparation. The symptoms include fever, headache, abdominal pain, diarrhea, nausea, and sometimes vomiting. Dehydration in infants and the elderly can be severe. The incubation period is from 6 to 72 hours, usually 12 to 36 hours.

Figure 6.8



Source: Missouri Department of Health and Senior Services, 2007

Tuberculosis

Tuberculosis is a respiratory disease caused by the bacteria *Mycobacterium tuberculosis*. This disease is a major public health threat causing many deaths and disabilities worldwide. Initial infection usually goes unnoticed and results in lifelong risk of reactivation of disease. If untreated, approximately 50% of those infected will die within 5 years and usually within 18 months. This disease is treatable with antibiotics, but failure to complete the treatment may result in the development of antibiotic-resistant strains of the bacteria, which are more difficult to treat. Table 6.9 displays the number of active cases of tuberculosis in Stone County.

Table 6.9

| Reported Cases of Tuberculosis - Stone County, 2006 | | |
|---|--------|--------|
| | Active | Latent |
| 2006 | 1 | 2 |

Source: Missouri Department of Health and Senior Services, 2007

Vector-Borne Diseases

Vector borne diseases are those that involve an insect or animal in the mode of transmission. A few examples of vectors include mosquitoes, ticks, fleas, and rodents. Vector borne diseases are combated through disease surveillance and vector control. The recent experience with West Nile Virus is an excellent example of how public health can manage threats from vector-borne diseases.

Table 6.10 illustrates the low incidence of vector-borne illness in Stone County. To date, there have been no reported cases in West Nile Virus in Stone County.

Table 6.10

| Rates of Reportable Vector-Borne Illness - Stone County, 1998-2004 | | | | | | | |
|--|------|-------|------|------|-------|------|------|
| | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
| Lyme Disease | 0 | 3.73 | 0 | 0 | 3.49 | 0 | 0 |
| Malaria | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Rocky Mountain Spotted Tick Fever | 0 | 0 | 0 | 0 | 10.47 | 0 | 0 |
| Tularemia | 3.38 | 11.19 | 0 | 0 | 0 | 0 | 3.22 |

Source: Missouri Department of Health and Senior Services, 2007

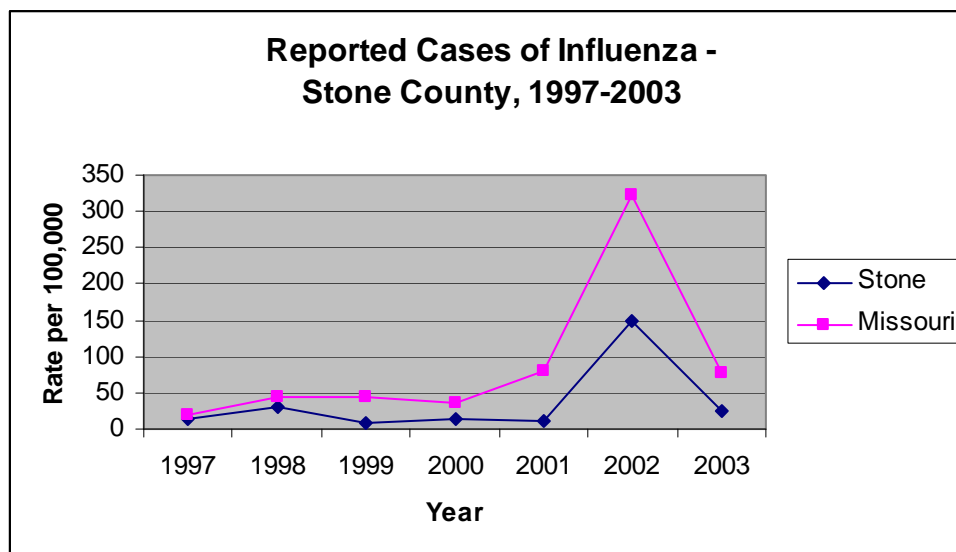
Influenza

Influenza is more commonly referred to as the “flu” and is caused by a number of influenza viral types. The severity of the disease varies from mild to severe illness, with life threatening complications and death occurring quite frequently. The Centers for Disease Control and Prevention estimates that 10-20% of the U.S. population contracts the disease annually, resulting in 36,000 deaths nationwide. Symptoms usually include fever, headache, extreme tiredness, dry cough, sore throat, runny or stuffy nose, and muscle aches. Symptoms such as nausea, vomiting, and diarrhea are associated more with children than adults (CDC, 2003). Those people who are at increased risk for developing severe illness include seniors, people who have chronic medical conditions, pregnant women, and children.

The best method of protection against the flu is by vaccination each fall. If the vaccine is unavailable, other ways to protect yourself and others from the virus include avoiding close contact with people who are sick; staying home when you are sick; covering your nose and mouth with a tissue when sneezing or coughing; washing your hands often; and avoiding hand contact with your eyes, nose, or mouth.

Figure 6.9 illustrates the number of cases reported for Stone County from 1997-2003. The 2002 flu season was particularly notable as there was a higher incidence both county- and statewide. Even with the spike in 2002, the overall rate of those contracting confirmed cases of influenza remains low compared with the rest of the state.

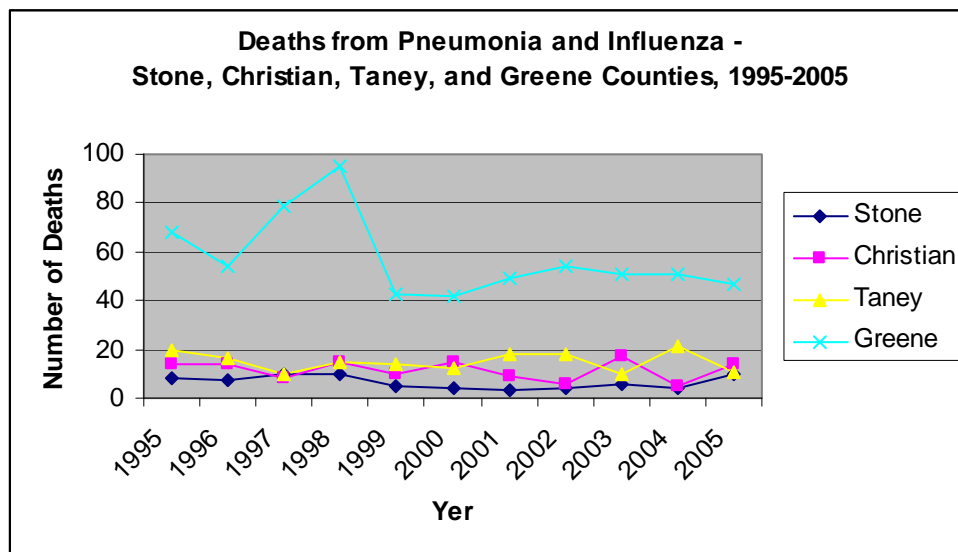
Figure 6.9



Source: Missouri Department of Health and Senior Services, 2007

Of the four counties in Figure, Stone County had the fewest number of deaths from pneumonia and influenza (Figure 6.10).

Figure 6.10

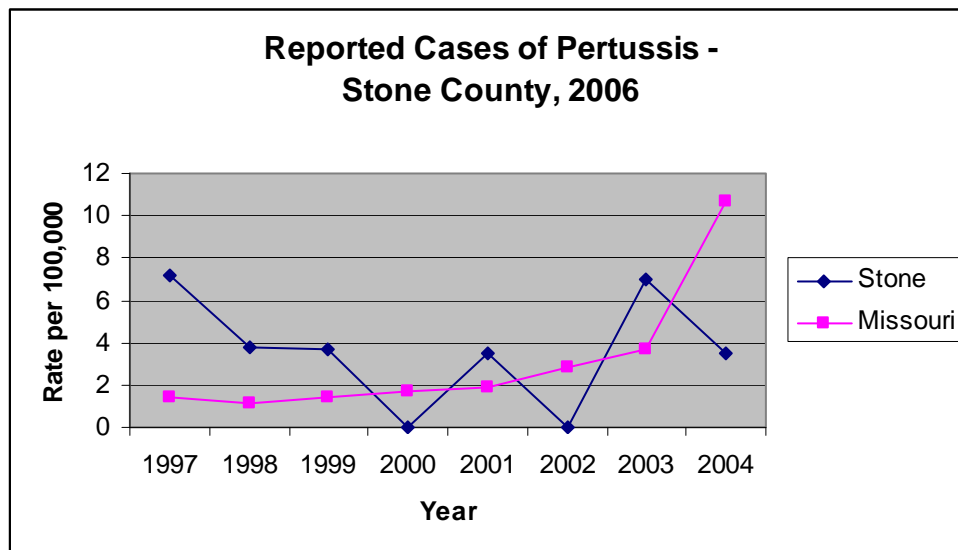


Source: Missouri Department of Health and Senior Services, 2007

Vaccine-Preventable Disease

There were reported cases of pertussis, also known as “whooping cough”, in Stone County, as outlined in the figure below. Pertussis is a highly contagious bacterial infection that may start with cold symptoms or a dry cough, followed by episodes of severe coughing. It is spread through droplet transmission and, if untreated, can be spread by an infected person for several weeks.

Figure 6.11



Source: Missouri Department of Health and Senior Services, 2007

Chronic Disease and Injuries

Numerous deaths due to cancer, heart disease, stroke, and other chronic diseases occur every year. Longitudinal studies have shown that both genetic and lifestyle components affect these diseases. In order to decrease the prevalence of chronic diseases, prevention through lifestyle changes and early detection need to occur.

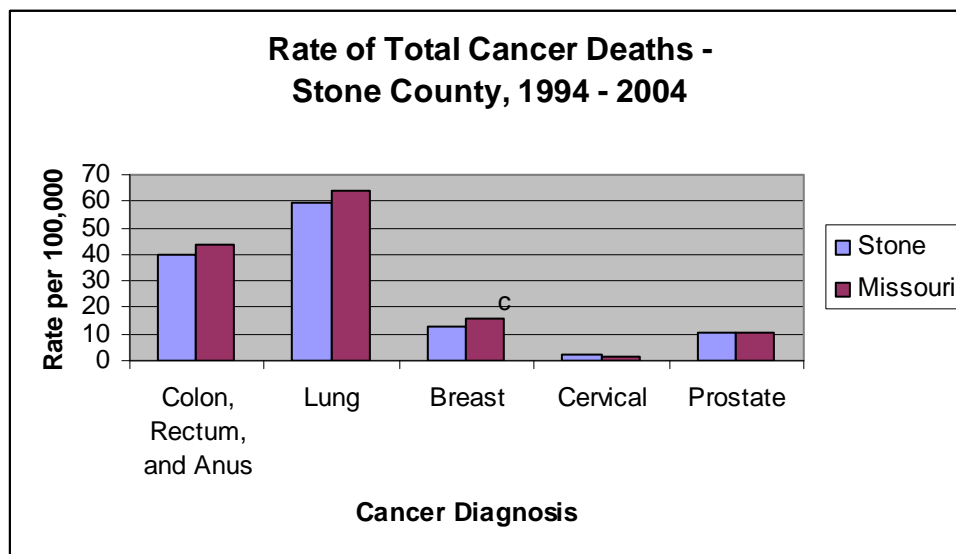
Unfortunately, it is difficult to monitor the incidence of active and developing chronic diseases in the community. This can be accomplished through health surveys that inquire about lifestyle risk factors and diagnosed disease conditions. Federal and state governments conduct these surveys periodically; this process is cost prohibitive for local public health agencies making up-to-date county-level data seldom available. Using existing data, local public health agencies must monitor mortality trends closely to measure the impact that chronic diseases have on the community.

Injuries have an enormous impact on residents of Stone County. Injuries result in economic losses, as well as disabilities that affect quality and length of life. Some of these negative consequences can be avoided by following proper safety precautions.

Cancer

Figure 6.12 illustrates the proportion of deaths in Stone County by the most common cancer sites. Lung cancer accounted for 59% of the total number of cancer deaths from 1994 to 2004 in Stone County, which is lower than the state rate of 64%.

Figure 6.12

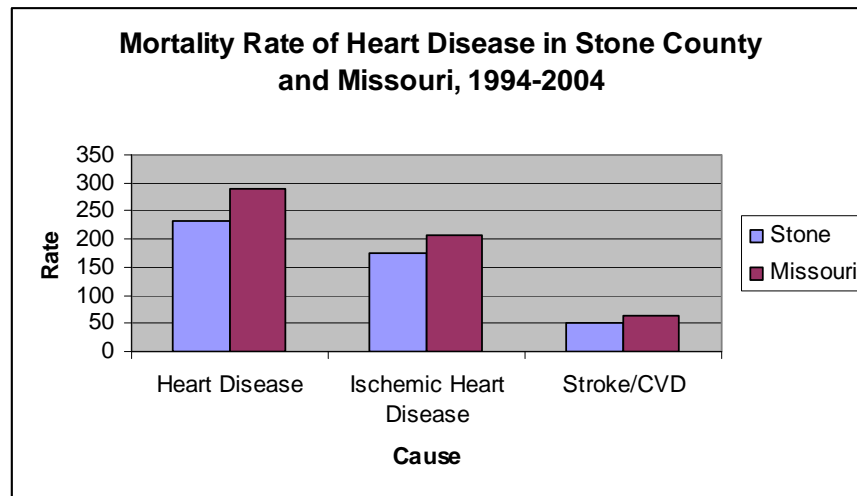


Source: Missouri Department of Health and Senior Services, 2007

Cardiovascular and Cerebrovascular Disease

Figure 6.13 illustrates the heart disease mortality rate comparison between Stone County and Missouri. Overall, the rate for Stone County has been slightly lower than the state's. However, it is evident that the rates are nearly identical with regard to stroke, and heart disease is not far behind. It is currently the number one cause of death in the United States.

Figure 6.13

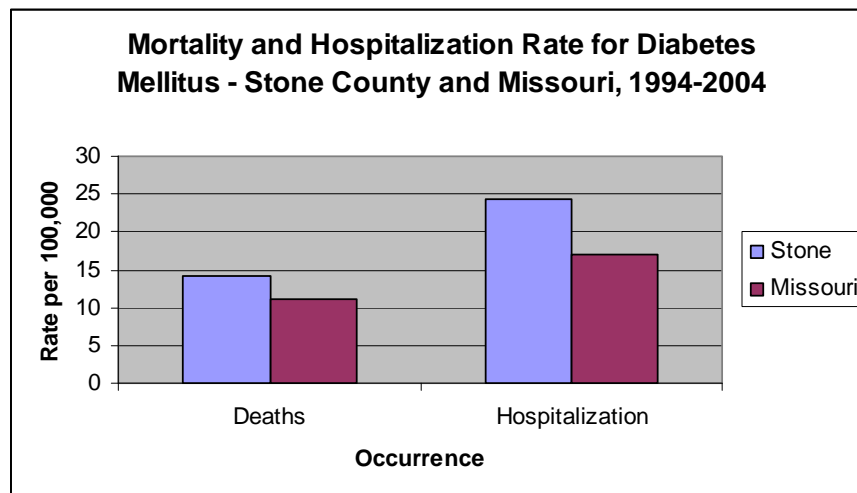


Source: Missouri Department of Health and Senior Services, 2007

Diabetes Mellitus

Diabetes is one of the most common diseases today and can be attributed to many factors – genetics, diet, inactivity, and failure of other organ systems in the body. Figure 6.14 highlights that both the hospitalization and death rate of those with diabetes in Stone County is considerably higher than that of the state.

Figure 6.14

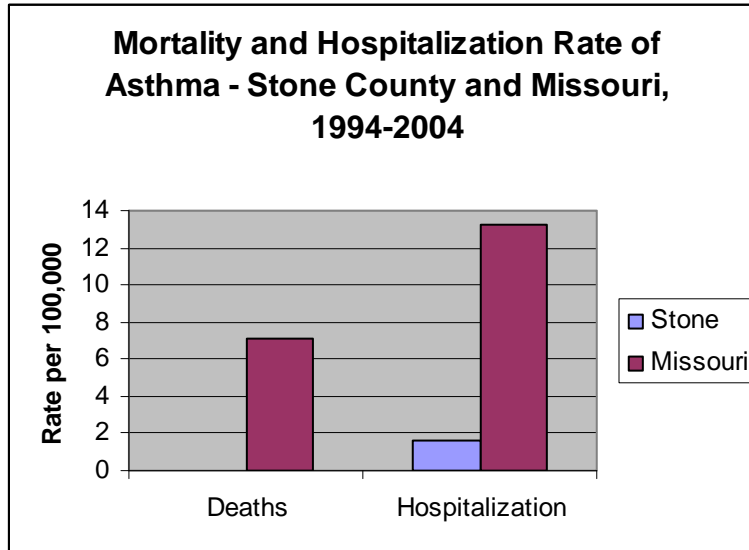


Source: Missouri Department of Health and Senior Services, 2007

Asthma

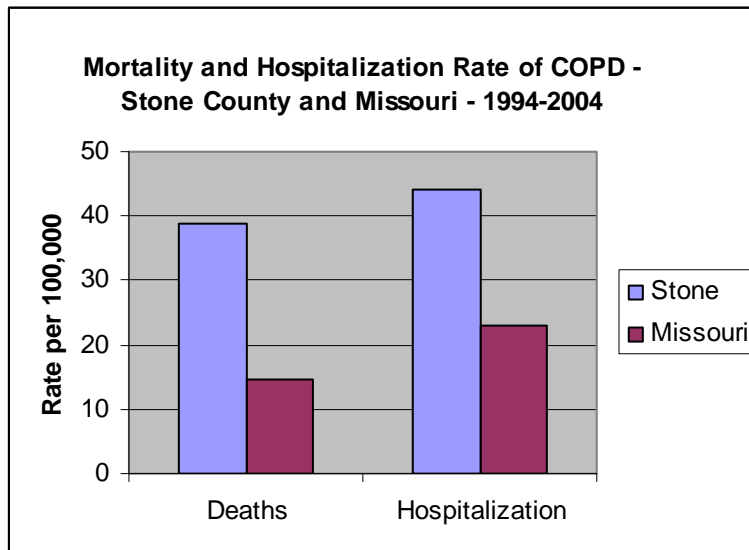
The mortality rate for asthma is significantly higher in the state than it is in Stone County (see Figure 6.15). Figure 6.16 shows the rate of difference for Chronic Obstructive Pulmonary Disorder (COPD), reflecting that both the mortality and hospitalization rate for COPD in Stone County is substantially higher than that of the state.

Figure 6.15



Source: Missouri Department of Health and Senior Services, 2007

Figure 6.16



Source: Missouri Department of Health and Senior Services, 2007

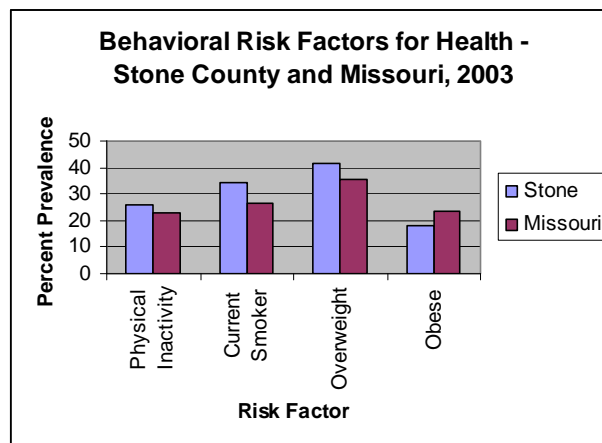
Risk Factors

High-risk lifestyle behaviors can result in the development of many chronic diseases. In the following tables, several behavioral risk factors are presented. The Missouri Department of Health and Senior Services collected these data from April 2002 to January 2003 with a questionnaire based on the Center for Disease Control and Prevention’s Behavioral Risk Factor Surveillance Survey. The data were released to the counties in October 2003.

Figure 6.18 indicates that Stone County residents were not significantly different from other state and region residents. However, each of these percentages indicates an area of concern. For example, the self-reported obesity rate of 21.1% and overweight rate of 32.5% signifies the increasing risk that many county residents are developing for chronic diseases associated with being overweight and obese.

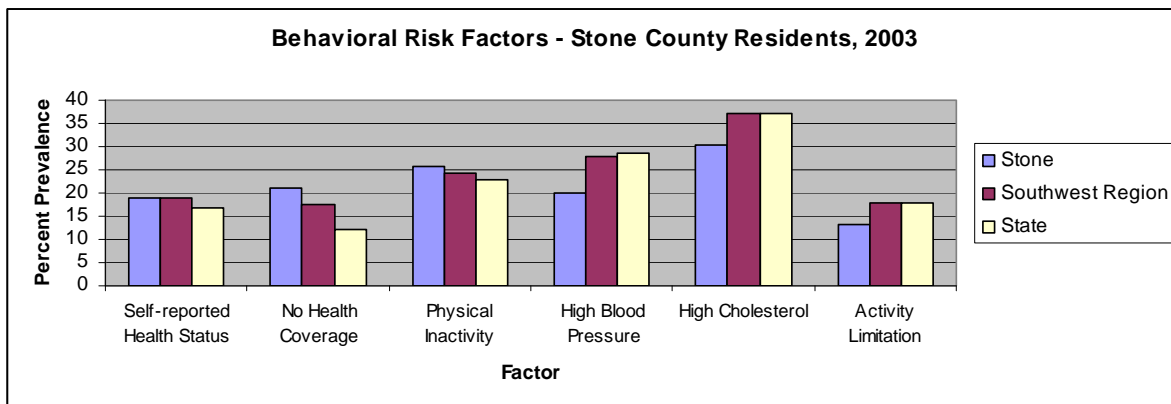
According to the 2003 Health and Preventive Practices Status Report from the Missouri Department of Health and Human Services, Stone County is higher than the state on the behavioral risk factors outlined in Figure 6.17.

Figure 6.17



Source: Missouri Department of Health and Senior Services, 2007

Figure 6.18



Source: Missouri Department of Health and Senior Services, 2007

Table 6.1 shows the utilization of screening tests among men and women in Stone County. In Stone County 24.2% of women reported never having had a mammogram. This rate was lower than both the southwest Missouri region and the state average. The number of women who did not have a pap test last year is 45.2%, much higher than the state average.

Table 6.3

| Screening Test and Utilization - Stone County, 2003 | | | |
|--|------------------------------|-------------------------|--------------|
| | Prevalence Percentage | | |
| | Stone | Southwest Region | State |
| Women | | | |
| Never had a Mammogram | 24.2 | 17.9 | 13.4 |
| No Mammogram or Clinical Breast Exam In the Last Year: | | | |
| 40-49 Years of age | 68.1 | 52.3 | 49.4 |
| 50-64 Years of age | 52.1 | 43.3 | 35.9 |
| 65 Years and older | 52.6 | 51.3 | 47.4 |
| Never Had a Pap Smear | | | |
| 18-69 Years of Age | 6.5 | 4.5 | 5.1 |
| 70 Years and older | 0 | 8.6 | 6.4 |
| No Pap Smear Last Year | 45.2 | 28.1 | 25.8 |
| No Pap Smear Last 3 Years | 7.1 | 13.8 | 13.8 |
| Men and Women | | | |
| Never Had a Blood Stool Test | 55.3 | 51.4 | 57 |
| No Blood Stool Test Last Year | 73.9 | 74.2 | 77.5 |
| Sigmoidoscopy/Colonoscopy | | | |
| Never had | 44.7 | 53.4 | 49.2 |
| None in last five years | 59.7 | 63.3 | 57 |

Source: Missouri Department of Health and Senior Services, 2007

Chapter 7

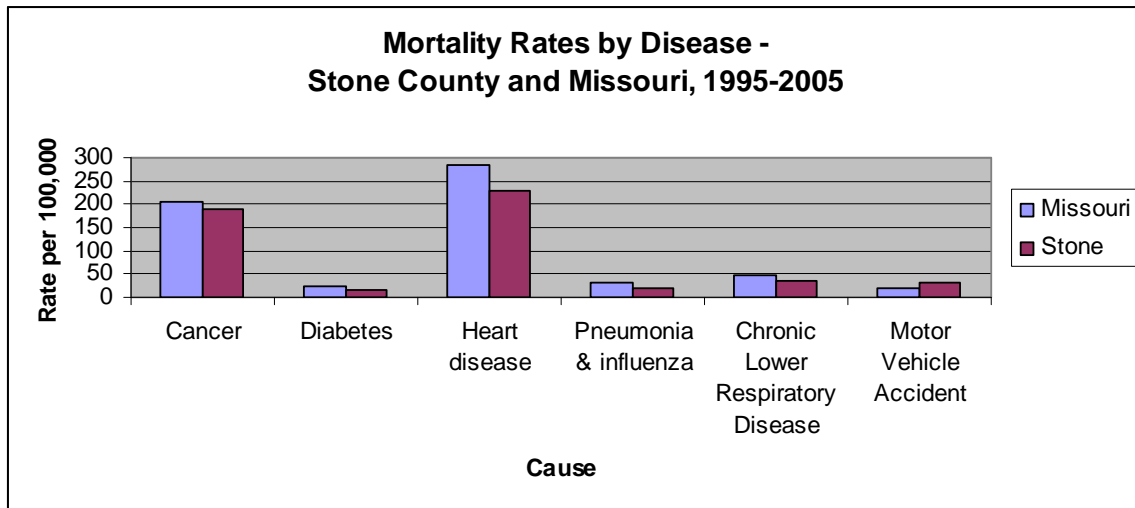
Leading Causes of Mortality

Leading Causes of Mortality

The leading causes of mortality in Stone County are heart disease and cancer (Figure 7.1). In neither case are the rates in Stone County higher than the state. However, the rates for both of these diseases are justified when the number of deaths from lung cancer and the rate of obesity in Stone County are taken into account.

Stone County exceeds the state rate in deaths from motor vehicle accidents; the age group with the largest number of accidents (and hence, mortalities) is 25 to 44.

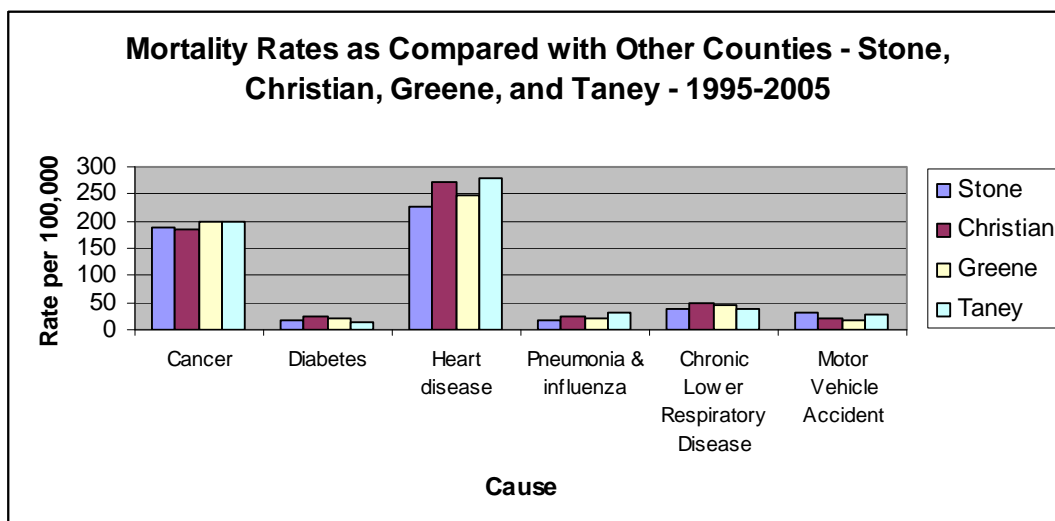
Figure 7.1



Source: Missouri Department of Health and Senior Services, 2007

Figure 7.2 show that Stone County exceeds closely surrounding counties only in the number of fatalities from motor vehicle accidents. The difference is relatively small in the other areas.

Figure 7.2



Source: Missouri Department of Health and Senior Services, 2007

Chapter 8

**Community Health
Improvement Indicators**

Health Care System Indicators

Health Care Providers and Facilities: Stone County does not have a hospital or acute care facility. Residents and guests that require emergency treatment must travel to Skaggs Community Hospital located in Branson or St. John’s Regional Center, Cox Medical Center, and Doctor’s Hospital located in Springfield. Cassville (Barry County) and Aurora (Lawrence County) both have small community hospitals. The closest walk-in care facilities are located over 30-miles away in Branson, Cassville, or Nixa.

There are nine physicians that practice primary health care medicine in Stone County. According to the Missouri Department of Health and Senior Services, the ratio of physicians per population in Stone County is 1:1,959, while Taney County’s ratio is 1:588, Lawrence County’s ratio is 1:1,289, and Barry County’s ratio is 1:1,046. Uninsured residents (23% age 18 and over) have limited resources to receive routine and preventative health care services.

Although physicians practicing in Stone County will accept individuals without health insurance, if the individual does not qualify for a discounted fee they are responsible to pay the full fee at the time of the service. This frequently places a financial burden on the individual and therefore they do not seek medical care. Additional problems that stand between Stone County residents and adequate health care involve lack of transportation, lack of understanding of the gravity of a health situation, and a lack of understanding of the importance of preventive health maintenance.

Medicaid Providers: Although there are health care providers in Stone County who accept Medicaid, there are not enough to meet the demand. The following health care providers are available to the residents of Stone County that are enrolled in Medicaid:

| | |
|---|---|
| Acute Care | Crane Medical Center (Cox Health System Affiliate) Branson West Medical Center (Skaggs Hospital Affiliate) Branson West, St. John’s Family Medicine (St. John’s System Affiliate) Kimberling City, Skaggs Clinic (Skaggs Hospital Affiliate) White Oak Medical Center - Crane |
| In-Patient Acute Care Facilities And Emergency Services | Skaggs Community Health Center – Branson Cox Medical Center South – Springfield Doctor’s Hospital - Springfield St. John’s Hospital – Springfield, Aurora, Cassville Cox Monett Hospital, Inc., - Monett |
| Skilled Long-Term Care | Crane Residential Care Home Ozark Mountain Regional Healthcare Center Table Rock Retirement Village Wedgewood Gardens |
| Emergency Services | First Responders 911 Service Ambulance (Cox, St. John’s, and Skaggs Hospital) |

Dentist

Dr. Burpo, Crane (accepts Children on Medicaid)
Children's Smile Clinic, Christian County

For those who have no other transportation, the Way-to-Go bus runs a regular route for a minimal cost (\$1.00 per trip) and will take anyone needing transportation to medical appointments. The only drawback is that the routes are not always convenient to access for all who need them.

Emergency Response: Although Stone County does have a 911 Emergency System; several factors make a timely response difficult. As stated earlier, Stone County roads are narrow and hilly with many curves. Travel around the Table Rock Lake area is time consuming and dangerous. Traffic congestion is another factor for a timely response. Due to the large volume of tourist, and year-round road conditions, ground emergency response vehicles not only have difficulty responding to homes, but also delivering individuals to a contiguous county for care. Emergency response via air is difficult as well due to the limited space available for safe landings at the site of the emergency.

Chapter 9

**Community Health
Resource Indicators**

Community Health Resource Indicators

Women, Infant, Children Program (W.I.C.) – Stone County Health Department

In April 2006 a survey was distributed to two thousand Stone County residents asking questions about participation in the W.I.C. program. The return rate was 18.5% (361). Of the 361 surveys returned, the following was found:

- 75% stated they knew about the W.I.C. program
- 75% stated they knew how to enroll in the W.I.C. program
- 23% stated they were currently enrolled in the W.I.C. program
- 84% stated they believed the W.I.C. office should be open until at least 6:00 p.m.

As a result of this survey the Stone County Health Department took the following actions:

- Newspaper articles and radio spots were completed to promote enrollment in the program
- W.I.C. office hours were extended to 7:00 p.m. two times per month
- Related agencies have been contacted to encourage promotion for W.I.C. enrollment

Wellness Services For Uninsured Adults (18 and over)– Stone County Health Department

For the last fifteen years the Stone County Health Department has held a monthly wellness clinic for county residents over the age of thirty-five. Although there was no charge for the clinic, the laboratory fee was \$35. Uninsured residents did not participate in the laboratory tests because of the cost. Due to budget restrictions the clinics were on the verge of being closed. A Missouri Foundation for Health (MFH) grant enabled the clinics to continue for at least another two years.

During the past year the clinics have offered 380 uninsured county residents a free blood profile including testing for lipids, metabolic panel, CBC, and thyroid panel. Out of the 380 individuals tested only 26 (7%) had blood results within normal limits on all tests. Two hundred and eighty individuals (79%) had at least one elevated lipid level, while seventy two (19%) individuals had elevated glucose levels, and thirty-four (9%) had one or more elevated thyroid test results.

If the client's laboratory test revealed a potential problem, and they did not have a primary health care home, they were immediately scheduled into the Wellness Clinic to be examined by the clinic physician. Three hundred forty-five individuals received case management services from a registered nurse for abnormal blood test results.

During the first fiscal year, there were seventy-six individuals scheduled into the Wellness clinic specifically for abnormal blood test result follow-up; a total of 115 individuals were seen at the Wellness Clinic during the first grant year. Because of the case management services, a local physician is now seeing twelve of the individuals on a sliding scale payment system.

The Wellness Clinic has made a significant impact on the lives of the uninsured residents of Stone County. Below are brief descriptions of the impact of the Wellness Clinic on four individuals:

- A forty-four year old female clinical exam revealed a low abdominal mass. Follow-up with a specialist confirmed advanced uterine cancer, after surgery she is now receiving chemotherapy.
- A forty-five year old female presented concerned about peri-menopausal symptoms. The exam revealed an emotionally labile individual with hemoglobin of 9.5 as well as fibrocystic disease. She was treated with an anti-depressant and iron supplement. Case management has enabled her to obtain a primary health care home.

- A fifty-seven year old female presented with a history of uncontrolled diabetes. The blood test revealed an elevated cholesterol and glucose level. She received case management and is now seen on a regular basis by a primary health care provider.
- A thirty-nine year old male presented requesting blood pressure medication. The physical exam revealed a possible aortic aneurysm. He was referred for an abdominal ultrasound and received case management for a primary health care home.

Infant and Child Car Seat Initiative – Stone County Health Department

- One-on-one teaching and demonstration with caregivers on infant/child car seat components and proper installation in personal vehicles
- Education on car passenger safety targeting proper usage and installation of infant/child car seats
- Education of adults on proper seat belt usage
- Education to public transportation services on infant/child safety on transportation bus
- Education to public about dangers of purchasing used infant and toddler car seats
- Education to county second-hand vendors about the dangers of selling used infant and toddler car seats
- Education to high-school students on the importance of consistently and properly wearing seat belts

Safe Kids Coalition for Stone County

- Focus group for unintentional and intentional injuries prevention through public information on water, car passenger, fire, bicycle, and pedestrian safety

Children’s Smile Center for Stone and Christian County

- Dental services for children on Medicaid and MC+ ages 4-18

Healthy Families Taskforce for Stone and Taney County

- Education and training for child care providers
- Income tax assistance for low to moderate-income families
- Participation in job fairs
- Participate with local agencies, schools and after school programs to provide healthy lifestyle choices including nutrition and physical education and activities
- Collaboration with area media, civic organizations, and churches

Love Inc.,

- Community Service
- School Readiness Fair

Christian Associates provides the following services

- Legal Services
- Food and Clothing
- Counseling
- Advocate for Family Services
- Assist with rent and utilities
- Domestic Violence Hotline
- Member of Healthy Families Task Force

Ozarks Area Community Action Core (OACAC)

- Electric, natural gas, and propane assistance
- Fund family planning services
- Free fans or air-conditioners
- Assistance with rent
- Assistance with food
- Member of Healthy Families Task Force
- Assist with GED completion

Food Pantries:

- Crane, MO
- Kimberling City, Mo

Gaps In Services

- Dental services for adults on Medicaid
- Primary health care needs for individuals without insurance
- Mental health services
- Sight and hearing impaired services
- Adequate translation services
- Transportation services throughout county
- Timely emergency response
- Lack of recreational facilities in the northern section of the county

Community Health Assessment Summary of Findings

Review of community health status indicators, including primary and secondary data, reveals the following problems:

- Rapid growth of population
- Increased number of adults without insurance
- Increased commercial and residential building
- Increased unemployment rate
- Increased aging population
- Increased injuries in ages 25-44
- Increased motor vehicle accidents
- Increased overweight population
- Increased number of daily commuters
- Increased influx of tourists
- Increased drug/alcohol usage
- Increased tobacco usage in teens and pregnant women
- Increased sexually transmitted diseases
- Increased diabetes rate
- Increased chronic obstructive pulmonary disease (COPD)
- Heart disease and cancer leading causes of mortality
- Limited dental services for adults with Medicaid insurance
- No emergency and acute care facility
- No urgent care after-hour walk-in clinics

Review of Behavioral Risk Factor Surveillance System County Level Data reveals the following problems:

- Physical inactivity
- Smoking
- Overweight
- Obesity
- No health insurance coverage
- High cholesterol
- High blood pressure
- No mammogram and clinical breast exam in past year
- No pap smear in past year

The three most significant problems affecting the health status of population within the jurisdiction of the Stone County Health Department are:

1. No health care coverage, availability, and/or accessibility
2. Overweight/Obesity
3. Injuries from increased motor vehicle accidents

Stone County Health Department Action in Addressing Significant Problems:

- Collaborating with Department of Health and Senior Services, MO Primary Care Association, and Jordan Valley Community Health Center to establish a Community Health Center in Stone County to provide primary health care, mental health, and dental health services to uninsured and Medicaid recipients
- Providing nutritional education on health issues of overweight/obese children, pregnant women, and seniors
- Providing wellness exams and diagnostic blood testing for uninsured adults
- Providing case management for uninsured adults seeking a primary health care provider
- Educating caregivers on proper installation and utilization of infant/child car seats
- Collaborating with Safe Kids Coalition and Healthy Families Taskforce in development of a plan to address injuries of infants and children from improper installation and utilization of unapproved infant/child car seats

Works Cited and Consulted

- Centers for Disease Control and Prevention.
Website: www.cdc.gov
- 2004 Community Assessment for Greene County, Missouri – Springfield-Greene County Health Department
- Missouri Department of Health and Senior Services.
Website: www.dhss.mo.gov
- Missouri Department of Health and Senior Services, Missouri Information for Community Assessment.
Website: www.dhss.mo.gov
- Missouri Department of Mental Health.
Website: www.dmh.mo.gov
- Missouri Department of Social Services.
Website: www.dss.mo.gov
- Missouri Kids Count.
Website: <http://www.oseda.missouri.edu/index.html>
- Missouri Office of Social and Economic Data Analysis (OSED).
Website: <http://www.oseda.missouri.edu>
- Missouri State Highway Patrol, Uniform Crime Reporting Statistical Analysis.
Website: <http://www.mshp.state.mo.gov>
- Tobacco Free Kids.
Website: <http://www.tobaccofreekids.org>
- US Census Bureau, US Department of Commerce, Census 2000.
Website: <http://www.census.gov>