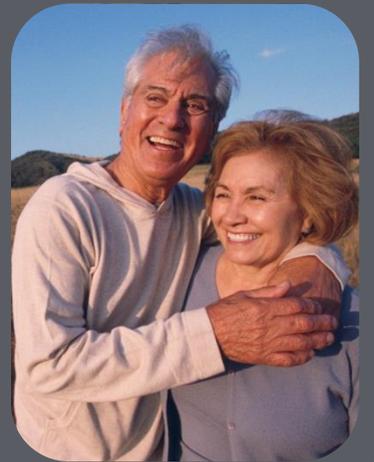
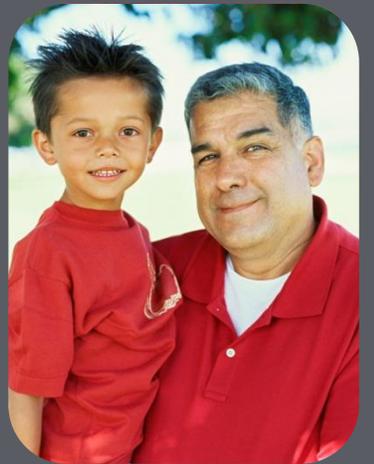
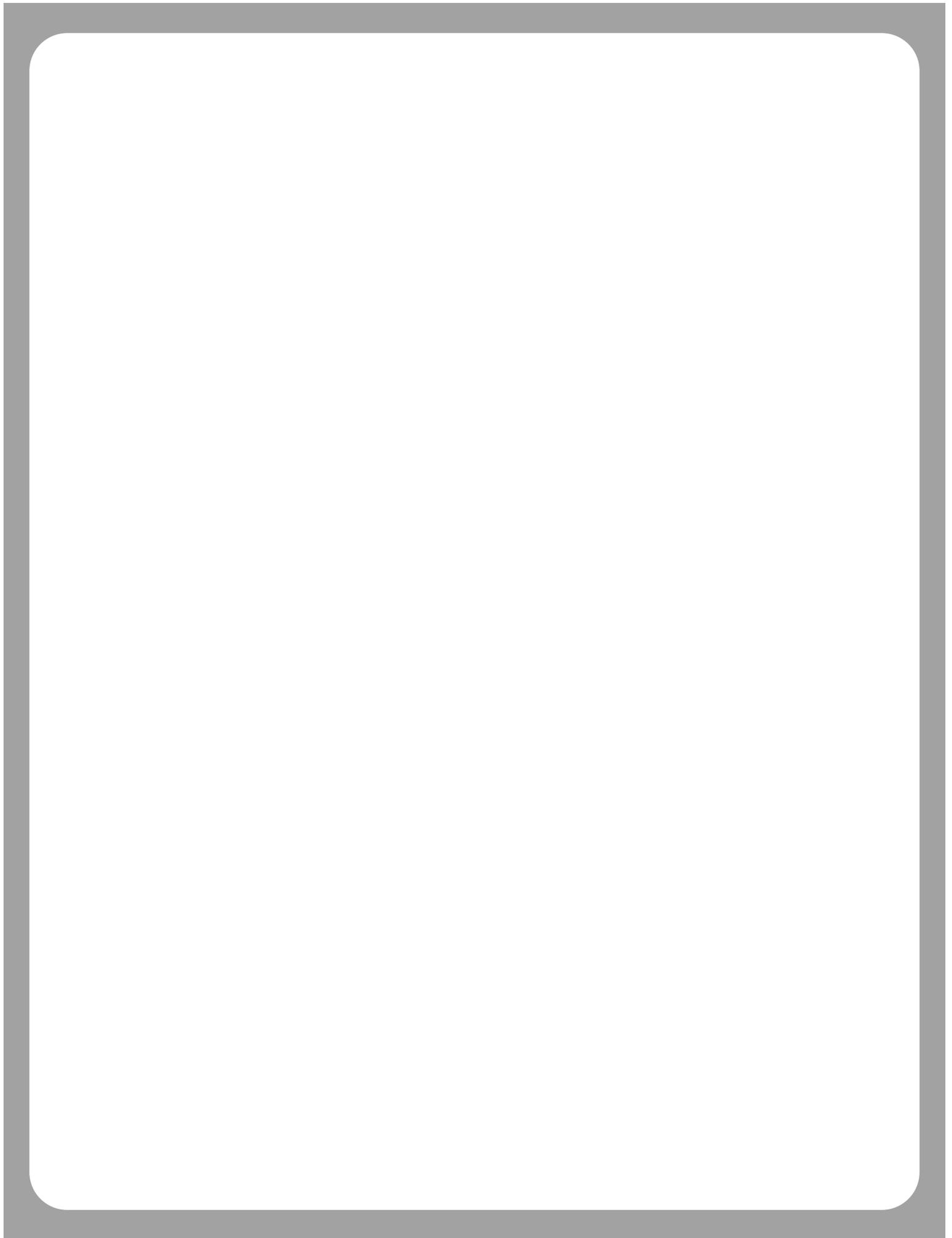


Arkansas's Big Health Problems and How We Plan to Solve Them



Arkansas Department of Health

Keeping your hometown healthy



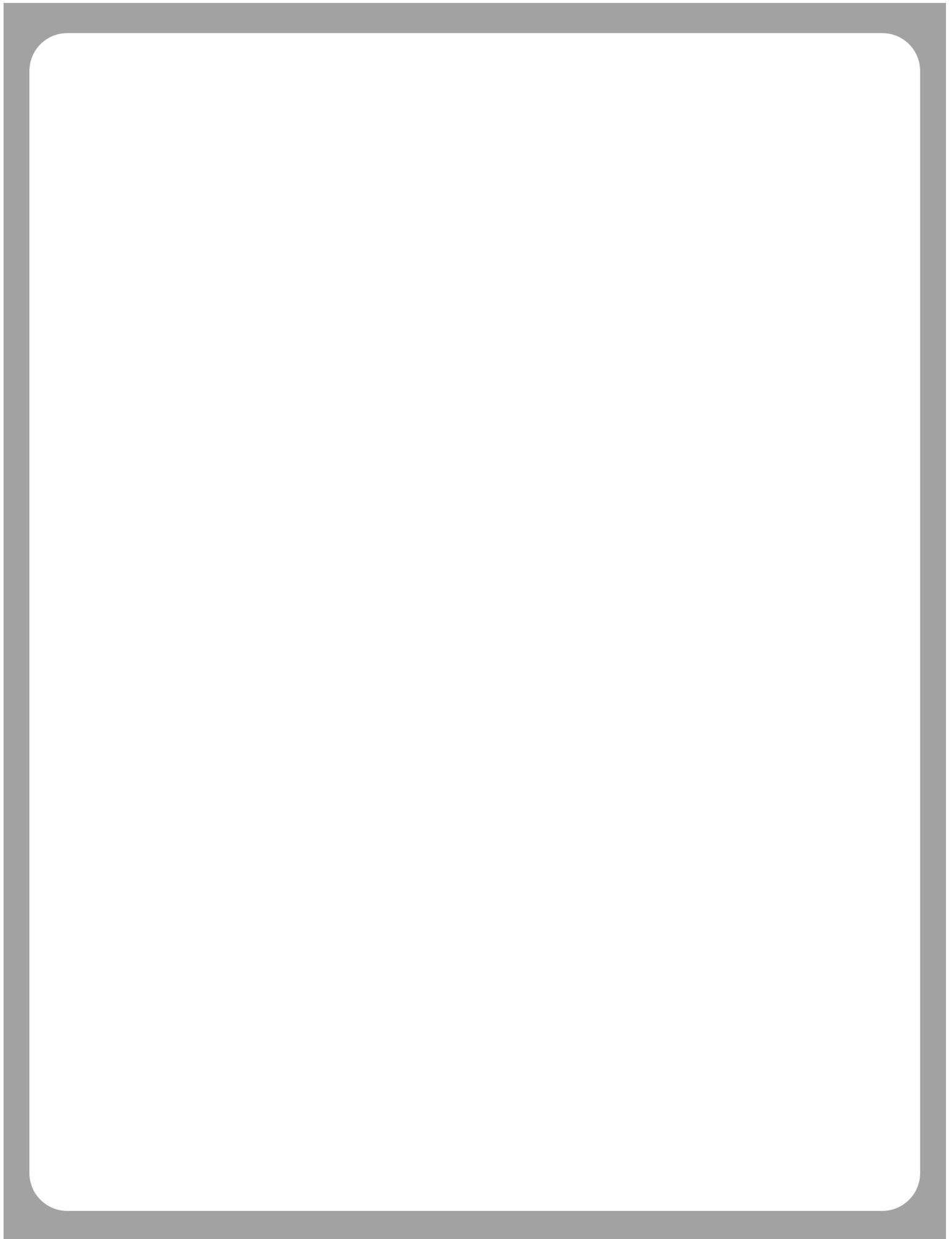
Arkansas's Big Health Problems and How We Plan to Solve Them

State Health Assessment and Improvement Plan

2013

Arkansas Department of Health





Letter from the Director

The *State Health Assessment and Improvement Plan* is a report created by the Arkansas Department of Health to highlight the health status of Arkansans. The purpose of this report is to describe some of Arkansas's major health issues, to define key variables that can affect those health outcomes and to highlight some of the work currently underway within our state to solve these problems.

Though major health issues in our state may not be difficult to understand, we oftentimes use complicated words that confuse even the simplest of ideas. To address that, we have made a special effort to prepare this report in a way that we can all understand, not just doctors and scientists.

While we may lack all the answers, we know enough to take action and to make progress in fighting our biggest health problems. Countless individuals, as you will see, are devoted to and continually work hard to improve the lives of all Arkansans. However, their efforts also rely on the very individuals for which they serve.

We thank you for your interest in this report and hope that you will feel well-informed and encouraged to take action. As we learn and understand more about the connection between communities and their health, we invite you to get involved in working towards and promoting solutions that positively impact the health of yourself, your family and your community. I am convinced we can solve even the biggest health problems in Arkansas, if we work together. Please join us in the effort.



Nate Smith, MD, MPH

Director and State Health Officer



Introduction

Thank you for your interest in this new report on the health of people in Arkansas. The purpose of this report is to give people a general overview of the big health problems in Arkansas. We also want to highlight some of the work that we are doing in our state to solve these problems.

The first chapter of this report describes the people of Arkansas and their overall health. Chapters 2, 3, and 4 are focused on life expectancy, infant mortality, and health literacy in Arkansas. It seems that many of the big health problems in Arkansas are related to these three problems in one way or another. Chapter 5 discusses the high cost of our poor health. Chapters 6 and 7 are about other important issues that affect our health, such as living in rural Arkansas or having unequal opportunities. Chapter 8 is about growing issues that will make it harder for us to solve our health problems, if we do not address those issues. The key plans for solving our big health problems are in Chapter 9. Finally, there are reports and websites you can use to get more information in Chapter 10. We hope you will find this report very useful.

The big health problems in Arkansas are not hard to understand, although sometimes the words we use may make it seem that way. So, we have made a special effort to write this report in a way that is easy for people to read.

We realize that we don't have all the answers about what to do for good health. Yet we already know enough about the big health problems in Arkansas to take action and make progress. As you will see in this report, there are many devoted people who are working hard to make a difference. We have a lot to be thankful for.

We hope that you will also feel encouraged to take action after you have read this report. We invite you to get involved in solving the health problems of your community, as well as your own health problems, because we know that they are often connected. We believe we can solve even the biggest health problems in Arkansas, if we work together. Please join us in the effort.

October 2013
Version 1.1

Arkansas’s Big Health Problems and How We Plan to Solve Them

State Health Assessment and State Health Improvement Plan

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Executive Summary

Arkansas's Big Health Problems and How We Plan to Solve Them

Introduction

The purpose of this report is to give people a general overview of the big health problems in Arkansas. We also want to highlight some of the work that we are doing to solve them, and we want to give people information about the plans in place for the future. This report also serves as the State Health Assessment and Improvement Plan to meet the requirements for accreditation through the Public Health Accreditation Board.

The Arkansas Department of Health worked with key organizations and community members to identify the biggest health problems in Arkansas. The plans for improving the health of Arkansans outlined in this report were based on input from those most involved with the problems. Three health problems were identified as needing immediate attention. They are short life expectancy, high infant mortality and low health literacy.

We made a special effort to avoid using scientific and medical terms so that the report will be more easily understood by everyone. We believe it will take everybody working together to solve the health problems we are facing. We invite you to use this report to get involved in solving the health problems of your community, as well as your own health problems, because we know that they are often both connected.

The People of Arkansas and Their Health

To understand the health problems facing the state it is important to look at the people and how they live. There are close to three million people living in Arkansas. Children under the age of 18 make up 24 percent of the population. Individuals over 65 make up 14 percent. There are slightly more females than males in Arkansas. Since women live longer than men, there are increasingly more females than males in the older age groups.

There are 75 counties in Arkansas. The number of people in each county has changed over the years. Some counties in central Arkansas, northwest Arkansas, and northeast Arkansas have grown in population in the past several years. Many

counties in southern and eastern Arkansas have lost population. Arkansas is very rural compared to the U.S. as a whole. Almost 45 percent of the people in Arkansas live in rural areas, compared to only 19 percent of people in the U.S.

There are 2,245,000 whites in Arkansas, which makes whites the largest racial group. There are 450,000 blacks in Arkansas, which makes blacks the second largest group. Blacks are 15 percent of the population. The main minority ethnic group in Arkansas is the Latino group. There are 186,000 Latinos in Arkansas, which is about six percent of the population.

The education level in Arkansas is lower than the U.S. average for both high school and bachelor's level degrees or higher. Only 83 percent of Arkansans 25 years and over have finished high school or an equivalency exam. In the U.S., 85 percent of adults 25 and over have completed high school.

The average family income in Arkansas is \$50,000 per year. This amount is lower than the average family income in the U.S., which is \$64,000. Family income takes into account every person in the family who works, so it may include more than one worker.

Arkansas's poverty rate is high. At 18 percent, it is the fifth highest in the U.S. This means there are 545,000 people in Arkansas who are living in poverty. The counties in southeast Arkansas have the highest poverty rates. The counties with the lowest poverty rates are in central and northwest Arkansas.

There are 490,000 people in Arkansas who live with a disability, not including those who live in nursing homes. This is 17 percent of the total population, which is much higher than the U.S. rate of 12 percent. Many people with disabilities also live in poverty.

There are 7,600 homes without plumbing and 11,000 without kitchens. There are 47,000 homes in Arkansas with no phone service available. There are also 73,000 homes with no cars, vans, or trucks that are kept at the home for household use of members.

Overall, Arkansas is ranked very low in terms of overall health. We are ranked 48th out of 50 states. Arkansas ranks low for many reasons, which are described in this report.

Life Expectancy

Life expectancy is defined as the average number of years a person is predicted to live, based on the death rates for the year being studied. In 2008, the

average life expectancy in Arkansas was 76.0 years. This was shorter than the U.S. life expectancy of 78.0 years. All but three of the 75 counties in Arkansas had life expectancies lower than the national average. Benton County in northwest Arkansas had the longest life expectancy, which was 79.8 years. Phillips County in eastern Arkansas had the shortest life expectancy, which was 69.8 years. This is a 10-year difference in life expectancy. There were 17 counties with life expectancies that were six to 10 years shorter than Benton County.

The causes of death that lead to a shorter life expectancy are those that cause people to die early. The leading causes of death in Arkansas include chronic diseases, accidents, and flu and pneumonia. Most of the leading causes of death are chronic diseases. They include heart disease, cancer, chronic lung disease, stroke, diabetes, and kidney disease. Arkansas has very high rates of chronic diseases, because we have very high rates of obesity, high blood pressure, tobacco use, and lack of physical activity. These can all lead to early death from chronic disease.

Accidents are the fifth leading cause of death in Arkansas. In 2008, almost 1,500 people in Arkansas died from accidents. Accidents are the number one killer of Arkansans between the ages of one and 44. Motor vehicle accidents are the most common cause of accidental death.

Death from influenza and pneumonia is the eighth most common cause of death in Arkansas. In 2008, over 800 people in Arkansas died from influenza and pneumonia.

Infant Mortality

Infant mortality is defined as the number of babies who die out of every 1,000 babies who are born alive in a year. In 2009, 290 babies died in Arkansas before their first birthday. The infant mortality rate for that year was 7.3 deaths per 1,000 live births. The U.S. infant mortality rate for the same year was 6.4. In Arkansas, blacks have higher rates of infant mortality when compared to whites or Latinos. In 2009, the infant mortality rate for blacks was 11.3, compared to 6.6 for whites, and 5.5 for Latinos.

Infant mortality can be divided into neonatal mortality and post-neonatal mortality. When newborn babies die less than 28 days after they are born, it is called neonatal mortality. When babies die, who are older than 27 days but younger than one year, it is called post-neonatal mortality. The leading causes of neonatal death in Arkansas are birth defects, prematurity, problems with the mother's pregnancy, difficulty breathing, and bleeding. The leading causes of post-neonatal

death in Arkansas are AIDS, birth defects, accidents, problems with blood circulation, lung problems, infection, and murder.

Health Literacy

Health literacy is often defined as how well people can get and use information to make good choices about their health. It consists of a wide range of skills that people use to get and act on information so that they can lead healthier lives. These skills involve reading, writing, listening, asking questions, doing math, and analyzing the facts.

Health literacy is also how well doctors, nurses, and other health care workers meet their patients' needs in a way that helps their patients know what they need to do to take care of themselves.

There is often a mismatch between the skills of the patient and the demands placed on them by the clinics, hospitals, and insurance companies. It is estimated that there are 820,000 adults in Arkansas with low health literacy. This is 37 percent of the adult population.

The Cost of Poor Health

One way to look at the cost of poor health is to find out how much it costs the health care system to give people the health care they need. These costs are for doctor visits, medicine, operations, and being in the hospital. These costs are called direct costs, because they are the costs that are directly tied to people's health problems.

People also have indirect costs. Indirect costs are lost wages from missed work or taking care of family due to sickness. Indirect costs can also be the cost of hiring someone to take care of a sick family member.

One more way to look at the cost of poor health is to look at the loss in productivity to the economy when people are not able to work because they are sick or have died. Also, the economy loses productivity when people are able to work, but they do their jobs poorly because they are sick, or they have to miss work often to take care of sick family members.

One study done by the Milken Institute looked at the cost of seven of the most common chronic diseases for the year 2003. The seven diseases were cancer, asthma, diabetes, high blood pressure, heart disease, stroke, and mental health problems. In Arkansas, the cost to treat these seven chronic diseases was \$2.6 billion. The cost of lost productivity was \$11.3 billion. The total cost to Arkansas for

treatment and lost productivity was \$13.9 billion. The future cost to Arkansas will be \$7.3 billion for treatment and \$34.7 billion for lost productivity with a total of \$42.1 billion in 2023.

Rural Health

Almost 45 percent of Arkansans live in rural areas. People who live in rural counties tend to have shorter life expectancies. Babies in those counties tend to have higher infant death rates. The adults who live in rural counties are also more likely to struggle with low health literacy.

People in rural areas may experience barriers to good health that people who live in cities may not. For example, people who live in rural counties have higher rates of chronic diseases and are more likely to be involved in serious accidents. They must travel greater distances to see a doctor or go to the hospital. They have fewer places to buy healthy food.

Equal Opportunity for Good Health

Where people live, work, and play has a huge impact on whether they stay healthy. Sadly, not all Arkansas communities have the same opportunities for the people who live in them to exercise personal responsibility and make choices that lead to good health. The differences in the opportunities lead to differences in the health of the people in those communities.

A way to look at the differences in health opportunities is to compare racial and ethnic groups about a particular health problem. When one group has a much higher rate of disease compared to another, then we say that there is health disparity in that group. HIV is an example of a health problem with a large health disparity. In Arkansas, the HIV death rate for blacks is almost seven times higher than for whites.

Not all health disparities are in minority groups, however. Suicide is an example of a health problem with a very high rate among whites. The death rate from suicide for whites is more than five times higher than for blacks.

Health disparities can also be uncovered by comparing groups by using other traits, such as age, sex, income, or disability. Improving opportunities for all Arkansans to make healthy choices will go a long way toward lowering health disparities in our state.

Emerging Public Health Issues

There are a number of issues that will be important in meeting the public health needs of Arkansans in the near future. Three key issues of particular concern are the growing number of older adults, the lack of access to the Internet and the shortage of health workers in the state.

By 2030, the number of adults older than 60 will almost equal the number of children, and there will be more adults who are older than 60 than there will be in either the 20 to 39 years age group or the 40 to 59 years age group. The rapidly increasing number of older adults will greatly raise the need for health and social services in Arkansas. This is especially true because older adults have more chronic health problems.

The Internet is becoming an important way for people in Arkansas to get health information. About 25 percent of people in Arkansas do not use the Internet. This means that one fourth of the people in Arkansas do not have the same chance to get health information that others do. It also means that agencies and organizations that rely only on the Internet to share their information will miss an important part of the population.

More than half a million Arkansans live in areas of the state that have a shortage of primary medical care, dental, and mental health workers. People in these shortage areas have a problem getting the health care they need. The problem is going to be worse in the future, because of the increasing number of older patients, the many older health professionals who will soon be retiring, and the increasing rates of chronic disease.

Plans for Improving Our Health

There are important efforts underway to address the big health problems facing Arkansas. This chapter focuses on the state plans in place to address short life expectancy, high infant mortality, and low health literacy.

Life Expectancy

Chronic Diseases

The Arkansas Chronic Disease Forum has developed the Healthy People 2020: Arkansas's Chronic Disease Framework for Action to guide state efforts to decrease chronic diseases. Its goals are:

1. Increase the percentage of Arkansans of all ages who take part in regular physical activity.

2. Promote tobacco cessation among Arkansans of all ages.
3. Improve access to testing and health care for all chronic diseases in rural and underserved areas.
4. Educate and inform the public on health issues about community partnerships, prevention, screening, treatment, outreach, and control of chronic diseases.
5. Develop and begin a legislative agenda to support the policy and fiscal needs of chronic disease activities.
6. Support the development of communities that promote lifelong physical activity, healthy nutrition, and tobacco-free environments.

Injuries

To decrease injuries, the Arkansas Department of Health worked with the Trauma Advisory Council Injury Prevention Subcommittee, the Injury Community Planning Group, and the National Governors Association State Leaders Prescription Abuse Planning Committee to create the Arkansas State Injury and Violence Prevention Plan for 2013-2018. Its goals are:

1. Reduce motor vehicle crashes.
2. Prevent suicide.
3. Reduce unintended poisoning.
4. Reduce falls.

Flu

The Immunization Program at the Arkansas Department of Health has worked with local communities, schools and other organizations to develop a state plan. The single goal of the Arkansas Flu Prevention Plan is to increase the number of people in Arkansas who receive a yearly flu vaccine.

Infant Mortality

The Infant Mortality Action Group has developed a state plan for lessening infant deaths in Arkansas. Members of the Infant Mortality Action group are from several agencies and organizations. The goals of the Infant Mortality Action Plan are:

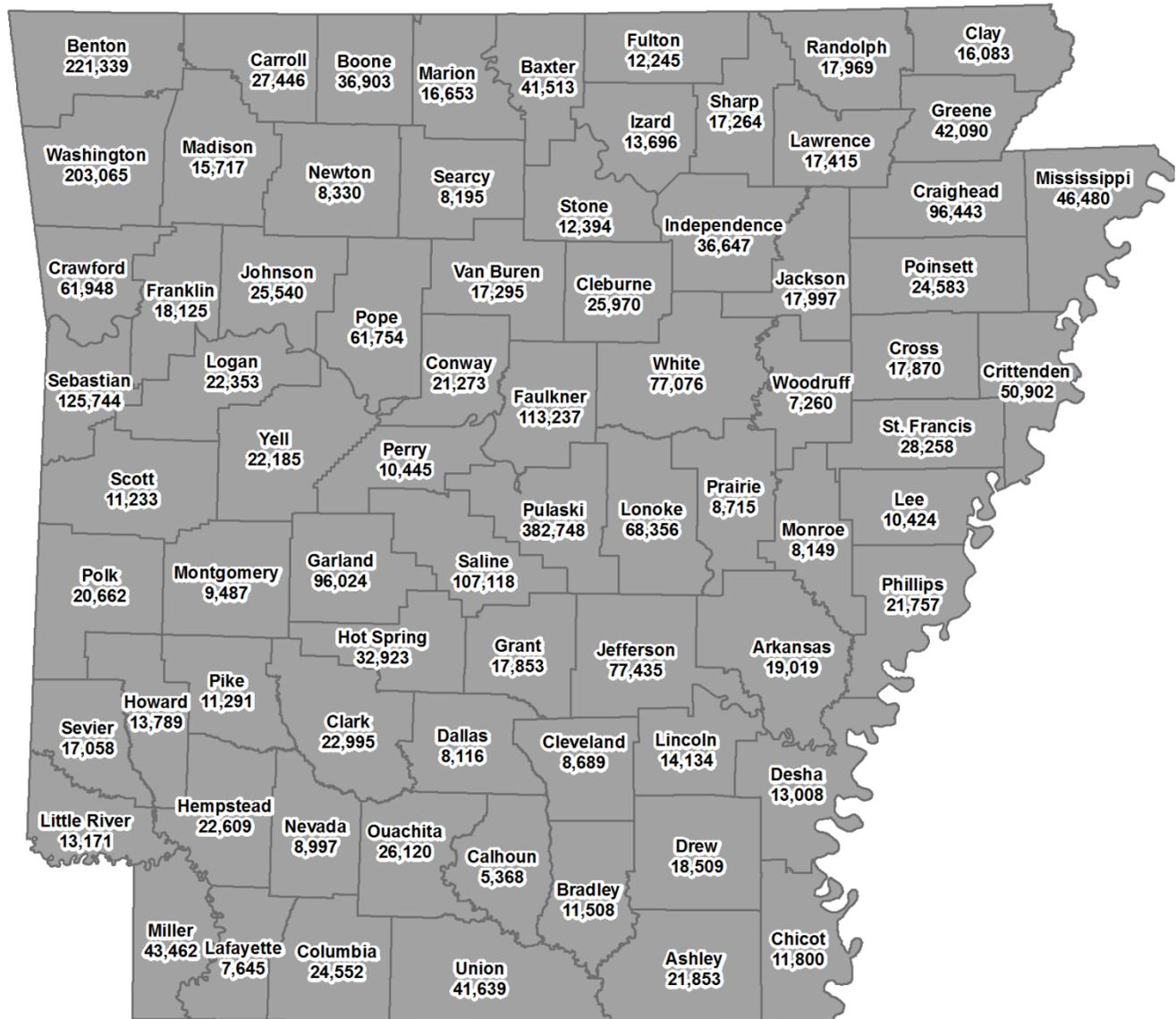
1. Improve our understanding of the causes of infant death in Arkansas.
2. Prevent unplanned pregnancies.
3. Prevent low birth-weight and birth defects.
4. Prevent post-neonatal mortality.
5. Increase access to quality and appropriate care before and after birth.

Health Literacy

The Partnership for Health Literacy in Arkansas has developed a state action plan that is modeled after the National Action Plan to Improve Health Literacy. The Partnership's members are people from adult education and literacy organizations, state agencies, universities, health care organizations, libraries, and many other organizations. Its plan is called the Arkansas Action Plan to Improve Health Literacy. The goals are:

1. Make health and safety information easy to grasp so that people who need it can get it and use it to take action.
2. Make changes that improve the health literacy of the health care system.
3. Include health literacy in the lessons and curricula for all children in Arkansas, from infants in child care through college students.
4. Work with the adult education system and other organizations in Arkansas to improve the health literacy of the people in the communities they serve.
5. Build a network of health literacy partners committed to making changes at their organizations that will improve health literacy in Arkansas.
6. Do research to better understand and measure what works to improve health literacy of the public and the health care system.
7. Share and promote the use of health literacy practices that are based on the best science possible.

Figure 1.1: Population in Arkansas by county in 2010



Data Source: 2010 US Census Bureau

The total population in Arkansas in 2010 was 2,915,918.

Chapter 1

The People of Arkansas and Their Health

In this chapter, we will describe the people of Arkansas. We will talk about the number of people in Arkansas and where they live. We will discuss the main racial and ethnic groups. We will discuss education, work, and how much people earn, as well as the number of people living in poverty and the number of people living with a disability. We will then look at the number of households in Arkansas and the homes that people live in. Lastly, we will discuss the health status of the people of Arkansas and how our health ranks compared to other states.

How many people live in Arkansas?

There are close to three million people who live in Arkansas, which makes Arkansas one of the smaller states. We are ranked 32nd among the 50 states in the U.S. for total size. The map on page 16 gives the population size for each of Arkansas's 75 counties.

Arkansas has more than 710,000 children who are under the age of 18. Children are, therefore, 24 percent of the population. This means that 24 out of every 100 people are children.

Among adults of working age, there are a little more than one million people between the ages of 18 and 44. This group makes up 35 percent of the population. Also, there are almost 760,000 people between the ages of 45 and 64. This group is 26 percent of the population.

Among adults of retirement age, there are almost 420,000 Arkansans who are age 65 and over. This group is 14 percent of the population. Of the people who are over 65, there are more than 51,000 people who are 85 and over. This group is two percent of the population. The number of older adults in Arkansas is growing faster than all of the other age groups.

The average age in Arkansas is 37.4 years, which is very close to the average age of 37.2 in the U.S. In Arkansas, as in the U.S., women tend to live longer than men. Therefore, the average age of 38.7 years for females is older than the average age of 36.1 for males.

There are slightly more females than males in Arkansas. That is, for every 100 females there are 96 males. Since women live longer than men, there are increasingly more females than males in the older age groups. For example, in the

65 and over age group there are 240,000 women compared to 180,000 men. In the 85 and over age group, there are 35,000 women and 17,000 men. So in the 85 and over age group there are only 47 males for every 100 females. In other words, there are more than twice as many women in the 85 and over age group.

Where do people live?

There are 75 counties in Arkansas. The county with the most people is Pulaski County, where Little Rock is located. The county with the smallest population is Calhoun County, which is in southern Arkansas.

The number of people in each county has changed over the years. Some counties in central Arkansas, northwest Arkansas and northeast Arkansas had an increase in the number of people living there during the past several years. Benton County had the greatest increase. The population there grew from 153,000 to 221,000 between the years of 2000 and 2010. This is a 29 percent increase.

Many counties in southern and eastern Arkansas had a decrease in the number of people living there. Jefferson County had the largest decrease in the overall number of people who live there. The population there decreased from 84,000 to 77,000 between the years of 2000 and 2010. Monroe County had the largest decline in proportion of the people living there. The number of people living in Monroe County decreased from 10,000 to 8,000 between the years 2000 to 2010. This is a 20 percent decrease. Overall, 36 counties in Arkansas had a decrease in their population. All of the counties with population decreases were rural counties except for Jefferson County, which is an urban county.

A rural county is any county that is not part of a city with a population of 50,000 people or more. By this definition, 54 of the 75 counties in Arkansas are considered rural. Arkansas is very rural compared to the U.S. as a whole. Only 19 percent of people in the U.S. live in rural areas, compared to 44 percent of the people in Arkansas.

What are the main racial and ethnic groups in Arkansas?

There are a little more than 2,245,000 whites in Arkansas, which makes whites the largest racial group. This group makes up 77 percent of the population. There are 450,000 blacks in Arkansas, which make blacks the second largest group. Blacks are 15 percent of the population.

The next largest group is Asians, which is made up of several smaller groups. Overall, there are more than 36,000 Asians, which is one and a half percent of

Arkansas's population. Included in the Asian group are Indian (8,000), Vietnamese (5,500), Chinese (5,200), Filipino (3,900), Korean (2,300) and Japanese (1,100).

There are also more than 22,000 Arkansans who are American Indians or Alaska natives. This group makes up a little less than one percent of the population. Also, Arkansas is home to more than 5,900 people in the Native Hawaiian and other Pacific Islander group. Most of the people in this group are Pacific Islanders from the Marshall Islands. There are more than 4,700 people in this group, and they make up less than a half percent of our population. Arkansas is home to the second largest group of Marshall Islanders living outside of the Marshall Islands. The largest group is in Hawaii.

There are many people who belong to more than one racial group. There are 57,000 Arkansans in this category, which is two percent of the population.

The main minority ethnic group in Arkansas is the Latino group. This group is also called Hispanic. There are 186,000 Latinos in Arkansas, which is about six percent of the population. There are several smaller groups included in the Latino group. The largest groups are Mexican (138,000), Puerto Rican (4,800) and Cuban (1,500). There are also 42,000 Arkansans that belong to other Latino groups.

What is the level of education in Arkansas?

The level of education is lower in Arkansas than the U.S. average for both high school and bachelor's level degrees or higher. There are 1,900,000 adults in Arkansas who are 25 years and over. Only 83 percent of them have finished high school, including those who have passed an equivalency exam. This means that there are about 330,000 adults in Arkansas who have not completed high school or the equivalent. In the U.S., 85 percent of adults 25 and over have completed high school.

Only 370,000 adults in Arkansas have completed a bachelor's degree or higher. A bachelor's degree usually takes four years of college to complete. This is about 20 percent of the adults. In other words, only 20 out of each 100 adults in Arkansas have a college degree. This level of education is much lower than in the U.S. where 28 percent of adults have a college degree.

What type of work do people in Arkansas do?

There are about 1,300,000 workers age 16 and over in Arkansas. This number does not include people who work for the military. About 960,000 Arkansans are private wage and salary workers, which is 77 percent of the workforce. There are 210,000 who are government workers, which is 16 percent.

There are also 85,000 workers in Arkansas who are self-employed. And there are 2,500 people who are unpaid family workers.

People work in a variety of fields in Arkansas. The largest industry is educational service, health care, and social assistance, where 290,000 people are employed. The next largest is manufacturing, where 180,000 people are employed. And the third largest industry is the retail trade, which employs 170,000 people. Of the small industries, the industry group that includes agriculture, forestry, fishing and hunting, and mining employs 42,000 people. The next smallest is the wholesale trade, with 34,000 workers. The smallest is the information industry, which employs about 22,000 people.

How do people get to work?

The vast majority of people in Arkansas travel to work by driving alone in a car, truck or van. This is more than one million people. However, 140,000 people carpool. About 22,000 people walk to work and 5,300 people use public transit. Another 18,000 people get to work in other ways, such as by riding a motorcycle or bicycle. On average, it takes people in Arkansas a little longer than 21 minutes to get to work. Of course, not every person has to travel to work. There are about 40,000 people in Arkansas who work at home.

How much do people in Arkansas earn?

The average family income in Arkansas is \$50,000 per year. This amount is lower than the average family income in the U.S., which is \$64,000. Family income takes into account every person in the family who works, so it may include more than one worker.

The type of average used in this section is the median. Median income means that half the people earn more than the dollar amount given, while the other half earn less.

Another way to look at income is by individual workers. In Arkansas, the average worker earns \$25,000 per year. This amount is less than the \$30,000 earned by the average worker in the U.S. This amount includes people who only work part-time or only part of the year.

We can also compare men and women. In general, women in Arkansas earn less than men. Women who work full-time all year long earn an average of \$30,000 per year, compared to men, who earn \$39,000. In the U.S., women who work full-time, year-round earn \$37,000 per year, while men earn \$48,000.

How many people in Arkansas live in poverty?

The poverty rate in Arkansas is 18 percent. This is the fifth highest in the U.S. This means there are 545,000 people in Arkansas who are living in poverty.

The child poverty rate in Arkansas is even higher. It is 27 percent for all children under the age of 18 and 31 percent for all children under the age of five. In other words, close to one third of all small children live in poverty.

For adults 18 and over, the poverty rate is 16 percent. For adults age 65 and over, the poverty rate is 11 percent.

Counties in southeast Arkansas have the highest poverty rates, especially those next to the Mississippi River. The counties with the lowest poverty rates are in central and northwest Arkansas.

People live in poverty when their yearly incomes are less than the dollar amounts used by the U.S. Census Bureau to define poverty. These dollar amounts are called thresholds. The poverty thresholds change according to the size of the family and the ages of the family members. They are updated each year, as well. For example, in 2010 the poverty threshold for a family of four with two children under the age of 18 was \$22,113. For one person age 65 and over, the poverty threshold was \$10,458.

How many people in Arkansas live with a disability?

There are 490,000 people in Arkansas who live with a disability, not including those who live in nursing homes. This is 17 percent of the total population. This is much higher than the U.S. rate, which is 12 percent. Overall, the disability rate for men and women is the same. The largest age group for people with a disability is adults age 18 to 64. In that group there are 270,000 people with a disability, which is 15 percent of all 18- to 64-year-olds in Arkansas. The group with the highest rate of disability is adults of retirement age. There are 180,000 adults in Arkansas in the 65 and over age group who live with a disability. The disability rate in that group is 43 percent.

Disability can make it harder for a person to earn an income above the poverty threshold. Many people living with disabilities rely on government support programs, such as Temporary Assistance for Needy Families, SNAP or Medicaid. SNAP means Supplemental Nutrition Assistance Program. In Arkansas 36 percent of the 480,000 people who get government assistance are people with a disability. This is much higher than the U.S. rate of 30 percent.

How many households are there in Arkansas?

People in Arkansas live in 1,120,000 households. A household consists of all the people who live together in a house or an apartment. The people can be related family members, or they can be unrelated people who are sharing a house or apartment. A person living alone is also counted as a household. The count of households does not take into account people living in group quarters, such as school dormitories, nursing homes and correctional facilities.

There are 760,000 family households in Arkansas. These make up 68 percent of the total households. A family household includes people related by birth, marriage, or adoption, and also any unrelated people, who may be living with them. There are 330,000 family households that include children under the age of 18. About 560,000 family households are headed by a married couple, which is half of all of the households in Arkansas. A little more than 210,000 of the married-couple households include children under the age of 18. There are 150,000 family households that are headed by a single woman, and 48,000 headed by a single man.

There are 360,000 nonfamily households in Arkansas, which is about one third of all the households. Most of the nonfamily households consist of a householder who lives alone. In Arkansas there are 310,000 households with just one person in them. Many one-person householders are people age 65 and over. In fact, there are over 110,000 people in Arkansas who are age 65 and over and who live alone.

What type of housing do people live in?

The people of Arkansas live in 1,120,000 housing units. A housing unit means a home that is a house, an apartment, a mobile home, a group of rooms or a single room that is intended as a place for people to live. Most people own the home they live in. This group makes up 67 percent of the housing units. About 33 percent of housing units are rented. In other words, one out of every three housing units is rented.

Most homes are heated by electricity or gas. Together, electricity and gas are used to heat 95 percent of all Arkansas homes. However, there are 51,000 homes heated by wood and 2,000 homes with no source of heat at all.

There are 7,600 homes without plumbing and 11,000 without kitchens. There are 47,000 homes in Arkansas with no phone service available. There are also 73,000 homes with no cars, vans or trucks that are kept at the home for household members to use.

How is the general health of people in Arkansas?

Each year the Arkansas Department of Health does a phone survey to track the health of people in Arkansas. According to that survey, 15 percent of the adults in Arkansas have **excellent** health, 27 percent have **very good** health and 33 percent of Arkansas adults have **good** health. These three groups make up 75 percent of the adults in Arkansas, which is the same as three out of every four adults. On the other hand, 17 percent have only **fair** health, while eight percent have **poor** health. These two groups make up 25 percent of the adults in Arkansas, which is equal to one out of every four.

Fewer people in Arkansas have excellent or very good health compared to the country as a whole. In the U.S., 19 percent of adults have excellent health and 33 percent have very good health. Conversely, more people in Arkansas have good, fair or poor health compared to the U.S. In the U.S., 32 percent of adults have good health, 12 percent have fair health, and five percent have poor health.

Arkansas is ranked very low in terms of overall health. We are ranked 48th out of 50 states. Only Louisiana and Mississippi have lower rankings. Arkansas ranks low for many reasons. These reasons include high rates of early death, infant death, and death from chronic diseases. They also include other factors, such as unhealthy lifestyles, low high school graduation rates, and differences based on where people live in the state. We will talk about many of these problems in other chapters of this report. We will also discuss what we can do to address the health problems in Arkansas, which is perhaps even more important.

Most of the facts in this chapter are from the 2010 U.S. Census or the American Community Survey. The health facts are from the Behavioral Risk Factor Surveillance Survey. The ranking comes from the 2012 America's Health Rankings by the United Health Foundation. You can find more information about these surveys in Chapter 10 on page 119.

Chapter 2

Life Expectancy

This chapter is about life expectancy in Arkansas. We will talk about the health problems that result in a shorter life expectancy compared to the U.S. We will also compare life expectancy between counties in Arkansas and discuss what we can do to improve life expectancy.

What is life expectancy?

Life expectancy is a general way of measuring the overall health of a population. It is defined as the average number of years a person is predicted to live, based on the death rates for the year being studied. In this report we are discussing life expectancy at birth. The most recent year for which we have life expectancy data is 2008. So the life expectancy for 2008 is the number of years a baby born in 2008 is expected to live.

Why is short life expectancy a problem?

Short life expectancy is a problem for several reasons. One of the main reasons is the preventable loss of human life. By that we mean the early death of family, friends, neighbors, or co-workers. For example, children may lose a parent or grandparent at a time when they are very reliant on them. Cities and towns may lose residents, who have the knowledge and experience needed to solve their communities' problems. Also, employers may lose the employees that they have taken the time and the money to train. The shorter the life expectancy a population has, the more often this type of early death will happen.

Another reason short life expectancy is a problem is that it has a bad effect on the economic growth of an area. The bad effect on the economy results from lost workforce productivity, because early death removes so many skilled people from the workforce.

The harmful economic effect also occurs because unhealthy communities are not able to invest in the economic growth that they need to be successful, such as improving the schools in the county. The funds that could have been used for such things are instead used to pay medical bills and other costs related to poor health. These types of costs add up over time.

What is the life expectancy in Arkansas?

In 2008 the average life expectancy in Arkansas was 76.0 years. This was shorter than the U.S. life expectancy, which was 78.0 years. All but three of the 75 counties in Arkansas had life expectancies lower than the national average.

Benton County in northwest Arkansas had the longest life expectancy, which was 79.8 years. Phillips County in eastern Arkansas had the shortest life expectancy, which was 69.8 years. This is a 10-year difference in life expectancy. There were 17 counties with life expectancies that were six to 10 years shorter than Benton County. These were Fulton, Dallas, Little River, Monroe, Polk, St. Francis, Desha, Union, Lee, Crittenden, Chicot, Jackson, Woodruff, Ouachita, Mississippi, Poinsett, and Phillips counties.

The map on the page 24 shows the life expectancy for all the counties in Arkansas. The counties that are solid red have the shortest life expectancy. As you can see, most of the red counties are in the delta region along the eastern border of Arkansas, while many others are in the southwest part of the state.

In 2011, the Arkansas Legislature passed Act 790, which named the counties with the shortest life expectancies “Red Counties.” Act 790 encourages state agencies, boards and commissions to provide programs, services, and research to improve health and health care in the “Red Counties,” so that people in these counties can live longer.

What are the main causes of death in Arkansas?

The causes of death that lead to a shorter life expectancy are those that cause people to die early. The most common causes of death in Arkansas for 2008 are listed below. All of these, except for Alzheimer’s disease, often lead to early death.

Table 2.1: The leading causes of death in Arkansas in 2008

Rank	Cause of Death
1	Heart Disease
2	Cancer
3	Chronic Lung Disease
4	Stroke
5	Accidents
6	Alzheimer’s Disease
7	Diabetes
8	Influenza and Pneumonia
9	Kidney Disease
10	Blood Poisoning

Data Source: Arkansas Department of Health

Chronic Diseases

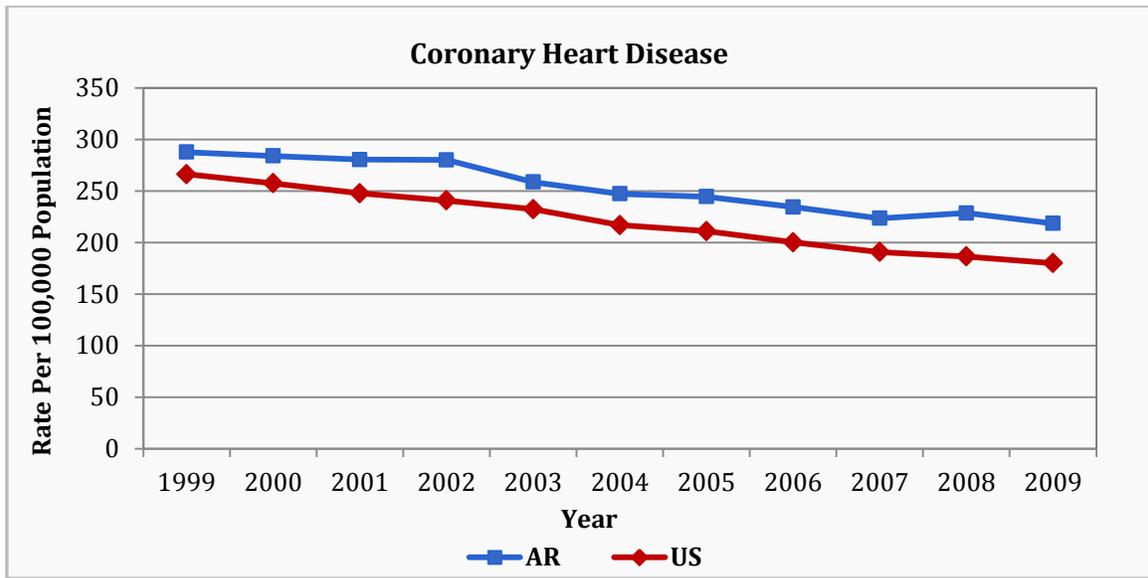
Most of the leading causes of death in Arkansas are due to chronic diseases. Heart disease, cancer, chronic lung disease, stroke, Alzheimer's disease, diabetes and kidney disease are all chronic diseases. Arkansas has very high rates of chronic diseases compared to the U.S. as a whole. Within Arkansas, the counties with the shortest life expectancy tend to have the highest rates of chronic diseases. In this part of the report we will discuss the leading chronic diseases except Alzheimer's disease, which we will discuss in Chapter 8.

Heart disease is the leading cause of death in the U.S. and in Arkansas. In 2008, more than 7,500 people in Arkansas died of heart disease. It was the cause of 25 percent of all deaths in the state that year.

There are several types of heart disease. Coronary heart disease is the most common type. It is caused by the build-up of plaque in the arteries to a person's heart. The arteries carry blood and oxygen to the heart. Plaque is made of fat, cholesterol and other substances. The build-up of plaque is also called hardening of the arteries. As the plaque builds up, the arteries get narrow. As a result, blood flow to the heart can slow down or stop. If the blood flow stops, the heart muscle can be harmed as a result. This is called a heart attack. People often die from heart attacks. If they survive, they may be badly disabled, and no longer able to work or take care of their families.

The chart on the next page shows the death rates from coronary heart disease for Arkansas compared to the U.S. for several years. The death rate is also called the mortality rate. It shows that the death rate has decreased, but it has not decreased as quickly in Arkansas as it has for the U.S.

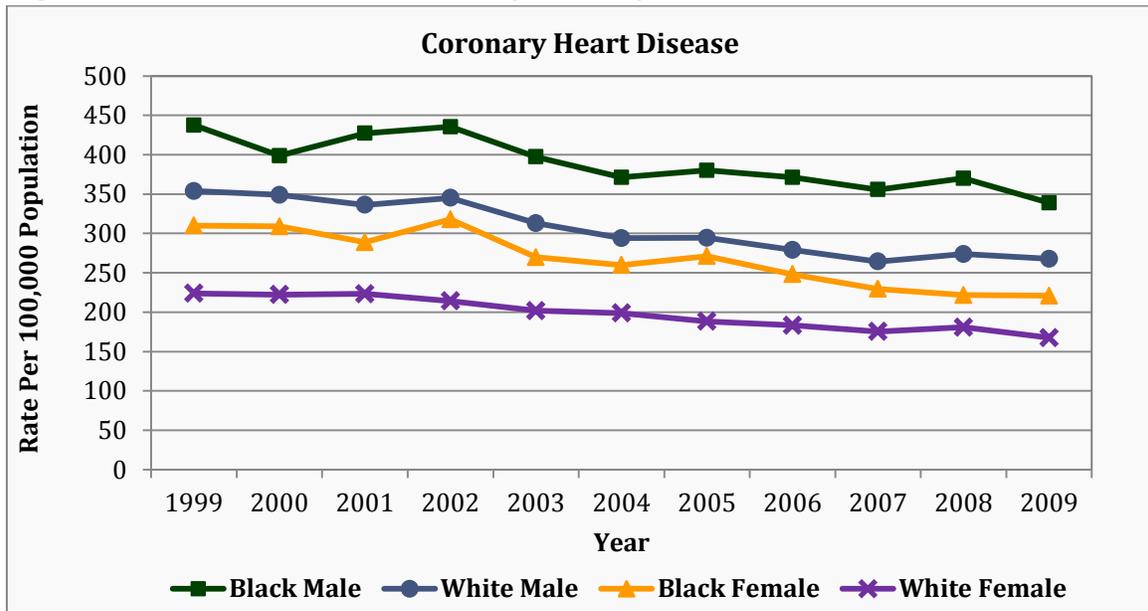
Figure 2.2: Arkansas and U.S. CHD mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Here is a chart that shows the death rates from coronary heart disease for blacks and whites in Arkansas. It shows that blacks have higher death rates than whites. It is important to note that men also have higher death rates from heart disease than women, no matter their race.

Figure 2.3: Arkansas CHD mortality rates by race and sex



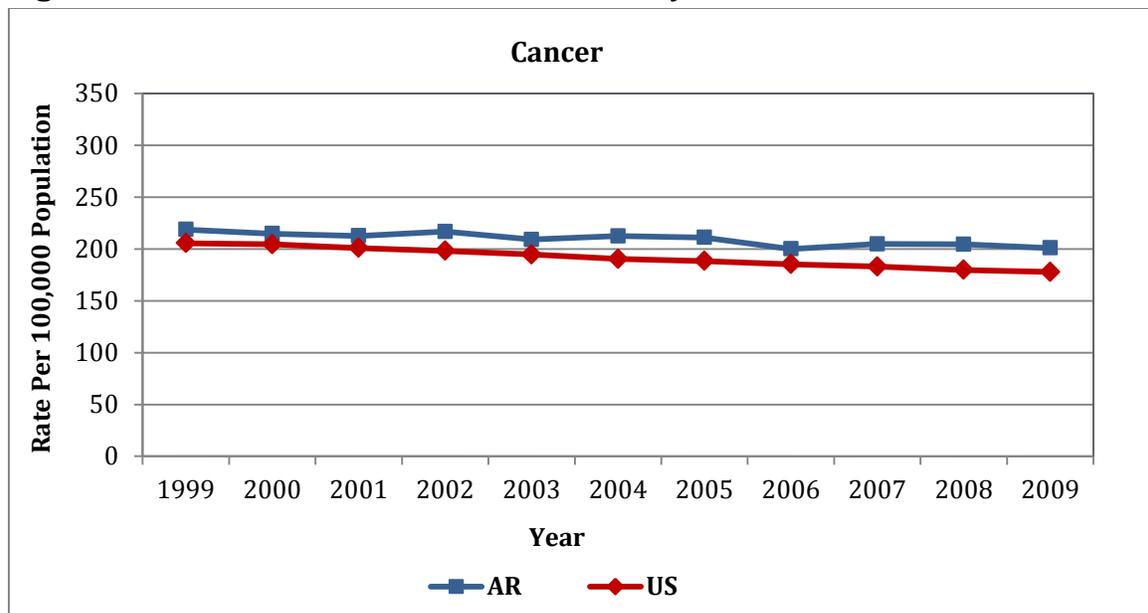
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Cancer is the second leading cause of death in the U.S., as well as in Arkansas. In 2008, about 14,300 Arkansans were diagnosed with cancer, and more than 6,200 died from cancer. Cancer is caused by abnormal cells somewhere in a person's body, such as their lung or breast, which start to grow in an out-of-control way. The cancer then attacks and destroys the nearby area of the body, and it may spread to other parts of the body. The cancers make it impossible for a person's body to work normally and may eventually cause death.

There are many types of cancer. In Arkansas the cancer with the highest death rate is lung cancer for both men and women. The cancer with the second highest death rate is prostate cancer for men and breast cancer for women.

Here is a chart that shows the death rate over the past several years for all cancers in Arkansas compared to the U.S. It shows that the death rate in Arkansas is higher than the U.S., but it is decreasing for both Arkansas and the U.S.

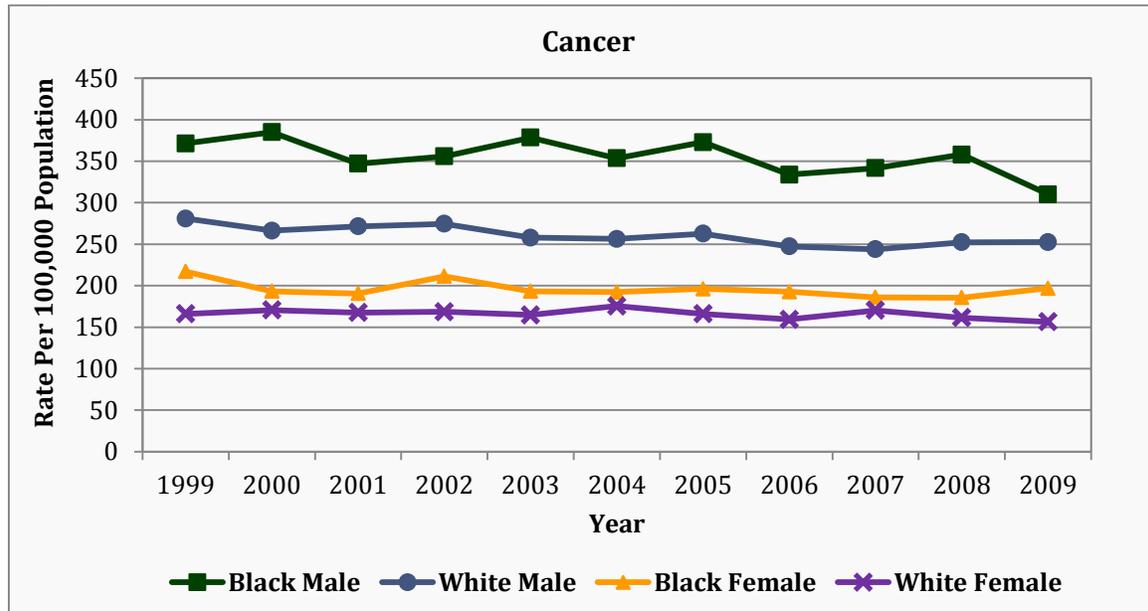
Figure 2.4: Arkansas and U.S. cancer mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

The next chart shows the death rates from cancer for blacks and whites in Arkansas. It shows that blacks have higher death rates than whites. It also shows that men have higher death rates from cancer than women, no matter their race, which is similar to coronary heart disease.

Figure 2.5: Arkansas cancer mortality rates by race and sex



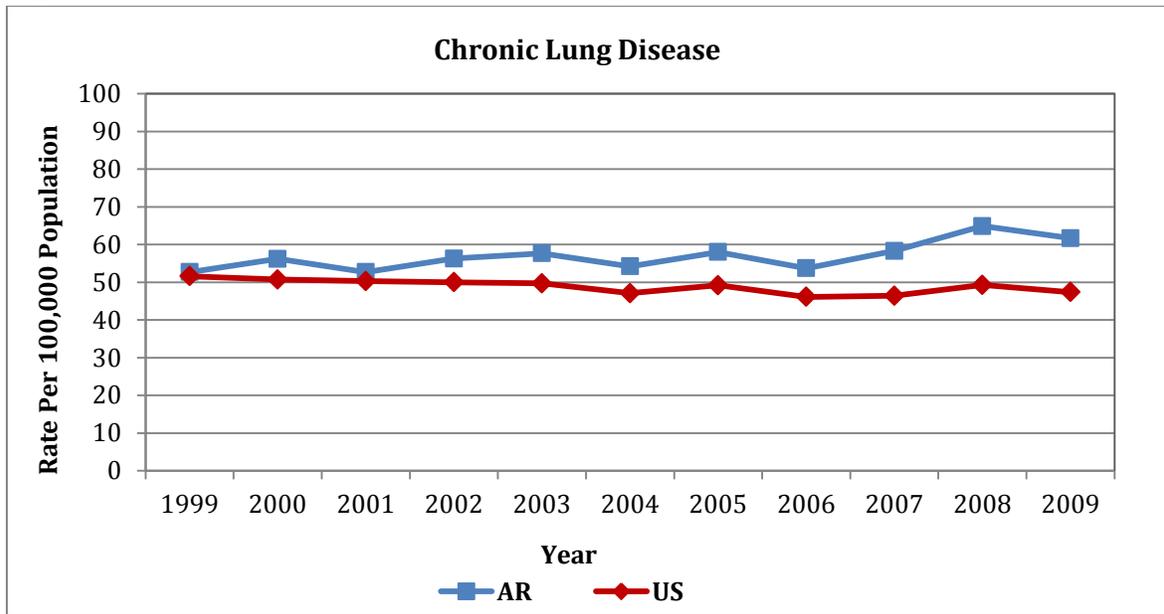
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Chronic lung disease is the third leading cause of death in the U.S. and also in Arkansas. In 2008, more than 2,000 people in Arkansas died from chronic lung disease.

Emphysema and chronic bronchitis are the two diseases that cause most of these deaths. Together they are often called chronic obstructive pulmonary disease or COPD. In COPD the windpipes to a person’s lungs become narrowed or destroyed, which limits the amount of air that can flow in and out. A person with COPD struggles with shortness of breath and may have to carry an oxygen tank with them. Eventually, the person’s lungs are not able to keep up with their need for oxygen, and they die as a result.

This chart compares the death rate from chronic lung disease in Arkansas to the U.S. It shows that the death rate in Arkansas is going up, while in the U.S. it is staying the same.

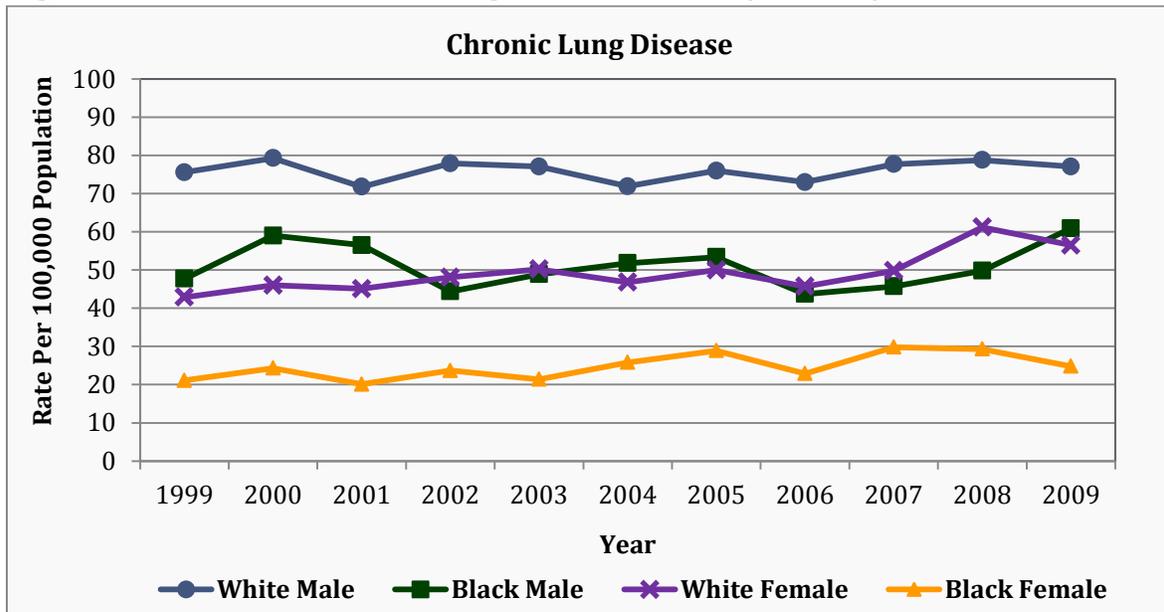
Figure 2.6: Arkansas and U.S. chronic lung disease mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

The next chart shows the death rates from chronic lung disease for blacks and whites in Arkansas. It shows that white men have the highest death rates and black women have the lowest death rates from chronic lung disease.

Figure 2.7: Arkansas chronic lung disease mortality rates by race and sex



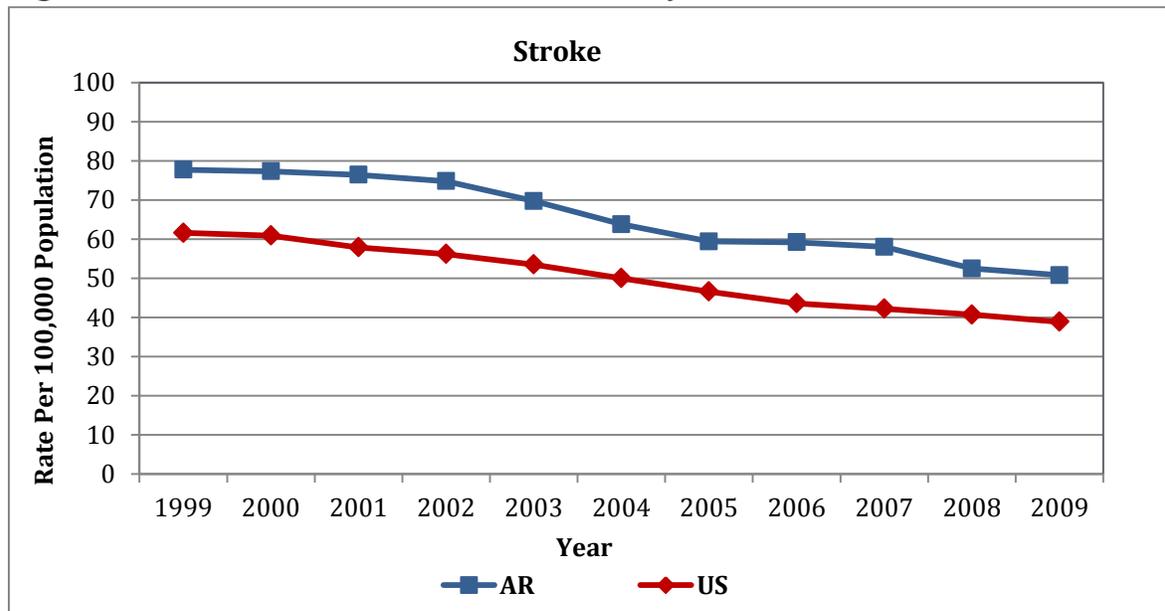
Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Stroke is the fourth leading cause of death in both Arkansas and the U.S. Arkansas has the highest death rate from stroke in the nation. In 2008, more than 1,700 people in Arkansas died from stroke.

A stroke occurs when a blood vessel in a person's head becomes damaged. The damage stops the flow of blood carrying oxygen to their brain. The part of the brain without the blood flow dies as a result. A stroke is like a heart attack, except that it occurs in the brain. A person with a stroke often dies if they do not get the right kind of emergency care. If a person survives, they may be severely disabled from the stroke.

Here is a chart that shows the death rates from stroke for Arkansas compared to the U.S. for several years. It shows that the death rate for Arkansas has decreased, but it is still higher than the U.S. death rate.

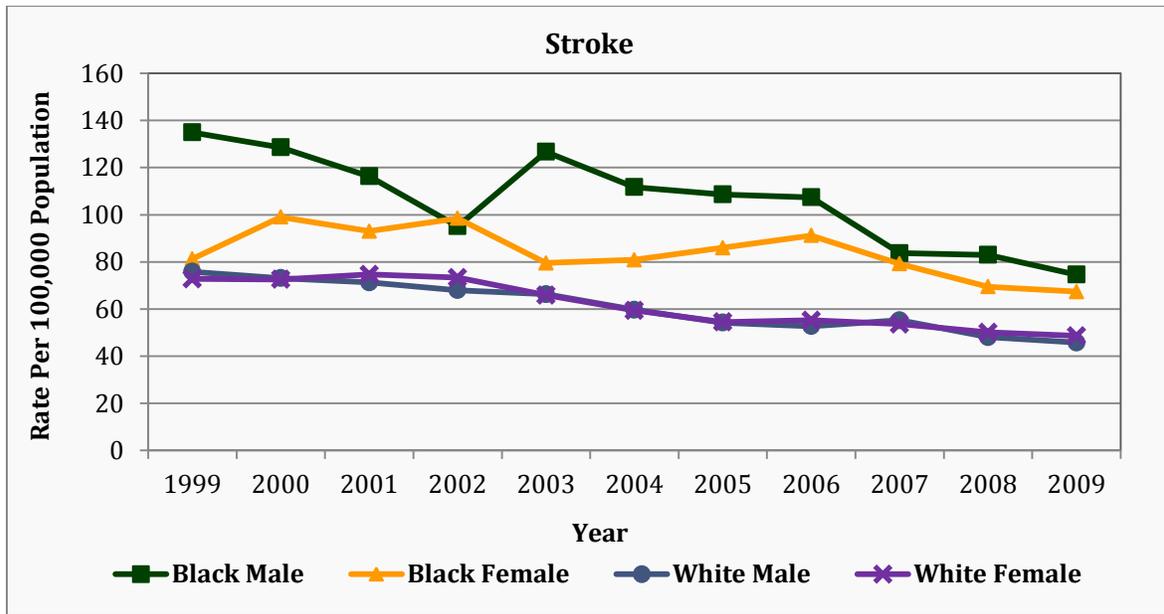
Figure 2.8: Arkansas and U.S. stroke mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

The next chart that shows the death rates from stroke for blacks and whites in Arkansas. It shows that both black men and black women have higher death rates from stroke than do white men or white women.

Figure 2.9: Arkansas stroke mortality rates by race and sex



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

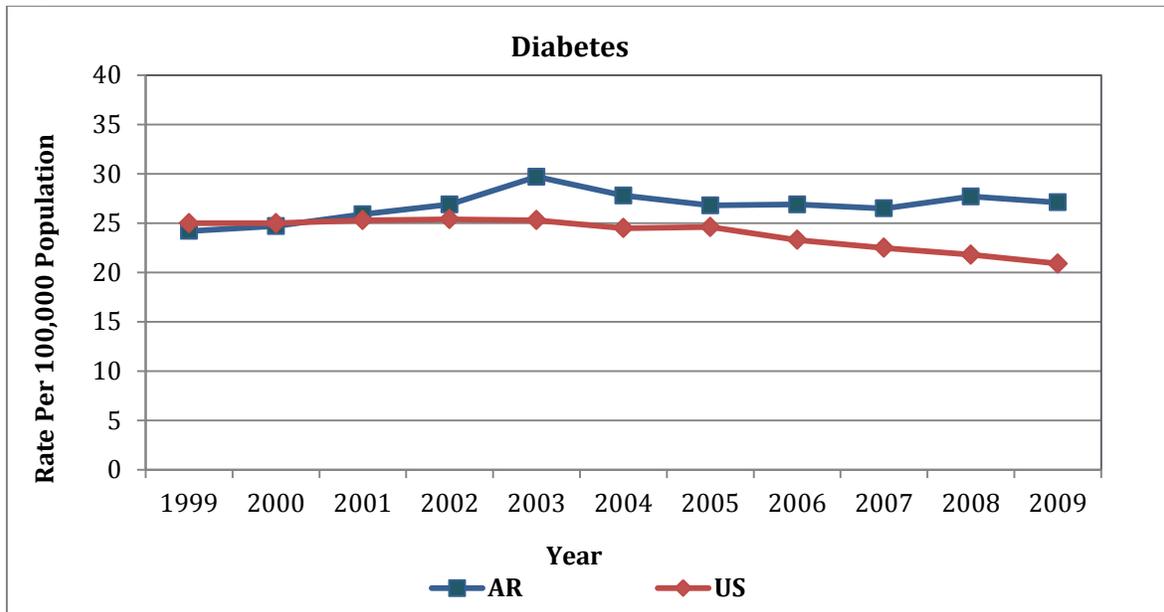
Diabetes is the seventh leading cause of death among all Arkansans. It is sometimes called sugar diabetes or just “sugar.” In diabetes the level of sugar in a person’s blood is too high. In 2008, over 900 people in Arkansas died from diabetes.

Over time, high blood sugar causes serious health problems if it is not brought under control. For example, it can damage a person’s eyes, kidneys, and nerves and can cause them to lose a foot or a leg. Diabetes can also lead to heart disease and stroke.

As with other chronic diseases, diabetes can often be controlled by exercise and eating right, and by taking medicine, if needed. Unfortunately, 40 percent of Arkansans who have diabetes don’t know they have it. Of the people who know they have diabetes, only 25 percent have their blood sugar under control.

Here is a chart that shows the death rates from diabetes for Arkansas compared to the U.S. for several years. It shows that the death rate for Arkansas is higher than the U.S. It also shows that the death rate in the U.S. is going down, while the death rate in Arkansas is not.

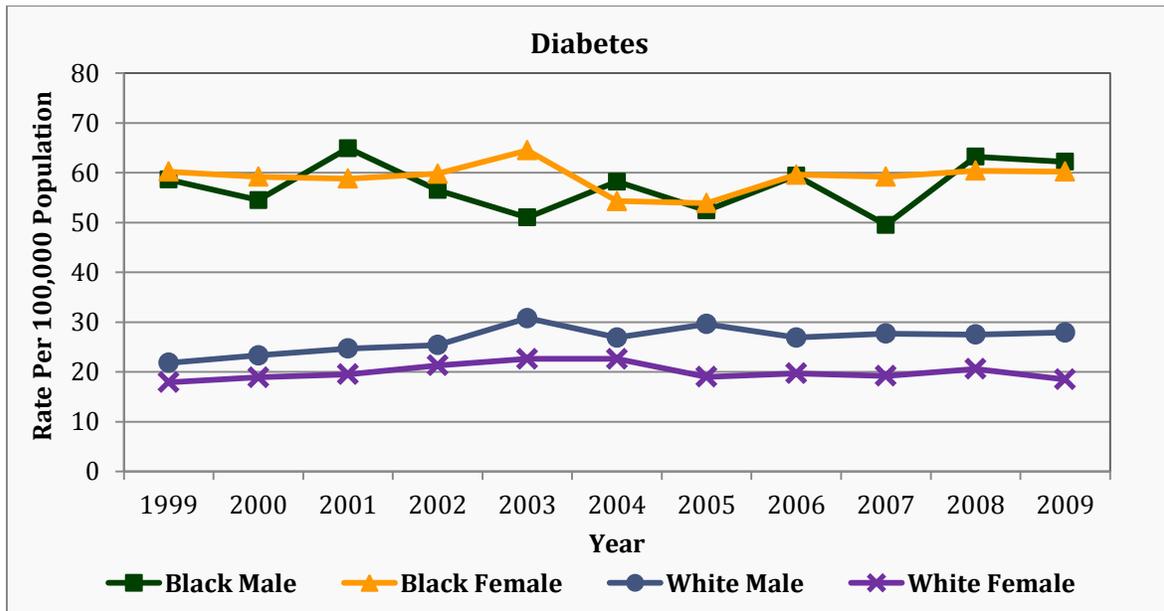
Figure 2.10: Arkansas and U.S. diabetes mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Here is another chart that shows the death rates from diabetes for blacks and whites in Arkansas. It shows that both black men and black women have much higher death rates from diabetes than do white men or white women.

Figure 2.11: Arkansas diabetes mortality rates by race and sex



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Why are chronic diseases so common?

Chronic diseases are very common in Arkansas because many people in our state struggle with two common health problems that lead them to get chronic diseases. These are obesity and high blood pressure.

Obesity is a health problem that can lead to several types of chronic diseases, especially diabetes. When people become very overweight, their body fat increases to an unhealthy level. Whether a person is obese can be checked using what is called the body mass index. The body mass index is also called the BMI. It is a way of comparing how tall a person is with how much they weigh. You can find your own BMI using the chart on page 36. A normal BMI is between 18.5 and 25. If a person has a BMI of 25 or more, they are overweight. If their BMI is 30 or more, they are considered obese. In Arkansas, 66 percent of adults are either overweight or obese. People who live in the counties with the shortest life expectancies are even more likely to be overweight or obese.

To use the tables on page 36, find your height in inches in the column on the left labeled "Height." Next, move across to find your weight. Then move up to the top of the column with your weight to find your BMI. In these tables, pounds have been rounded off. If you don't find your weight in the first table, use the second one. Also, you may find it helpful to know that five feet equals 60 inches and six feet equals 72 inches.

High blood pressure increases a person's chance of having a stroke, heart disease, kidney disease, or early death. Most of the time, high blood pressure has no signs of illness, so people can get heart disease and kidney problems without knowing they have high blood pressure.

There are several health problems that make it more likely for a person to have high blood pressure, including obesity and diabetes. Eating too much salt, drinking too much alcohol and smoking can also raise blood pressure to unhealthy levels.

Blood pressure is the amount of the pressure in a person's blood vessels as their heart pumps blood through their body. It is measured using a blood pressure cuff, usually around the upper arm. Blood pressure readings are usually given as two numbers. For example, 120 over 80, which is usually written as 120/80 mmHg.

For adults, normal blood pressure is when the blood pressure is lower than 120/80 most of the time. High blood pressure is when the blood pressure is 140/90 or above most of the time. High blood pressure is also called hypertension. If the blood pressure numbers are 120/80 or higher, but below 140/90, it is called

Table 2.2: Body Mass Index (BMI) lookup tables

BMI	Normal						Overweight					Obese						
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Height (inches)	Body Weight (pounds)																	
58	91	96	100	105	110	115	119	124	129	134	138	143	148	153	158	162	167	172
59	94	99	104	109	114	119	124	128	133	138	143	148	153	158	163	168	173	178
60	97	102	107	112	118	123	128	133	138	143	148	153	158	163	168	174	179	184
61	100	106	111	116	122	127	132	137	143	148	153	158	164	169	174	180	185	190
62	104	109	115	120	126	131	136	142	147	153	158	164	169	175	180	186	191	196
63	107	113	118	124	130	135	141	146	152	158	163	169	175	180	186	191	197	203
64	110	116	122	128	134	140	145	151	157	163	169	174	180	186	192	197	204	209
65	114	120	126	132	138	144	150	156	162	168	174	180	186	192	198	204	210	216
66	118	124	130	136	142	148	155	161	167	173	179	186	192	198	204	210	216	223
67	121	127	134	140	146	153	159	166	172	178	185	191	198	204	211	217	223	230
68	125	131	138	144	151	158	164	171	177	184	190	197	203	210	216	223	230	236
69	128	135	142	149	155	162	169	176	182	189	196	203	209	216	223	230	236	243
70	132	139	146	153	160	167	174	181	188	195	202	209	216	222	229	236	243	250
71	136	143	150	157	165	172	179	186	193	200	208	215	222	229	236	243	250	257
72	140	147	154	162	169	177	184	191	199	206	213	221	228	235	242	250	258	265
73	144	151	159	166	174	182	189	197	204	212	219	227	235	242	250	257	265	272
74	148	155	163	171	179	186	194	202	210	218	225	233	241	249	256	264	272	280
75	152	160	168	176	184	192	200	208	216	224	232	240	248	256	264	272	279	287
76	156	164	172	180	189	197	205	213	221	230	238	246	254	263	271	279	287	295

BMI	Obese			Extreme Obesity														
	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Height (inches)	Body Weight (pounds)																	
58	177	181	186	191	196	201	205	210	215	220	224	229	234	239	244	248	253	258
59	183	188	193	198	203	208	212	217	222	227	232	237	242	247	252	257	262	267
60	189	194	199	204	209	215	220	225	230	235	240	245	250	255	261	266	271	276
61	195	201	206	211	217	222	227	232	238	243	248	254	259	264	269	275	280	285
62	202	207	213	218	224	229	235	240	246	251	256	262	267	273	278	284	289	295
63	208	214	220	225	231	237	242	248	254	259	265	270	278	282	287	293	299	304
64	215	221	227	232	238	244	250	256	262	267	273	279	285	291	296	302	308	314
65	222	228	234	240	246	252	258	264	270	276	282	288	294	300	306	312	318	324
66	229	235	241	247	253	260	266	272	278	284	291	297	303	309	315	322	328	334
67	236	242	249	255	261	268	274	280	287	293	299	306	312	319	325	331	338	344
68	243	249	256	262	269	276	282	289	295	302	308	315	322	328	335	341	348	354
69	250	257	263	270	277	284	291	297	304	311	318	324	331	338	345	351	358	365
70	257	264	271	278	285	292	299	306	313	320	327	334	341	348	355	362	369	376
71	265	272	279	286	293	301	308	315	322	329	338	343	351	358	365	372	379	386
72	272	279	287	294	302	309	316	324	331	338	346	353	361	368	375	383	390	397
73	280	288	295	302	310	318	325	333	340	348	355	363	371	378	386	393	401	408
74	287	295	303	311	319	326	334	342	350	358	365	373	381	389	396	404	412	420
75	295	303	311	319	327	335	343	351	359	367	375	383	391	399	407	415	423	431
76	304	312	320	328	336	344	353	361	369	377	385	394	402	410	418	426	435	443

Data Source: National Heart, Lung and blood Institute, NIH

pre-hypertension. A person with pre-hypertension is more likely to develop high blood pressure.

Studies show that almost 50 percent of the adults in Arkansas have high blood pressure. Unfortunately, 25 percent of people with high blood pressure don't know it. Only 33 percent of people with high blood pressure have it under control. High blood pressure is more common in the "Red Counties."

Chronic diseases are also very common in Arkansas, because many people in our state struggle with living a healthy lifestyle. The main lifestyle problems are tobacco use, poor diet, and lack of physical activity.

Tobacco use is a leading cause of the chronic diseases discussed in this report, particularly heart disease, cancer, chronic lung disease, and stroke. It is the single most preventable cause of death in Arkansas. Tobacco use kills close to 5,000 people in Arkansas each year, which makes it one of the biggest causes of short life expectancy in our state. By tobacco use, we mean smoking cigarettes, cigars or pipes, or using any form of smokeless tobacco.

Poor diet is another big cause of chronic diseases. A diet high in fruits and vegetables can lower the risk of dying from the chronic diseases described in this report. A diet with lots of fruits and vegetables also helps to control high blood pressure and keep a healthy weight. The more servings of fruits and vegetables that a person eats, the better. The present recommendations are that half a person's plate at each meal should be filled with fruits and vegetables.

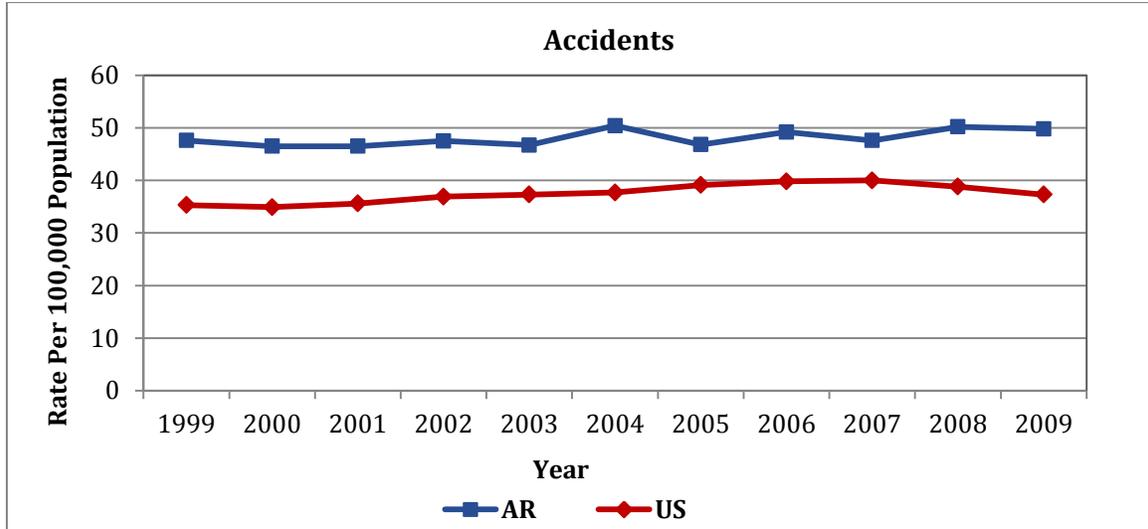
Lack of physical activity is also a top cause of chronic diseases. Regular physical activity can lower a person's chance of dying from the chronic diseases described in this report. Physical activity is also important for managing high blood pressure and keeping a healthy weight. To get the best results, adults need at least two hours and 30 minutes of moderate physical activity each week. Examples of moderate physical activity are brisk walking or riding a bike on level ground or with a few hills. Adults also need to do strengthening activities that involve the major muscles groups at least twice a week. The major muscle groups are the legs, hips, back, abdomen, chest, shoulders, and arms.

Accidents

In Arkansas, accidents are the fifth leading cause of death overall, which is the same as in the U.S. Accidents are also called unintentional injury. In 2008, almost 1,500 people in Arkansas died from accidents. The most common types of accident are motor vehicle crashes, falls, poisonings, fires and burns, and drowning.

Here is a chart comparing the Arkansas death rate from accidents with the U.S. death rate. It shows that the death rate in Arkansas is higher than the U.S.

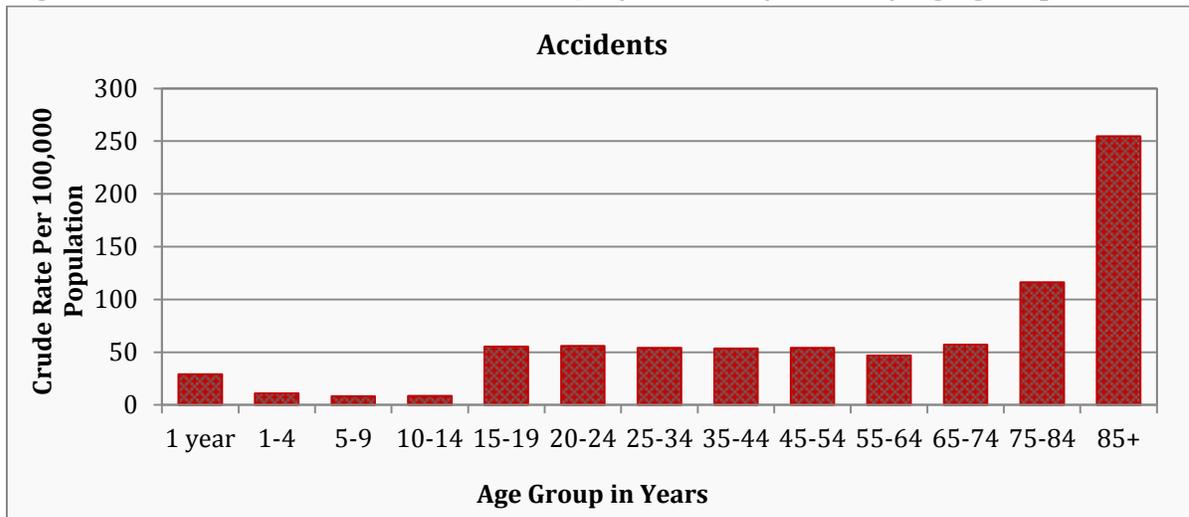
Figure 2.12: Arkansas and U.S. unintentional injury mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Here is another chart that shows the death rate for different age groups in Arkansas. It shows that adults age 65 and over have the highest death rates from accidents, while children and teens under the age of 20 have the lowest death rates. However, the number one cause of death for older adults is chronic diseases, while the number one cause of death for children and teenagers is accidents. In fact, accidents are the number one killer of Arkansans between the ages of one and 44.

Figure 2.13: Arkansas unintentional injury mortality rates by age group

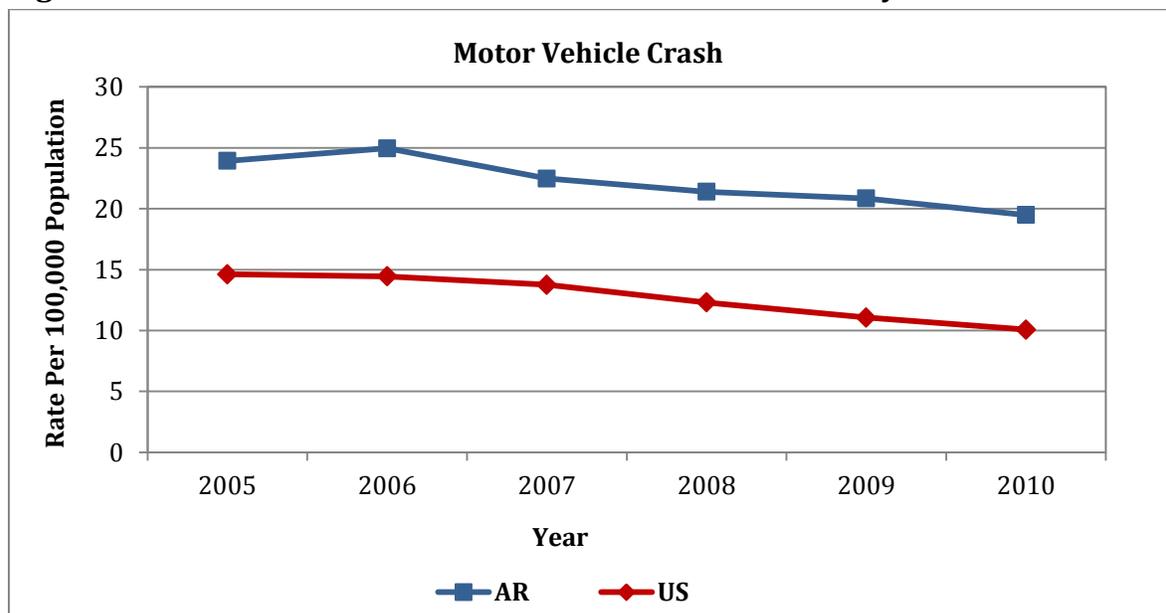


Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

In Arkansas, motor vehicle crashes are the most common cause of accidental death. By motor vehicle accidents we mean car crashes and other traffic accidents. In 2008, over 600 people in Arkansas died from motor vehicle accidents. Fortunately, the death rate from motor vehicle crashes has been decreasing over the past several years. During this same time, the use of seat belts in Arkansas has been increasing.

Here is a chart that compares the Arkansas death rate from motor vehicle crashes for the past several years to the U.S. death rate. It shows that the Arkansas death rate is decreasing, but it is still higher than the U.S.

Figure 2.14: Arkansas and U.S. motor vehicle crash mortality rates

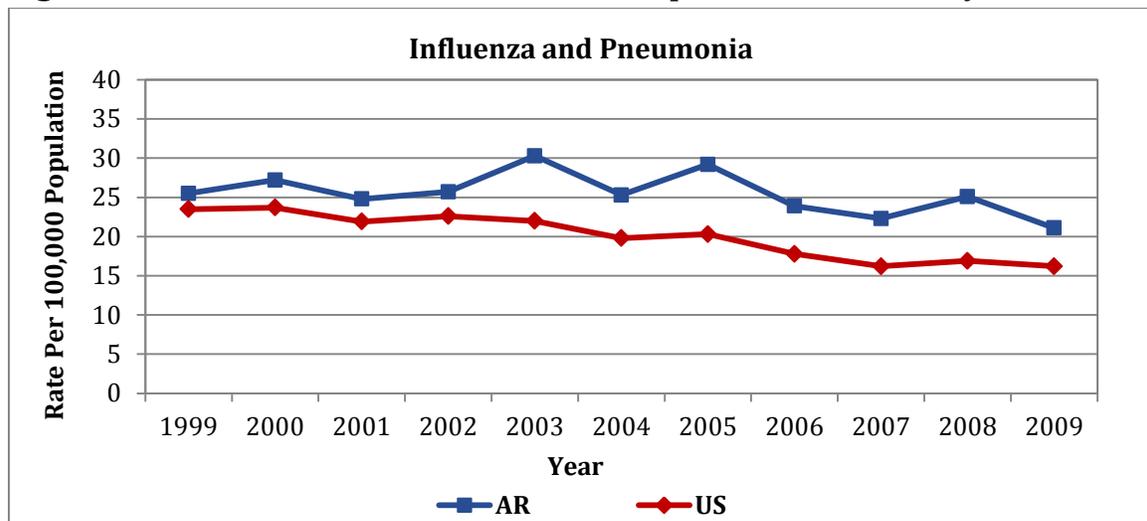


Data Source: CDC WISQARS

Influenza and Pneumonia

Death from influenza and pneumonia is the eighth most common cause of death in Arkansas. In 2008, over 800 people died from influenza and pneumonia. This chart compares the Arkansas death rate from influenza and pneumonia with the death rate for the U.S. It shows that over the past several years Arkansas has had a higher death rate from influenza and pneumonia when compared to the U.S.

Figure 2.15: Arkansas and U.S. influenza and pneumonia mortality rates



Data Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Compressed Mortality File 1999-2009.

Influenza is often called the flu. Flu is a serious infection of a person’s whole body but it mainly affects the lungs. Babies and older adults are more likely to die from the flu because their ability to fight infection may not be very strong. Also, flu causes death by worsening chronic diseases people already have, such as heart disease or COPD. People with the flu can also develop an additional infection of the lungs called pneumonia that leads to their death. The number of people who die from the flu each year depends upon how bad the flu season is that year. The flu season usually lasts from the fall of one year through the spring of the next year. In an average year, about 25,000 people in the U.S. die from the flu.

What are we doing to increase life expectancy?

The “Red Counties”

In 2011, the Arkansas Legislature passed Acts 790 and 798 to encourage state agencies, boards, and commissions to provide programs, services, and research to improve health and health care in the counties with the shortest life expectancies, that is, in the “Red Counties.” The “Red Counties” are defined as the Arkansas counties with life expectancy rates six to 10 years less than the Arkansas county with the longest rate. Acts 790 and 798 encourage state agencies to work together to lessen the health disparities in those counties. Health disparities are the differences in health between different groups of people. A Red County Action Group has been formed. It includes representatives from the agencies named in the law. Their first report was submitted in October 2012. Here is a list of those agencies.

- Area Agencies on Aging
- Arkansas Center for Health Improvement
- Arkansas Children's Hospital
- Arkansas Department of Environmental Quality
- Arkansas Department of Health
- Arkansas Department of Higher Education
- Arkansas Minority Health Commission
- Arkansas Optometric Association
- Arkansas Department of Transportation
- UAMS College of Public Health
- UAMS Partners for Inclusive Communities
- UAMS Area Health Education Centers
- Workforce Development
- Public Safety Organizations

Chronic Disease Prevention

Since 2003, the Arkansas Department of Health has made it a goal to improve how well different programs and groups in Arkansas work together to decrease chronic disease. A group called the Chronic Disease Forum grew out of those efforts over the years. The Chronic Disease Forum includes members from different organizations and communities. Its mission is to increase the quality and years of healthy life for all Arkansans by lowering the burden of chronic disease. In 2005 the Chronic Disease Forum held a meeting and wrote a Chronic Disease State Plan, which contained goals, objectives and strategies that were common to all the programs and organizations that attended the meeting.

In 2008, there was another meeting of the Chronic Disease Forum to review the progress since 2005 and to update the Chronic Disease State Plan. More than 80 people from 22 different organizations attended. A smaller group was formed to provide leadership for putting the state plan into action. It is called the Chronic Disease Coordinating Council. Members of this Council include the program managers of the Arkansas Department of Health chronic disease programs, chairs of the various chronic disease coalitions in Arkansas and representatives from a number of other organizations.

Since 2008, the Chronic Disease Coordinating Council has met regularly to make sure that the goals in the plan are being addressed and to update the plan each year. Also, meetings were held at locations around the state to raise awareness about chronic disease and get input from as many people as possible on the goals to set for the Chronic Disease State Plan. In 2012, the Chronic Disease Forum met again

to review the progress toward reaching the goals that were contained in the updated State Plan.

Here are some examples of the types of projects that members of the Chronic Disease Forum are doing.

The Fay W. Boozman College of Public Health at the University of Arkansas for Medical Sciences provides a website called the Public Health in Arkansas Community Search. This website is also called PHACS. The website is for Arkansans who want to find information that will help them take charge of the health problems in their communities. PHACS can also be used by researchers and professionals who want the latest available data on the county level. The PHACS website can help to guide efforts to inform the public and create communities that promote life-long physical activity, healthy eating habits and tobacco-free environments. It can also help community members plan for the health services they may need, particularly in rural areas.

The Arkansas Cancer Plan is published and put into action through the many members of the Arkansas Cancer Coalition. The purpose of the Arkansas Cancer Plan is to serve as a guide for what should be done to prevent, detect and treat cancer in Arkansas. The Arkansas Cancer Coalition provides funding to various organizations for projects that support the Arkansas Cancer Plan. As part of the plan, the Arkansas Department of Health's Comprehensive Cancer Control program also helps to increase testing for cancer through mobile vans and programs such as Esperanza y Vida and the Witness Project.

The Arkansas Department of Health's Tobacco Prevention and Cessation Program has developed a program for health care professionals in Arkansas. It is called the Systems Training Outreach Program, or STOP for short. STOP's outreach specialists train health care professionals to help their patients who are tobacco users to quit and to connect them to resources to help them stay tobacco free.

Trauma System and Injury Prevention

Before the Trauma System Act was passed by the Arkansas legislature in 2009, Arkansas had the worst system of emergency care in the U.S. At that point, Arkansas was one of only three states without a trauma system, and we were the only state without an official trauma center. Trauma is another word for injury.

Since 2009 Arkansas has made great progress in setting up the new trauma system and lowering the number of deaths due to injuries. Hospitals around the state have joined the trauma system as official trauma centers. The ambulance companies around the state have also joined the trauma system. Ambulance

companies are also called emergency medical service providers or EMS providers, for short. The hospitals and EMS providers work together to get injured people to the best hospital for their type of injury in the shortest time possible.

It is estimated that the new trauma system will save about 168 lives per year. Also, in the 2009 Arkansas legislative session, primary seatbelt and graduated driver's license laws were passed. It is estimated that these laws will save 206 lives per year.

A successful trauma system has several parts. Three of the main parts are the hospital trauma centers, the EMS providers and the Arkansas Trauma Communications Center, which are described here. There are other parts to the Arkansas Trauma System, which are not described in this report.

Hospital Trauma Centers. So far, 70 hospitals have been named as trauma centers at the following levels: five at Level I, five at Level II, 21 at Level III, and 39 at Level IV. Level I is the highest level, and Level IV is the lowest level. The higher the trauma level, the more severe the injury a hospital can handle. Some of the hospitals in Arkansas's trauma system are actually out of state, such as in Memphis, Tennessee; Springfield, Missouri; and Texarkana, Texas, because they treat many people from Arkansas.

EMS Providers. A total of 114 EMS providers across the state are now part of the trauma system. There are also 31 EMS training sites that are part of the trauma system. These sites train new emergency medical technicians and paramedics to increase the EMS workforce in Arkansas. Emergency medical technicians are also called EMTs. The Arkansas Ambulance Association and the Arkansas Emergency Medical Technician Association also provide training in advanced trauma to licensed EMTs and paramedics.

Arkansas Trauma Communications Center. The Arkansas Trauma Communications Center is also called the ATCC. The ATCC has operators, who are trained paramedics and nurses. The operators coordinate the EMS providers and the hospital trauma centers to make sure injured people are taken to the best hospital for their specific injuries in the shortest time possible.

Before Arkansas had the trauma system, EMS providers carried injured patients to the nearest hospital regardless of that hospital's ability to care for the injury. In many cases, the patients needed a higher level of care for their injuries. Now with information from the ATCC, ambulances can bypass the lower level trauma centers and quickly deliver the patient to the higher level center. Sometimes a trauma patient in a lower level trauma center is found to need a higher level of

care. In that case, the ATCC can assist with the hospital-to-hospital move. In the past, the lower-level hospital's emergency department would often spend several hours trying to arrange for a higher level hospital to accept the injured patient. With the ATCC in place, it takes less than seven minutes to get a patient accepted.

Since January 3, 2011, the ATCC has coordinated the transport for almost 35,000 injured patients, arranged the hospital transfers of over 12,000 patients and handled more than 22,000 EMS calls from the scene of an accident.

Injury Prevention. The Trauma System Act included injury prevention as part of the trauma system. The Injury Prevention Section at the Arkansas Department of Health collaborates with interested groups to make sure that evidence-based prevention programs are in place. One example is the Statewide Injury Prevention Program, which is a partnership with the Injury Prevention Center at Arkansas Children's Hospital. The Injury Prevention Center provides special assistance to organizations across the state. In addition, the Arkansas Department of Health's Hometown Health Initiative assists communities with grassroots activities.

Another example is the Injury Community Planning Group that was formed. This group brings state leaders together to plan injury prevention activities and to evaluate programs. A recent success of these efforts was 4,800 car safety seats that were provided by the Health Department for children around the state. The safety seats were installed by people specially trained to install them correctly.

The Arkansas Primary Seatbelt Law, which began in 2009, has been very effective in getting more people to buckle up. Since the law was passed, seatbelt use in Arkansas increased from 70 percent in 2008 to 78 percent in 2011. However, seatbelt use in Arkansas is still lower than the national rate, which is 84 percent.

The Graduated Driver's License Law was expanded in 2009 by Act 394. The purpose of the law is to let teens gain valuable driving experience, but also decrease the risk that they could be in a deadly crash. The Graduated Driver's License limits age, night-time driving, number of passengers and cell phone use for teens. The law is paying off, as there was a sharp decrease in the number of crashes for teen drivers after the law was passed. Deaths involving teen drivers were cut in half between 2008 and 2010, which means that an estimated 32 lives were saved.

Flu Prevention

The best way to avoid the flu is to get the flu vaccine. The flu vaccine comes in two forms – the flu shot and the flu nose spray. To prevent serious health problems from the flu, the vaccine is recommended for every person over the age of six

months. The vaccine is very important for children under five years of age, adults over 65, pregnant women, and any person with a chronic disease, because they are more likely to die if they get the flu. The vaccine can decrease student absenteeism, decrease health care costs, decrease missed days of work, and save employers a lot of money.

In the past few years, Arkansas has made great progress in increasing the number of people who received the vaccine each year. During the 2010-2011 flu season, 44 percent of people six months of age and older were vaccinated, which was higher than the 43 percent U.S. rate. During the 2011-2012 flu season, Arkansas did even better when 47 percent of people six months of age and older got the vaccine, compared to 42 percent in the U.S.

For many years the Arkansas Department of Health has held mass flu clinics during the fall in counties around the state. The mass clinics offer community residents an easy way to get the vaccine. In 2012, the Health Department gave close to 62,000 doses of the vaccine in mass clinics. These vaccines were in addition to the 40,000 doses that the Health Department gave at the local health units in each county and in addition to all the doses given through drug stores, hospitals and health care clinics. These mass clinics have an additional purpose. They give counties the chance to practice their plans for what they would do to get medicine to their residents in case of a serious disease outbreak.

Since 2009, the Arkansas Department of Health has also given flu vaccines in schools around Arkansas. This is important because pre-school and school children are the groups most likely to spread the flu to others. In 2012, the Health Department gave almost 179,000 doses of the vaccine in schools. As a result, almost 40 percent of school children got the vaccine. Research during the 2010 flu season showed that 40 percent of students received the vaccine and more than 100,000 student absences were prevented. If more vaccine could be given, even more absences would be prevented.

The Health Department has focused on giving the vaccine to pregnant women, since these women are more likely to die if they get the flu. The flu vaccine may even reduce premature births when pregnant mothers get the vaccine. In addition, the mothers' immunity from the vaccine is passed on to their babies in the womb. In that way, the vaccine can help protect babies from getting the flu, when they are newborns and too young to get the vaccine themselves. The Health Department also gives the flu vaccine to the residents and staff in all the nursing homes in the state, as is required by state law.

What else can we do to increase life expectancy?

Reduce the Impact of Chronic Disease

To reduce the impact of chronic disease in Arkansas, it will be necessary to address the underlying causes. Here are the goals the Chronic Disease Forum has recommended for Arkansas.

- Increase the number of Arkansans of all ages who take part in regular physical activity.
- Promote tobacco cessation among Arkansans of all ages.
- Improve access to testing and health care services for all chronic diseases in rural and underserved areas.
- Educate and inform the public on health issues related to community partnerships, prevention, screening, treatment, outreach, and control of chronic diseases.
- Develop and carry out a legislative agenda to support the policies and funding needed for chronic disease activities.
- Support the development of communities that promote lifelong physical activity, healthy nutrition, and tobacco-free environments.

Prevent More Injuries

To prevent more injuries, the Department of Health worked with state leaders, organizations and community members to review the facts about the leading causes of injury. Together they chose the top priorities for preventing injuries in Arkansas. They also identified factors for each priority that should be addressed. Here is a list of their recommendations.

- Reduce motor vehicle crashes, including crashes related to drinking, cell phones, young drivers, speeding and unsafe roads.
- Reduce falls, including falls by young children and by older adults related to safety problems at home, poor eyesight or bad lighting, medicine side-effects, and lack of physical activity.
- Reduce unintended poisoning, including drug overdoses from illegal use of painkillers.
- Reduce suicides, including suicides related to stress, alcohol, drug abuse, depression and mental illness.

Increase the Number of People Who Receive the Flu Vaccine

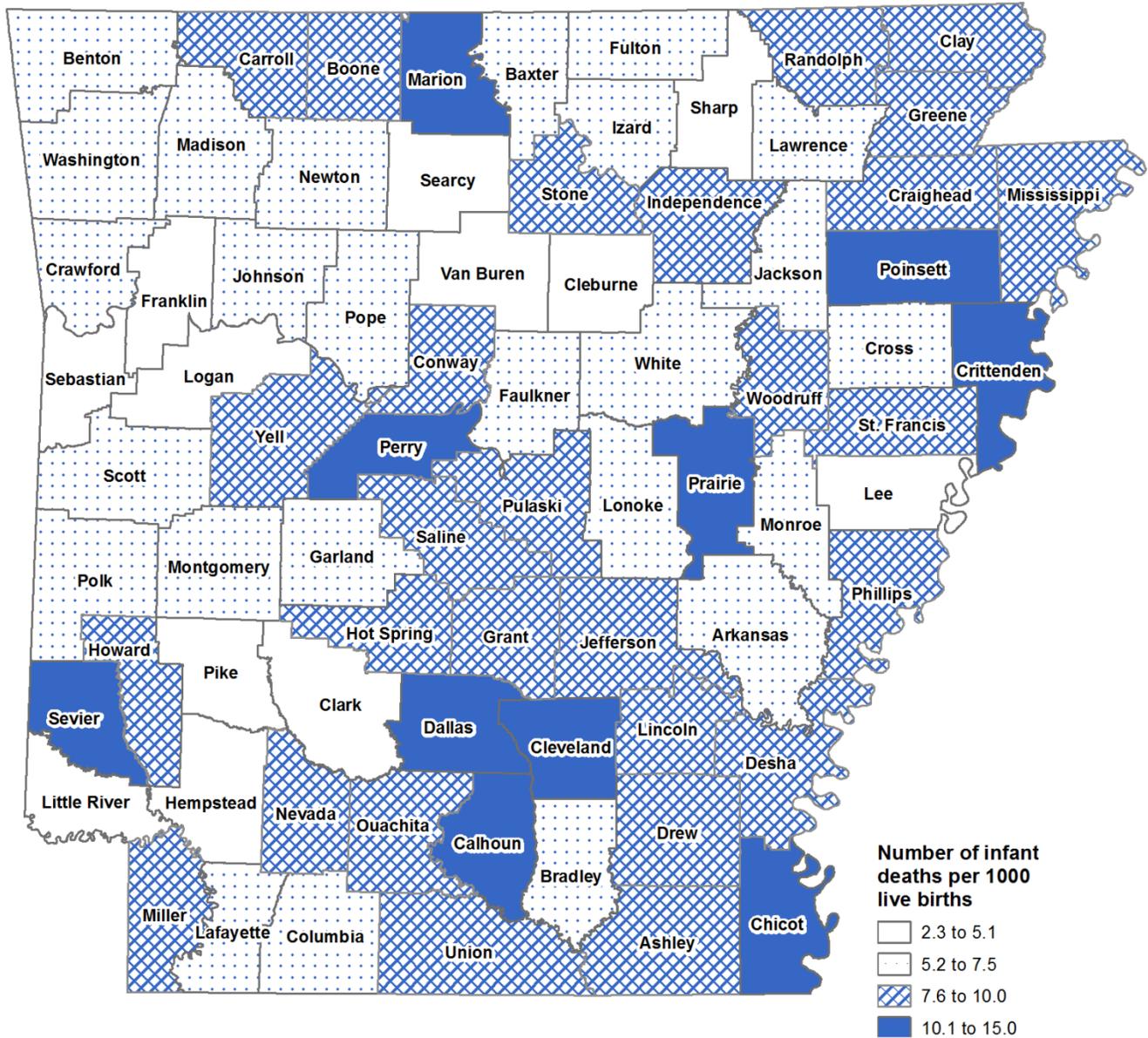
While Arkansas has made great progress increasing the number of people who get the flu vaccine, there is still room for improvement. Here is a list of the

things we need to do to increase the number of people who get the vaccine, especially in the groups that need it the most.

- Increase the ability of communities to prevent the flu through their churches and other organizations.
- Assist daycares, clinics, hospitals, and drug stores to give the flu vaccine to their employees as well as the people they serve.
- Expand the mass flu vaccine clinics held in each county.
- Expand the flu vaccine clinics held in schools.

If you would like to know more about life expectancy and other topics discussed in this chapter, turn to page 120 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Figure 3.1: Infant mortality rates in Arkansas by county for 2005 to 2009



Data Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health

Chapter 3

Infant Mortality

Infant mortality is another important way to measure Arkansas's overall health. The infant mortality rate is also called the infant death rate. In general, communities that have low infant mortality have healthier children. In this chapter we will explain what infant mortality is and why it's a problem in Arkansas. We will also talk about what we can do to lower infant mortality in our state.

What is infant mortality?

Infant mortality is a way of looking at the number of babies who die each year before they reach their first birthday. It is usually defined as the number of babies who die out of every 1,000 babies who are born alive in a year. Infant mortality can be divided into neonatal mortality and post-neonatal mortality. When newborn babies die less than 28 days after they are born, it is called neonatal mortality. When babies die, who are older than 27 days but younger than one year, it is called post-neonatal mortality. Neonatal and post-neonatal mortality often have different causes, so it can be helpful to look at them one by one.

Why is infant mortality a public health problem?

The death of a baby is a tragedy for any family. It is also a tragedy for the people in a community, because a baby's death means that the good the child could have brought to the community during his or her life has been lost.

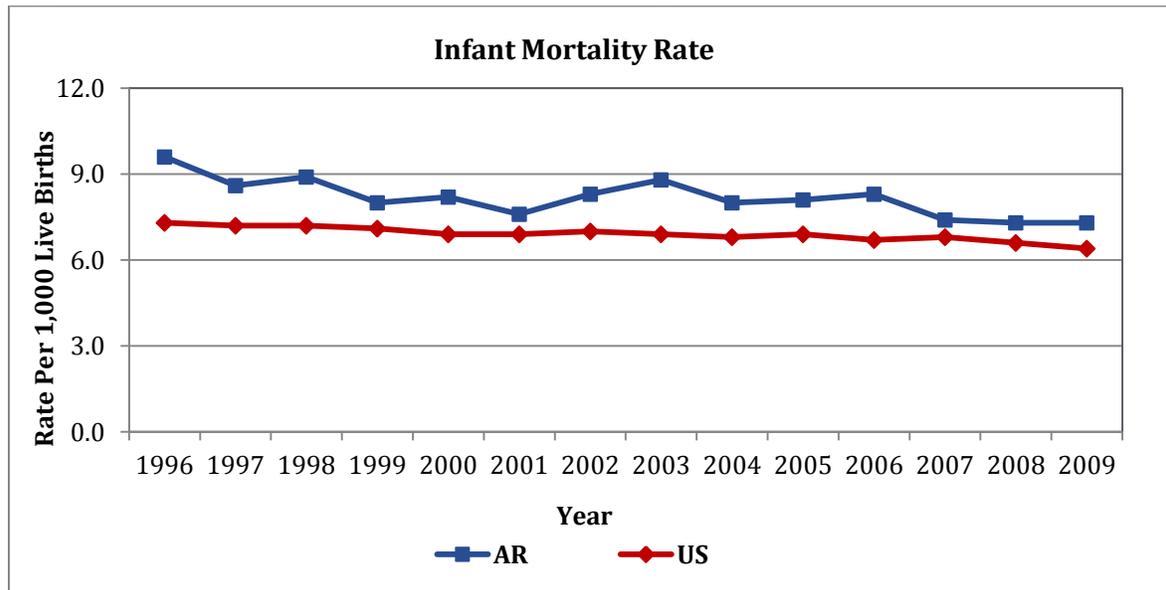
High infant mortality also means that there are public health problems in the community that need to be addressed. So, it is important to see what problems cause a community to have a high infant mortality rate so that people and organizations can work together to solve those problems and protect the health of the next generation.

How big is the problem of infant mortality?

In 2009, 290 babies died in Arkansas before their first birthdays. The infant mortality rate for that year was 7.3 deaths per 1,000 live births. The U.S. infant mortality rate for 2009 was 6.4. Arkansas's neonatal mortality rate was 4.1 per 1,000 live births, and the post-neonatal mortality rate was 3.2 per 1,000 live births. Arkansas's neonatal mortality rate was close to the U.S. neonatal mortality rate, which was 4.2. But, the post-neonatal mortality rate for Arkansas was much higher than the U.S. post-neonatal mortality rate, which was 2.2.

Here is a chart that compares Arkansas's infant mortality rate with the U.S. rate for the past several years. It shows that Arkansas has had a higher infant mortality rate than the U.S. for a long time. However, Arkansas's infant mortality rate has been decreasing and getting closer to the national rate.

Figure 3.2: Arkansas and U.S. infant mortality rates



Data Source: National Center for Health Statistics (NCHS) and Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health

What are the leading causes of infant death in Arkansas?

Here is a list of the top five causes of neonatal death for Arkansas in 2009.

- Birth defects, 45 deaths
- Prematurity, 18 deaths
- Problems with the mother's pregnancy, 11 deaths
- Difficulty breathing, nine deaths
- Bleeding, eight deaths

Here is a list of the top causes of post-neonatal death in 2009.

- Sudden infant death syndrome (SIDS), 64 deaths
- Birth defects, 14 deaths
- Injuries from accidents, six deaths
- Problems with blood circulation system, four deaths
- Lung problems, three deaths
- Infection, three deaths
- Murder, three deaths

The two most common causes of neonatal mortality are birth defects and prematurity. A birth defect occurs when a baby is born with an abnormality that needs medical care. Some birth defects are easy for doctors to diagnose, while others call for special medical tests. Examples of special medical tests are the newborn screening tests that all Arkansas babies get at birth using a drop of blood from the baby's heel. Newborn screening is able to find babies with rare defects in the way their bodies use the nutrition in their food. Often the problem can be solved with a special diet. Other types of birth defects are more obvious. They include abnormalities that require surgery to fix, such as congenital heart defects. Congenital means it was there when the baby was born. Congenital heart defects are the most common cause of fatal birth defects.

Prematurity occurs when a baby is born before the 37th week of the pregnancy. A normal pregnancy lasts for 40 weeks. Premature babies are more likely to have serious health problems, because their internal organs, such as their lungs or brains, have not fully developed. So, they may have problems breathing or have bleeding in their brains, which is like a stroke. Premature babies are often very small and have low birth weight.

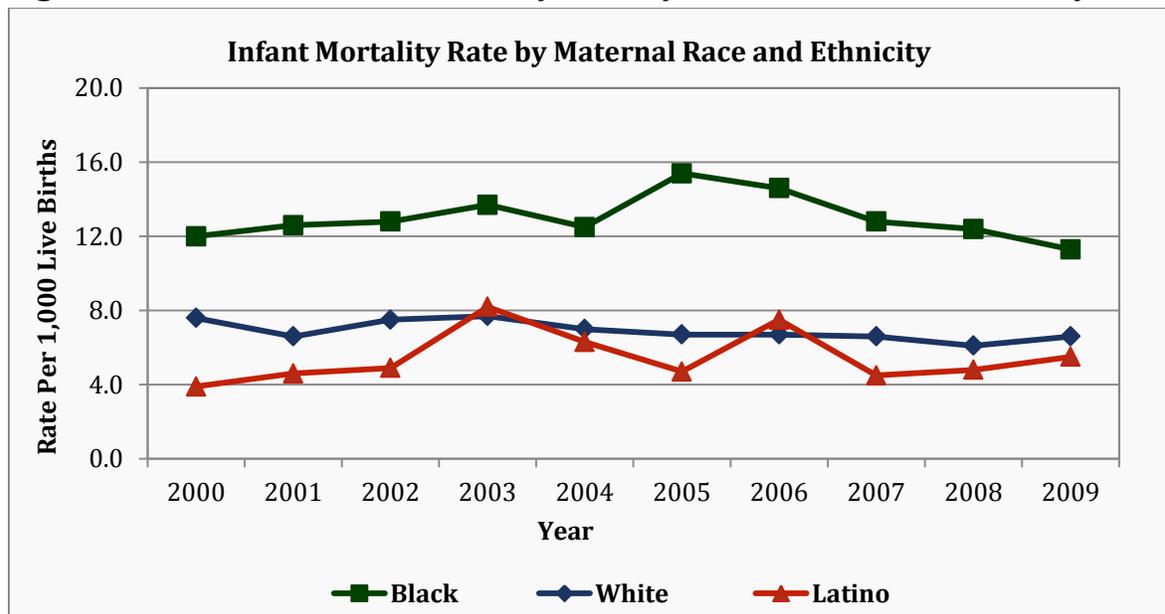
Sudden infant death syndrome is the most common cause of post-neonatal infant mortality. Sudden infant death syndrome is also called SIDS. It is the unexpected, sudden death of a child under age one which cannot be explained. SIDS seems to be related to problems with babies' ability to wake up when they need to. SIDS rates in the U.S. have been going down since 1992, when parents were first taught to put babies to sleep on their backs. Sadly, SIDS still remains a leading cause of infant death in Arkansas. Other things that raise the risk of SIDS include being around cigarette smoke either before or after being born, sleeping in the same bed as their parents, soft bedding in the crib and not being breastfed.

Are there groups with higher infant mortality than others?

In Arkansas, blacks have higher infant mortality when compared to whites or Latinos. In 2009 the infant mortality rate for blacks was 11.3, compared to 6.6 for whites, and 5.5 for Latinos. Black babies die at greater rates than whites, in part, because they have low birth weight twice as often. Low birth weight means that a baby weighed less than 2,500 grams when he or she was born. A weight of 2,500 grams is the same as five and one-half pounds.

Here is a chart that compares infant mortality rates among babies born to white, black or Latino mothers over the past several years. It shows that the infant mortality rate among blacks is highest, but it is now declining steadily. It also shows that the infant mortality rate among Latinos is lowest overall.

Figure 3.3: Arkansas infant mortality rates by maternal race and ethnicity



Data Source: Linked Birth/Infant Death Files, Health Statistics Branch, Arkansas Department of Health

Are there other groups with high infant mortality?

Higher infant mortality rates tend to happen among babies whose mothers have the traits listed here.

- Less than 20 years old or greater than 40 years old
- Less than a 12th grade education
- Not married
- Smoked cigarettes
- Received no medical care during their pregnancy
- Had at least one health problem during their pregnancy

Having a healthy pregnancy is not always easy, especially if it is the mother's first pregnancy and if she does not have supportive family or friends to help her. In addition, medical care for mothers who develop health problems during their pregnancies is not easy to get in all parts of the state.

What parts of the state have the highest infant mortality rates?

In Arkansas, some counties are more rural, have higher rates of poverty and have fewer adults who have graduated from high school or college. These counties have higher infant mortality rates. The map on page 48 compares infant mortality rates for all the counties in Arkansas. The counties with the solid blue have the highest infant mortality rates, the counties with the crossed pattern have the next

highest rates, the counties with dots have lower rates and the light colored counties have the lowest infant mortality rates. In general, it shows that the counties with the lowest infant mortality rates are in northwest Arkansas, while the counties with the highest rates are in southeast Arkansas.

What are we doing to decrease infant mortality in Arkansas?

There are two general ways we can decrease infant mortality in Arkansas. First, we can improve the health care that mothers and babies get when a problem occurs, and second, we can prevent problems from occurring in the first place.

The ANGELS program is an excellent example of how many groups and organizations in Arkansas are working together to improve health care for mothers and babies. ANGELS stands for **A**ntenatal & **N**eonatal **G**uidelines, **E**ducation, and **L**earning **S**ystem. The ANGELS program's goal is to decrease infant mortality by providing high quality care to women with high-risk pregnancies and to their babies – especially if their babies may be born prematurely. ANGELS was developed in 2002 through the coordinated effort of the University of Arkansas for Medical Sciences and Arkansas Children's Hospital, with support from Medicaid. The idea behind ANGELS is to provide pregnant mothers and their babies, who are having health problems, with care from specially trained doctors. Through this program, the mother's local doctor is able to use telemedicine equipment to talk with doctors in Little Rock. Telemedicine uses high-speed Internet and video equipment to let a patient in a rural area see and speak with a doctor in another part of the state. The doctors in Little Rock can help the mother's doctor with special advice, or they can arrange for the mother to come to a hospital that can give the special care the mother or her baby may need. ANGELS also has a 24/7 Call Center for doctors and their patients.

The Arkansas Department of Health provides several services that can prevent infant death. One of those services is WIC, which is also called the Special Supplemental Nutrition Program for Women, Infants, and Children. WIC is a federally funded program that provides supplemental foods, health care referrals, and nutrition education for low-income women who are pregnant or recently gave birth. It also provides supplemental foods to infants and children up to age five who may not be able to get enough healthy food. In 2012, the WIC program served over 160,000 people in Arkansas.

In addition, the Health Department provides care to women who are pregnant. This type of special health care is called prenatal care. We know that the

earlier a woman gets prenatal care during her pregnancy, the more likely she is to have a healthy baby. Therefore, the Health Department has clinics to provide prenatal care early, even before a woman may have found a doctor to later deliver her baby. A special Medicaid program for pregnant women allows the Health Department to offer prenatal care to women who are not able to pay for care. In 2012, the Health Department provided prenatal care to more than 6,600 women. Each year, the Arkansas Medicaid program pays for the delivery of 25,000 babies, which is 66 percent of all the babies born in Arkansas.

The Arkansas Department of Health provides other health services that can help keep babies healthy. These services include the Arkansas Tobacco Quitline, which has a free program to help mothers quit smoking while they are pregnant and then help them remain tobacco free after the baby is born. The number to the Quitline is 1-800-QUIT-NOW (1-800-784-8669).

In addition, the Health Department provides Family Planning Services to teens, women, men, and couples, regardless of their ability to pay. Family Planning makes it possible for many Arkansans to choose the number and spacing of their children and to prevent unwanted pregnancies. The Health Department provides Family Planning Services to about 75,000 Arkansans every year.

One widely recognized need in Arkansas is to help new mothers and fathers learn how to be great parents. Maternal, infant and early childhood home visiting programs have been shown to do just that, and they can help save babies' lives. In home visiting a health worker goes to the home of a pregnant mother and helps her and her family get ready for the birth of her baby. The home visits may be as often as once a week, based on the program. After the baby is born, the home visitor helps the mother and father learn the many skills they will need as parents. Such skills may include help with breastfeeding, ways to soothe a fussy baby, and what to do to handle stress.

There are currently home visiting programs in all Arkansas counties. Arkansas Children's Hospital and the Arkansas Department of Health are working together to build a coordinating network that can help strengthen and expand home visiting programs around the state. The Arkansas Home Visiting Network will help programs work together to do training and coordinate the evaluation of their programs.

It is also important to raise community awareness of the problem of infant mortality. Safety Baby Showers are helping communities reach that goal. Communities are partnering with the Injury Prevention Center at Arkansas Children's Hospital or with the Hometown Health Improvement Coalition in their

counties to host Safety Baby Showers for pregnant women. At the Baby Shower, the mother gets helpful information about such things as the safest way to put the baby to sleep – on the baby’s back. The mother may also pick up a car seat to bring the baby home in, as well as other safety items for the home.

Sisters United is a new program that involves graduate members of black sororities who are working with the Arkansas Department of Health’s Office of Minority Health and Health Disparities to decrease the high infant mortality rate among blacks. Those sororities are Alpha Kappa Alpha, Delta Sigma Theta, Sigma Gamma Rho and Zeta Phi Theta. Sorority volunteers from 42 chapters statewide have been trained. The training focused on four main areas: starting women on folic acid before they are pregnant, getting a flu shot during pregnancy, breastfeeding and safe sleep practices. The volunteers are taking what they learn back to their sororities and starting their own programs and projects in the communities where they live.

What else can we do to decrease infant mortality?

We also need to do more research to add to our understanding of what is needed and what works. The Arkansas Center for Birth Defects Research and Prevention, located at Arkansas Children’s Hospital, is part of the University of Arkansas for Medical Sciences. Part of its mission is to reduce birth defects in Arkansas. It tracks the number and type of birth defects in Arkansas through the Arkansas Reproductive Health Monitoring System. The Arkansas Center also takes part in the National Birth Defect Prevention Study and is in an excellent position to do local research and work with experts across the country to develop public health programs to help prevent birth defects in Arkansas.

There are several people from different agencies and organizations that meet together every month to share new information, plan new strategies and coordinate their activities for decreasing infant mortality in Arkansas. This group is called the Infant Mortality Action Group. Its meetings are hosted by Arkansas Children’s Hospital as part of the Natural Wonders Partnership Council. This council includes people from organizations that are working together to improve child health in our state. Here is a list of recommendations from the Infant Mortality Action Group for decreasing infant mortality in Arkansas.

- Improve our understanding of the causes of infant death in Arkansas.
- Prevent unplanned pregnancies.
- Reduce the teen birth rate.
- Prevent low birth-weight and birth defects.

- Promote healthy behaviors among women of child-bearing age, so they will be healthy before they become pregnant.
- Improve health management and parenting skills of parents.
- Expand home visiting and other parent education programs.
- Prevent injuries.
- Increase healthy sleep habits.
- Increase access to quality health care during and after pregnancy.
- Reduce the rate of late pre-term deliveries.
- Improve quality of neonatal hospital care.
- Assure access to high quality health care for babies with special needs.

If you would like to know more about infant mortality and other topics discussed in this chapter, turn to page 122 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Chapter 4

Health Literacy

This chapter is about health literacy in Arkansas. Health literacy is an important way to predict the health problems of a population. In this chapter we will talk about what health literacy is and some of the problems caused by low health literacy. We will also compare health literacy between counties in Arkansas and discuss what we can do to improve health literacy.

What is health literacy?

Health literacy is often defined as how well people can get and use information to make good choices about their health. Usually we think of health literacy as people's ability to follow their doctors' orders or take their medicine the right way but, in reality, health literacy is much more than that.

Health literacy consists of a wide range of skills that people use to get and act on information so that they can live healthier lives. These skills involve reading, writing, listening, asking questions, doing math, and analyzing the facts. It also includes people's ability to communicate and interact with others.

People use their health literacy skills when they go to the doctor, take care of a sick child or help their aging parents fill out their Medicare forms. People also use their health literacy skills when they take care of their newborn babies, do their grocery shopping, make decisions about their work benefits, or cast their vote on health-related issues.

Health literacy has another side to it, as well. Health literacy is also how well doctors, nurses, and other health care workers meet their patients' needs and do it in a way that helps their patients know what they need to do to take care of themselves. Health care groups use their health literacy skills when they make information easy to grasp, forms easy to fill out and directions easy to follow.

When you put both sides of health literacy together, there is often a mismatch between the skills of the patients and the demands placed on them by the clinics, hospitals and insurance companies. This imbalance can result from people having problems with reading, writing, doing math, listening, or asking questions. It can also result from the health system requiring people to do things that are simply too hard to do. In that way, the demands of the health care system are out of balance with the skills of the people it serves.

Why is low health literacy a problem?

Low health literacy is a problem because it leads to poor health and poor quality of life. People with low health literacy are more likely to have less knowledge about their health and to have serious health problems. This is because people with low health literacy are less likely to understand and follow their doctors' orders. They are less likely to take their medicine the right way and less likely to get the preventive health services they need before they get sick. So, they are more likely to have serious complications from chronic diseases, such as asthma, diabetes or heart failure. They are more likely to go to the emergency room, be admitted to the hospital and to have a shorter life expectancy.

Low health literacy within the health care system may cause medical mistakes and higher costs. It may result in under use of needed health services such as health screenings, as well as over use of unneeded health services such as unnecessary medical tests. An example of low health literacy within the health care system would be hospital discharge instructions that are too hard for patients to understand and then result in re-admissions to the hospital that could have been avoided. Another example would be medical test instructions that are so confusing that the test must be rescheduled because the instructions were not followed. Low health literacy within the system keeps patients from getting services they may be eligible for but are too hard to sign up for. Examples include insurance forms that are too difficult for patients to fill out and steps for medical referrals that are too confusing for inexperienced patients to work through.

The problem of low health literacy is solved when the health literacy of the health care system is in balance with the health literacy of the patients it serves.



How big is the problem of low health literacy?

Health literacy can be divided into four categories:

- **Below Basic** means being able to circle the date of a medical appointment on a hospital appointment slip or being able to read a set of short instructions to find out if it is okay to drink anything before a particular medical test.
- **Basic** means being able to read a clearly written brochure and give two reasons why a person with no symptoms of a disease should be tested for the disease.
- **Intermediate** means being able to read a prescription drug label to find out what time a person should take the drug or being able to use a chart to find a healthy weight for a person of a certain height.
- **Proficient** means being able to search through a complex document to find the meaning of a particular medical word or being able to figure out an employee's share of health insurance costs for a year by using a chart that shows the employee's monthly cost based on income and family size.

Experts estimate that only 12 percent of adults in the U.S. have Proficient health literacy, while 53 percent have Intermediate health literacy. And 36 percent of Americans have either Basic or Below Basic health literacy, which we define as low health literacy. This last group adds up to about 90 million adults in the U.S.

We estimate there are 820,000 adults in Arkansas with low health literacy. This is 37 percent of the adult population. The portion of people with low health literacy in Arkansas is greater than in the U.S. overall. Our state has a high portion of people in groups that are more likely to have low health literacy. Groups with low health literacy include people who are age 65 and over, blacks and other minorities, people with less than a high school education, and people who live in poverty. People who live in rural areas are also more likely to have low health literacy. Also, people who are covered by Medicare or Medicaid, as well as people with no health insurance, are more likely to have low health literacy.

The map on page 58 shows the portion of people with low health literacy in each county. The counties with the solid green have the lowest health literacy rates, the counties with the crossed pattern have the next lowest rates, the counties with dots have higher rates, and the light colored counties have the highest health literacy rates.

This map shows that the counties with the biggest problems with low health literacy are in eastern and southern parts of the state. In Lee, Philips, and Chicot counties, over half the population struggles with low health literacy. However, all

counties in Arkansas have a sizeable portion of adults with low health literacy. There is no county in Arkansas where less than 25 percent of the population has low health literacy.

People who cannot read are more likely to also have low health literacy. In 14 of Arkansas's 75 counties, it is estimated that at least 20 percent of adults has Below Basic reading ability. The counties with the lowest literacy and lowest health literacy are also counties that are rural, poor, and have the worst health status. Lee County has the highest share of adults who have Below Basic literacy and also low health literacy--at least 25 percent of adults.

What are the best ways to improve health literacy?

There are two basic ways to improve health literacy. First, we can help people improve their own health literacy skills. Second, we can help health care organizations improve their health literacy in the way they care for their patients. Here are some suggested ways to help people improve their own health literacy.

Through the education system:

- Place health literacy instruction in current K-12 science and health education classes.
- Use K-12 health education curricula that meet the National Health Education Standards.
- Include health content in adult education programs by using real-life materials and activities that help solve real-life problems.
- Make health literacy a part of the training that all health professionals get in school and in their continuing education.

Through the community:

- Do outreach and training for new parents to build their health literacy skills for taking care of their families?
- Provide training in community settings, such as churches or senior centers for people with chronic diseases, such as diabetes and high blood pressure, so they can better understand how to take care of their own health.
- Increase access to easy-to-understand health information through public libraries and through the Internet.

Through the health care system:

- Include health literacy as part of the training that clinics and hospitals give their staff.
- Give health literacy training to health care providers, such as medical assistants, home health workers and aides.
- Make sure the forms and materials that insurance companies and health care organizations give people to read or sign are written in plain language that they can easily understand.
- Make it easy for people who are unfamiliar with the health care system to find out where they need to go to get the services that they need.

What are we doing to improve health literacy in Arkansas?

In Arkansas, efforts are ongoing to both improve health literacy across the lifespan and in every county.

Health Literacy for Children

We know that health literacy can be affected by reading, so building reading skills at an early age is a way to help avoid future health literacy problems in adults. Programs, such as Reach Out and Read, which encourage doctors to give books to families of young children at well-child visits, are growing throughout the state to address the needs of children up to five years old. There are 30 Reach Out and Read programs in Arkansas that reach about 40,000 children with books and early literacy advice, and more are planned in the coming year.

Teaching health literacy to school children is also important, and Arkansas Coordinated School Health is making excellent progress in this area. Coordinated School Health is a partnership between the Arkansas Department of Education and Department of Health that coordinates efforts to improve the health of Arkansas's school children so they can be healthy and ready to learn. It has many supporters, including the Department of Human Services, Arkansas Children's Hospital, and school districts all over the state.

In the past few years, Arkansas Children's Hospital has made it possible for Arkansas schools to use Health Teacher as part of Coordinated School Health. Health Teacher is a health education curriculum that is specially designed to teach health literacy. In 2011, Arkansas Children's Hospital partnered with Mercy Health to expand the Health Teacher program in our state. Mercy Health is a health system in Arkansas with headquarters in St. Louis, Missouri. Through this partnership, Health Teacher became available to 90 school districts in Arkansas, which includes 409 schools, 15,678 teachers and 210,106 students. This represents over one-half of the

schools and students in public schools in Arkansas and all the Catholic schools in the state.

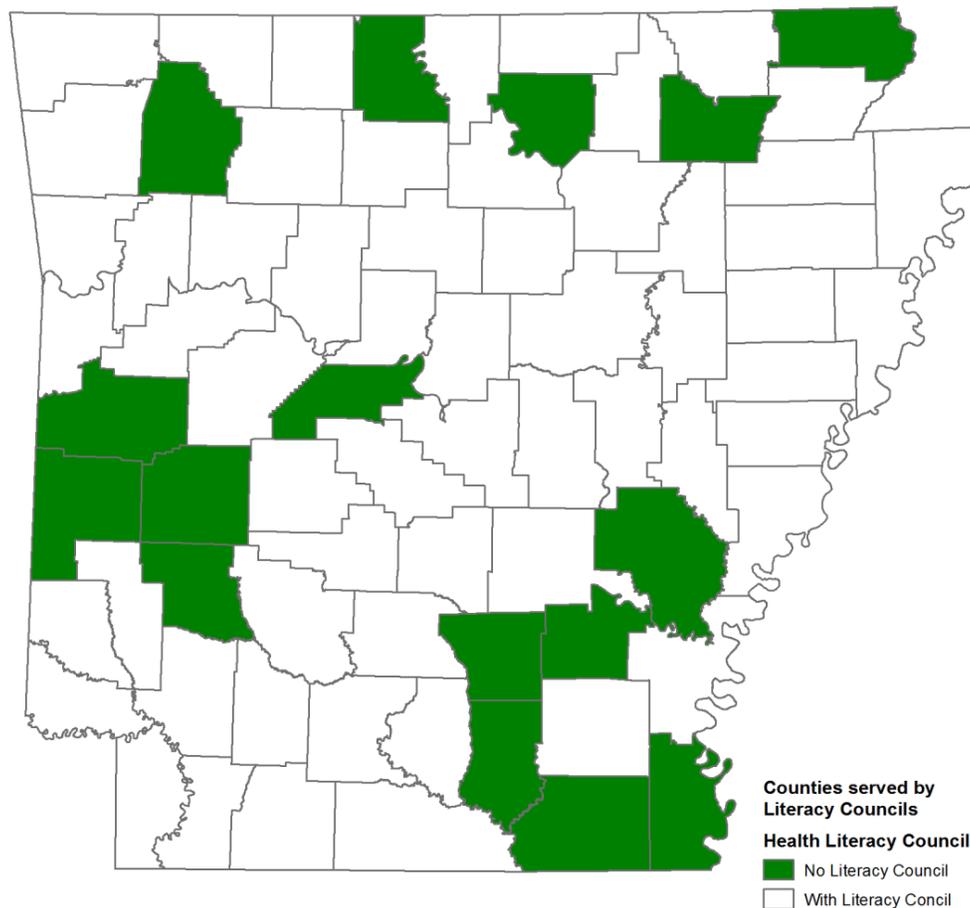
Health Literacy for Adults

Many programs designed to improve life expectancy or decrease infant mortality are in fact designed to help solve the problems of low health literacy. This is not surprising, since low health literacy is an important risk factor for decreased life expectancy and also for increased infant mortality. An example is the home visiting programs that we talked about in Chapter 3. Home visiting is in essence a health literacy program. Another example is the Stanford Chronic Disease Self-management Program that has been provided through many of the Centers on Aging and the Area Agencies on Aging in Arkansas since 2007, in partnership with the Arkansas Department of Health and the Arkansas Department of Human Services.

The Chronic Disease Self-management Program is a workshop that was designed at Stanford University and has been shown to improve health and decrease health care costs. It was developed for people with chronic health problems and their partners. The workshops are led by two trained leaders, one of whom is not a health professional but is someone with a chronic condition. The workshops meet for two and one-half hours once a week for six weeks. People with different chronic conditions attend the workshops together, where they develop the skills they need to take care of their chronic health problems. Those skills include how to talk to their doctor, how to take their medicine, how to lower their stress, and how to solve problems related to their condition. People do not have to be able to read to take part. Over 500 people have finished the program in Arkansas.

The Arkansas Department of Health is working with the Arkansas Literacy Councils to expand literacy councils to counties in Arkansas without services and to provide training in the use of the *Staying Healthy* curriculum. The Arkansas Literacy Councils is a statewide non-profit organization that supports the county-level literacy councils serving adults in over 60 Arkansas counties. These councils offer tutoring to adults who want to learn to read, write, or speak English better. *Staying Healthy* is a way for literacy councils to teach their students words and concepts related to health while they are learning to read or to speak English. Here is a map that shows the counties that have literacy councils.

Figure 4.2: Counties in Arkansas served by Literacy Councils



Data Source: Arkansas Literacy Councils

Health Literacy for the Health Care System

To deal with the other side of health literacy, programs to train health professionals in health literacy are growing across the state. Health literacy is being taught in continuing education sessions that can be watched from every county in the state. Also, clinics are being trained to change the way they operate by improving written and spoken information for their patients, as well as working to help patients to have the confidence they need to take care of themselves when they go home. All eight of the UAMS Regional Centers have received training in the Health Literacy Universal Precautions Toolkit. The Toolkit offers useful ways that health care workers can improve how they talk to patients, how clinics can make their forms easier to read and how they can set up their clinics to make it easier for people to get the services they need. These improvements will help all of the patients who go to these clinics for basic health care.

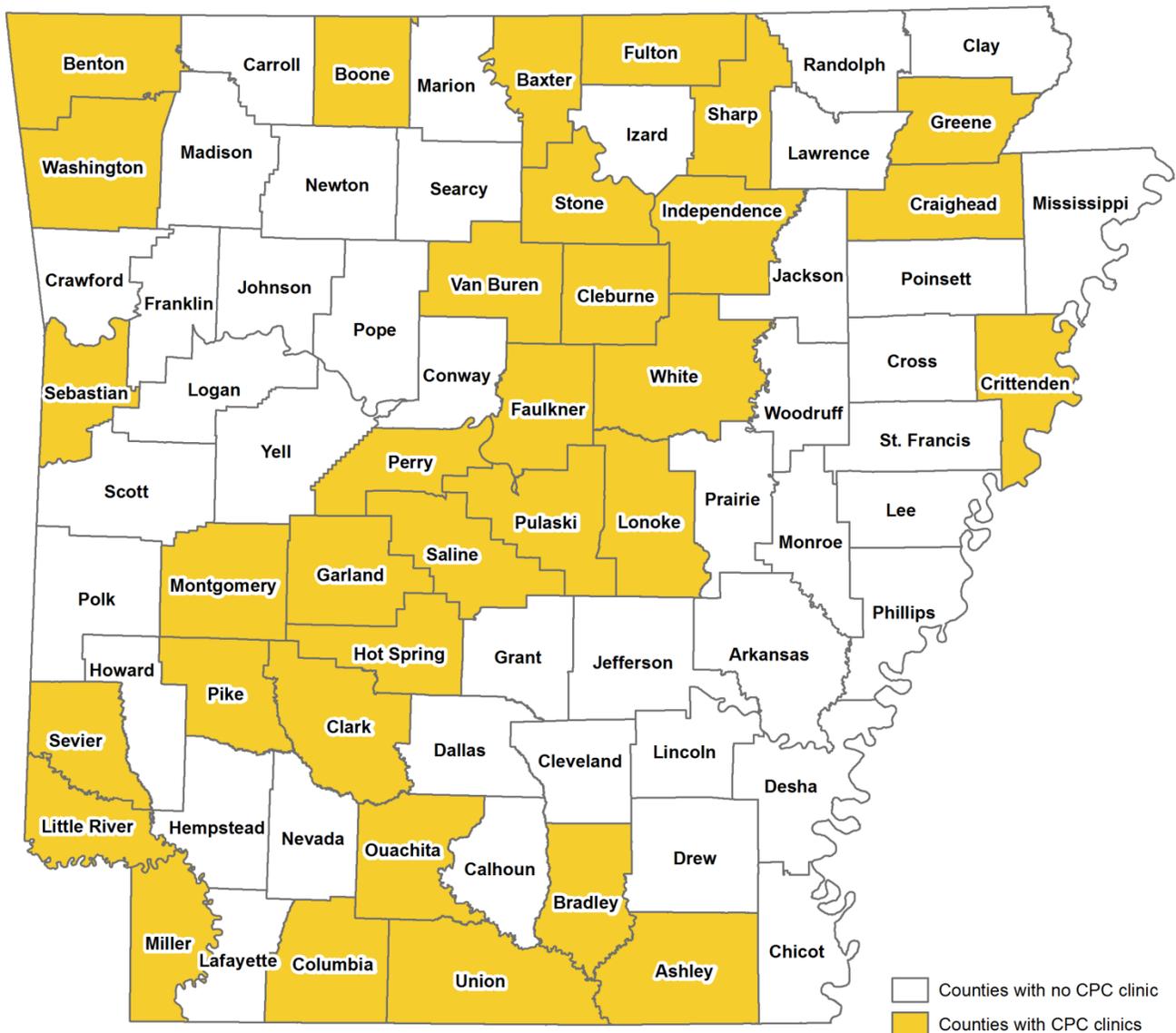
What else can we do to improve health literacy?

The Partnership for Health Literacy in Arkansas is a statewide coalition that was formed in 2009. It is also called PHLA or The Partnership. The Partnership's members include people from adult education and literacy organizations, libraries, state agencies, universities, and health care organizations, as well as many individuals. Its mission is to improve health literacy among Arkansans by addressing people's personal needs, as well as by addressing the needs of the health care system. The Partnership has developed a state action plan that includes the seven goals listed here.

- Make health and safety information easy to understand so that people who need it can get it and use it to take action.
- Make changes that improve the health literacy of the health care system.
- Include health literacy in the lessons and curricula for all children in Arkansas, from infants in child care through college students.
- Work with the adult education system in Arkansas to improve the health literacy of the people in the communities they serve.
- Build a network of health literacy partners committed to making changes at their organizations that will improve health literacy in Arkansas.
- Do research to better understand and measure what works to improve the health literacy of the public and the health care system.
- Share and promote the use of health literacy practices that are based on the best science possible.

If you would like to know more about health literacy and other topics discussed in this chapter, turn to page 123 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Figure 5.1: Counties with clinics that are a part of the Comprehensive Primary Care (CPC) Initiative



Chapter 5

The Cost of Poor Health

In this chapter, we will discuss how much poor health costs the people of Arkansas. We will also discuss what we are doing to lower the cost. Finally, we will talk about what more we can do in Arkansas to bring down the cost of poor health.

What does poor health cost us?

One way to look at the cost of poor health is to find out how much it costs the health care system to give people the health care they need. These costs are for doctor visits, medicine, operations, and being in the hospital. They are called **direct costs**, because these costs are directly tied to people's health problems.

Patients, health insurance companies, Medicare, Medicaid, and donations pay for direct costs. Few people can pay the total cost of all the health care they get. Many people in Arkansas struggle to pay their medical bills, especially people without health insurance. Being unable to pay their medical bills is the most common reason why people in the U.S. declare bankruptcy.

People also have **indirect costs**. Indirect costs include lost wages from missed work due to sickness or time off to care for family members. Indirect costs can also be the cost of hiring someone to take care of a sick family member.

One more way to look at the cost of poor health is to look at the loss in productivity to the economy when people are not able to work because they are sick or have died. Also the economy loses productivity when people are able to work, but they do their jobs poorly because they are sick, or they have to miss work often to take care of sick family members. Lost productivity is a form of indirect cost.

When the costs of poor health are high, there is less money to invest in things that make the economy grow, such as new technology, tools, or buildings. There is also less money to teach and train young people. This lack of money can cause communities and the state overall to miss out on economic growth in the future.

A study done by the Milken Institute looked at the cost of poor health. The study looked at the cost of seven of the most common chronic diseases for the U.S. and each state for the year 2003. The seven diseases were cancer, asthma, diabetes, high blood pressure, heart disease, stroke, and mental health problems.

The Milken study found that it cost the U.S. \$277 billion to treat these seven health problems. The cost in lost productivity was \$1.1 trillion. Total cost for treatment and lost productivity was \$1.3 trillion. The predicted future cost of treatment and lost productivity will be \$4.2 trillion in 2023.

In Arkansas, the cost to treat these seven chronic diseases was \$2.6 billion. The cost of lost productivity was \$11.3 billion. The total cost to Arkansas for treatment and lost productivity was \$13.9 billion. The future cost to Arkansas will be \$7.3 billion for treatment and \$34.7 billion for lost productivity with a total of \$42.1 billion in 2023.

The Milken study stated that if we are able to make improvements to prevent and manage these seven chronic diseases, Arkansas could save \$2.1 billion in treatment costs and \$9.6 billion in lost productivity in 2023. We can save these costs, if we do these things:

- Increase the number of people who are not obese.
- Increase the number of people who do not use tobacco.
- Decrease the amount of alcohol people drink.
- Increase the number of people who are physically active.
- Increase the number of people with normal cholesterol.
- Make the air we breathe cleaner.
- Increase the number of people who do not use illegal drugs.
- Increase the number of people who find their health problems early and get treated right away.
- Slow down increasing cost of health care.

We have discussed many of these items in this report. One of the things we have not discussed is what we are doing to slow down the increases in the cost of health care.

What are we doing to lower health care costs?

Public and private insurance companies are facing a crisis because health care costs are too high. To solve this problem, Arkansas Medicaid, Arkansas Blue Cross and Blue Shield, Humana, and QualChoice of Arkansas are working on a new way to pay for health care that is called the Arkansas Payment Improvement Initiative.

Through the Initiative, these Arkansas insurers are developing a way to pay for health care that rewards doctors and hospitals for giving patients high quality

care at a fair cost. This new initiative has had a great deal of input from doctors, health care providers, patients, and other people from all over the state.

Here are some of the key things to know about the Initiative.

- It looks at making care better—not just saving money.
- It keeps doctors in the role of deciding what care patients need.
- It rewards doctors who give great care.
- It asks doctors to work with other health care providers to make sure patients get the care they need.
- It knows that poor quality care is a reality that should not be rewarded.
- It aims to fix the current system of care and avoids changes that would not be a good fit for Arkansas.

So far, this Initiative is working well. It has helped Medicaid avoid making large cuts to its payments to doctors in the state. It has helped Medicaid avoid cuts to programs that many Arkansans depend on. Arkansas Medicaid is on track to having the lowest increases in costs that they have had in over 25 years.

Here is how the Initiative works.

- Patients visit their doctors just as before.
- After the visit, the doctors give the insurers information about the visits and receive payment just as before.
- If the patient was seen for a health problem that is one of the Initiative's defined episodes of care, the doctor adds some basic information about the care they gave.
- Several episodes of care have been defined. They include upper respiratory infections (URI), total hip and knee replacements, congestive heart failure (CHF), attention deficit/hyperactivity disorder (ADHD), and pregnancy.
- The insurers give doctors a report every three months that includes information about the quality, cost, and care they gave their patients.
- The reports help doctors look at the care in their clinics and how they are doing compared to other doctors in their area. Doctors are then able to know how well they are doing and to track the quality and costs for the episodes of care.
- Medicaid and the insurance companies use the information to decide which doctor has the most responsibility for a given episode. That doctor will be named as the Principal Accountable Provider, which is also called the PAP.
- At the end of the year, the PAP's average cost per episode will be compared to acceptable and commendable levels of costs. If the average cost is above

the acceptable level, the PAP will pay back part of the costs. If the average cost is acceptable but not commendable, there will be no change in payment. If the PAP gives high-quality care that costs less than the commendable level, then the PAP will get back part of the savings.

Medicaid and the insurance companies are getting input from doctors, hospitals, patients and others to define more episodes of care. The goal is to have most episodes of care going within the next three to five years.

There is also a program in Arkansas called the Comprehensive Primary Care initiative. It is also called CPC. This program is part of the Centers for Medicare and Medicaid Services effort to improve the health care system. Only seven states in the U.S. were picked to be part of the CPC initiative. Arkansas was one of them. As part of this initiative, doctors are asked to make their clinics centered on their patients' needs and to meet certain milestones that promote better care and lower health care costs. The CPC initiative gives primary-care doctors special payments to make changes in their clinics that will help them give better care to their patients. The patients visit their doctors as before. Over time, patients will find it easier to get the care they need. There will also be less waste and fewer problems with their care. A map showing the counties where CPC is located is on page 68.

In January 2014, the Arkansas Payment Improvement Initiative will expand the CPC model for primary care doctors. The goal is for most of the primary-care clinics in Arkansas to become patient-centered medical homes that will do a good job of addressing the big health problems in Arkansas.

What more can we do to lower the costs?

An important way to lower the cost of poor health is for states to spend money to prevent disease in their communities. Spending money to prevent poor health is an investment in the future. The savings that money invested now returns to us in the future is called the return on investment. It is also called the ROI. The best investments are often the ones that bring the biggest ROI. In public health the ROI is not just about saving money, it's about saving lives.

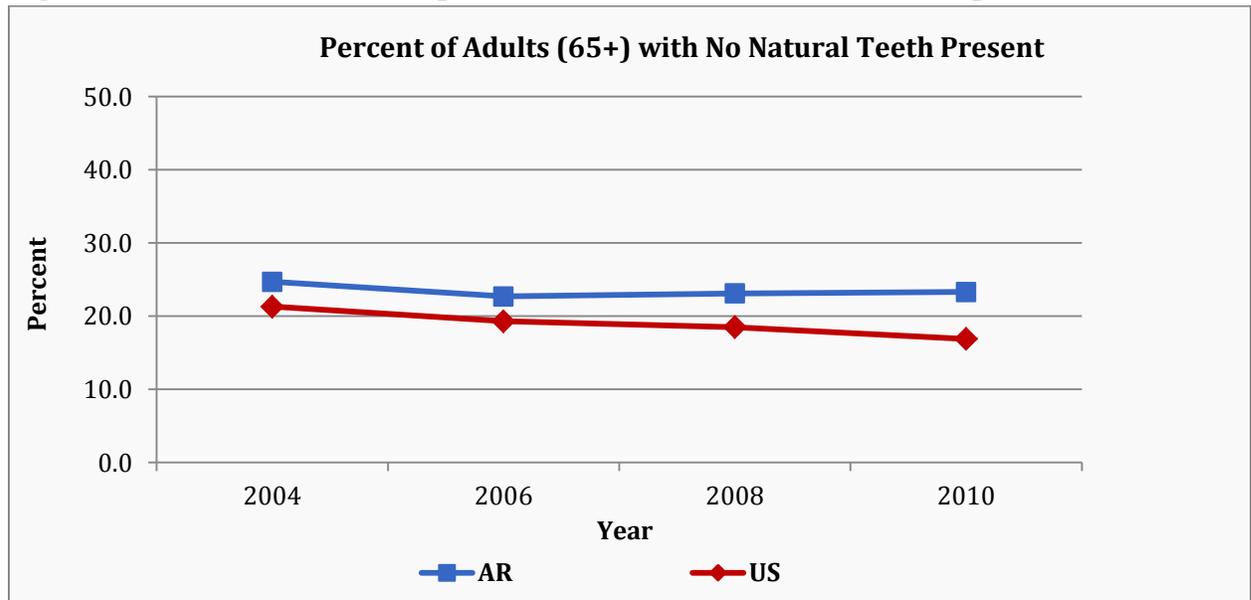
Spending money to help people quit smoking is a good example of a public health activity with a great ROI. The American Lung Association says that the yearly costs of smoking are \$1 billion in medical treatment and \$2.4 billion in lost productivity. This makes a total of \$3.4 billion in costs to Arkansas. A pack of cigarettes costs about \$5.45. When you look at the health care costs and loss in productivity, the cost is \$16.66 per pack. The ROI for smoking cessation is between

90 cents and \$2.54 for every \$1 dollar spent. The ROI depends what type of treatment is given for the tobacco addiction.

Oral health also brings a large ROI. Oral health is also called dental health. It is a big part of overall health for people in Arkansas. Oral means the whole mouth. Good oral health means being free of cavities and gum disease. It also means being free of tooth pain, oral cancers, and birth defects. Many people in Arkansas suffer with poor oral health. More than 20 percent of the adults in our state have lost at least six of their teeth due to decay or gum disease. More than 25 percent of the children are in need of routine dental care, and 4 percent need dental care right away. Over 4,000 people were told they have mouth or throat cancer between 1997 and 2008. For most of those people the cancer had already spread when it was found, which made it much harder to treat.

One of the best ways to measure overall oral health is to look at how many people have lost all of their teeth by the time they are 65 years old. In Arkansas, more than 23 percent of the people who are 65 or older have lost all of their teeth. In the U.S., it is less than 17 percent. Here is a graph that compares Arkansas to the U.S. for the past few years. It shows that the number of people in Arkansas who have lost all of their teeth is higher than the U.S. The gap between Arkansas and the U.S. is growing.

Figure 5.2: Arkansas and U.S. percent adults with no natural teeth present



Data Source: CDC BRFSS 2004-2010.

Tooth decay is one of the most common health problems in children. Tooth decay is also called cavities. The pain from tooth decay can keep children from being

able to eat, sleep, speak, and learn well. There are three things happening in Arkansas that will go a long way to stop tooth decay and bring down the cost of health care. These three things are:

- Giving as many people as possible access to water with fluoride.
- Giving dental sealants to children in school-based clinics across the state.
- Training doctors and nurses on how to apply fluoride varnish to their patients' teeth.

Adding fluoride to water has a very high ROI. One study showed that every \$1 invested in fluoridation results in \$38 savings in the cost of dental treatment. Another study showed that the dental care for children enrolled in Medicaid and who live in places without fluoride in their water costs twice as much as the dental care for children living in places that have fluoride in their water. Of course, water with fluoride helps everyone's oral health, not just children.

In Arkansas, about 65 percent of the people who receive their water from a public water system receive fluoride in their water, compared to 72 percent of the people in the U.S. In 2011, Arkansas passed a new law to raise the number of communities served by water systems that add fluoride to their water. This law makes sure that Arkansans will be able to get water with fluoride, if they live in areas where the public water system serves more than 5,000 people. Under the new law, 87 percent of the people served by public water systems will be able to get water with fluoride.

To raise the number of children who don't get tooth decay, Arkansas is increasing the number of children who get dental sealants. In 2010, 27 percent of the children who were screened in Arkansas's 75 counties had sealants, compared to only 17 percent in 2008. Dental sealants are made of plastic that is placed on children's back teeth. If dental sealants are placed early enough, they can help prevent new cavities and can also stop old cavities from growing.

In order to give more children dental sealants, Arkansas has a school-based dental sealant program that is a joint effort among the Arkansas Department of Health, Arkansas Children's Hospital, the University of Arkansas at Little Rock Children's International Program, Community Health Centers of Arkansas, Healthy Connections in Mena, the Interfaith Dental Clinic in Conway, and other members of the Arkansas Oral Health Coalition.

As part of this program, Arkansas Children's Hospital has three vans that have dental clinics in them. The vans go to schools in southeast, northwest, and central Arkansas and give dental care to children. In 2012, the program gave 1,600

dental treatments to 600 children in the state. Arkansas Children's Hospital also has a portable school-based sealant program. Portable equipment is used to set up dental clinics in school auditoriums, classrooms, and hallways. Last year, Arkansas Children's Hospital sealed 3,033 teeth. The school-based program also teaches children how to take care of their teeth.

The University of Arkansas at Little Rock Children's International Program has started a school-based dental clinic at Wakefield Elementary School in Little Rock. It is called the Future Smiles Dental Program. In the last 12 years, this program has given dental treatment to 3,000 children from six elementary schools. During the 2011-2012 school year, the program placed 1,197 sealants and gave close to 3,000 dental treatments to children, who likely would not have been able to get dental care.

Fluoride varnish is another easy way to help stop tooth decay, especially for children who don't have water with fluoride or who live where there are few dentists. Fluoride varnish is a medicine that is painted on teeth to keep them from getting new cavities. It also helps stop old cavities from getting bigger. In 2011, Arkansas passed a law that lets Arkansas doctors, nurses, and other health care providers put fluoride varnish on young children's teeth, if they get trained. Dentists and dental hygienists are already able to apply the varnish. The Arkansas Department of Health's Office of Oral Health has put the training on the Internet for doctors and nurses who wish to do this for their patients.

The oral health activities described here are part of a state plan that was developed by Arkansas Oral Health Coalition. The Arkansas Oral Health Plan 2012-2015 makes recommendations for what we can do to improve people's oral health. The plan focuses on education, access, prevention, and policy. Here is a summary.

Education

- Start a statewide oral health education and awareness program.
- Teach all pregnant women about the link between the mother's oral health and pre-term births, and also the baby's oral health.
- Support oral health education in all Arkansas schools.
- Use all health care workers to spread the message about oral health.
- Support education for Arkansas residents to become dentists.
- Support efforts to give dentists post-graduate training in general practice residencies and pediatric dental residencies.
- Give oral health training to nurses who care for older adults.
- Teach dental professionals about abuse and neglect involving children, older adults, and people with disabilities.

Access to Care

- Increase the number of dentists who participate in Medicaid.
- Increase the number of minority students in dental schools and dental hygiene programs.
- Give dental students more community-based experiences.
- Give dental health professionals more experience during their training in treating people from different backgrounds.
- Teach dentists and dental hygienists more about dental public health.
- Give oral health services to people not being served.
- Help more people with developmental disabilities get dental care.
- Give grants for dental clinics in community health centers and non-profit volunteer programs.
- Set up a process to find out the need for oral health workers in Arkansas.
- Set up a way to check on oral health in Arkansas so that policy makers and program planners can meet the needs of Arkansans of all ages.
- Help make the benefits of the ConnectCare program available to all dentists in the state.
- Pay back the school loans of dental students from Arkansas, who will serve people in underserved areas after they graduate.
- Help more people in Arkansas get dental insurance.
- Give incentives to dental providers to work in underserved areas of the state.
- Help more dentists and dental hygienists to be part of community-based efforts to improve oral health and access to care.
- Find ways to get more dental care to people who need it.

Prevention

- Increase the number of the Arkansas residents who have fluoride in the water they get through their community water systems.
- Lower tooth decay in Arkansas by expanding school-based dental sealant programs.
- Promote healthy food choices in schools.
- Help dental hygienists give preventive dental care to more underserved people.
- Help doctors, nurses, and other health care providers to apply fluoride varnish to more children's teeth.
- Promote screenings for oral cancer by dentists and dental hygienists.
- Help more people quit tobacco through dental offices.

Policy

- Get more minority students enrolled in dental schools and dental hygiene programs.
- Increase the different types of places where dental workers are allowed to give care to people.
- Teach more children about oral health in all elementary and secondary schools.
- Strengthen Medicaid's dental program for adults.
- Continue the work of the Arkansas Oral Health Coalition.
- Find more ways for people who are from groups with oral health problems to be part of the Arkansas Oral Health Coalition.
- Make good use of the Arkansas Oral Health Plan.
- Make sure infection control is working in dentistry.
- Use policies, programs, and education that will lead to better oral health for older adults.

Chapter 6

Rural Health

In this chapter we will talk about rural health in Arkansas. We will define what we mean by rural health and talk about some of the key health issues for people who live in rural areas. We will also discuss what we are doing in Arkansas to improve rural health and what else we need to do.

What is rural health?

When talking about rural health, we mean the health of people living in the parts of the state that are away from cities – out in the country, so to speak. Almost 45 percent of Arkansans live in rural areas. But, defining exactly where a city ends and a rural area starts can be hard. So, we have used the definition for rural that the U.S. Office of Budget and Management has used. It defines a rural county as any county that is not part of a Metropolitan Statistical Area. A Metropolitan Statistical Area is a city that has a population of 50,000 people or more. By this definition, 54 of the 75 counties in Arkansas are considered rural. The map on page 78 shows the rural counties in Arkansas using this definition. We realize, however, that there are rural areas even in counties that are not defined as rural counties.

Why is rural health important to Arkansas?

By comparing maps in the earlier chapters, we see that people who live in rural counties tend to have shorter life expectancies. Babies in those counties tend to have higher infant death rates. And the people there are more likely to struggle with low health literacy.

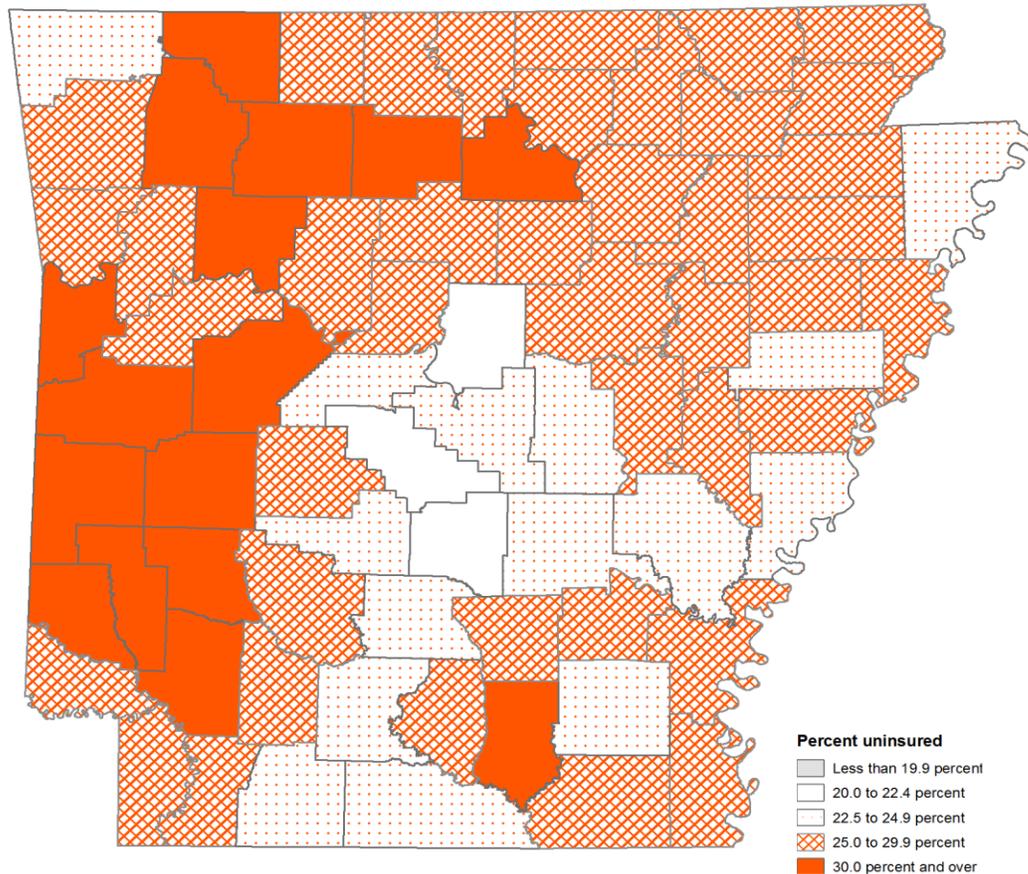
In many ways people who live in Arkansas's rural areas have the same barriers to good health as people who live in Arkansas's cities. However, they may also experience barriers that people who live in cities may not. For example, people who live in rural counties have higher rates of chronic diseases and are more likely to be involved in serious accidents. Yet people who live in rural areas must travel greater distances to see a doctor or go to the hospital. In some rural counties, there are no hospitals. People who live in rural communities may not have grocery stores where they can buy food for a healthy diet, such as fresh fruits or vegetables. Barriers such as these must be removed if we want all Arkansans to have the same chance to enjoy good health.

What are the key health issues in rural Arkansas?

Low Access to Health Care

People in rural Arkansas have greater difficulty getting the health care they need compared to those who live in the non-rural counties. One reason they have difficulty getting health care is because of the cost. In general, 17 percent of Arkansas residents report that they were not able to see a doctor in the past 12 months due to the costs, compared to 15 percent in the U.S. However, in many rural counties, more than 20 percent of residents were not able to see a doctor due to cost. Lack of health insurance makes the cost of seeing a doctor hard, if not impossible, to afford. In Arkansas 25 percent of working-age adults have no health insurance. In many rural counties it is even higher.

Figure 6.2: Percent uninsured 18 to 64 year-olds by county in Arkansas

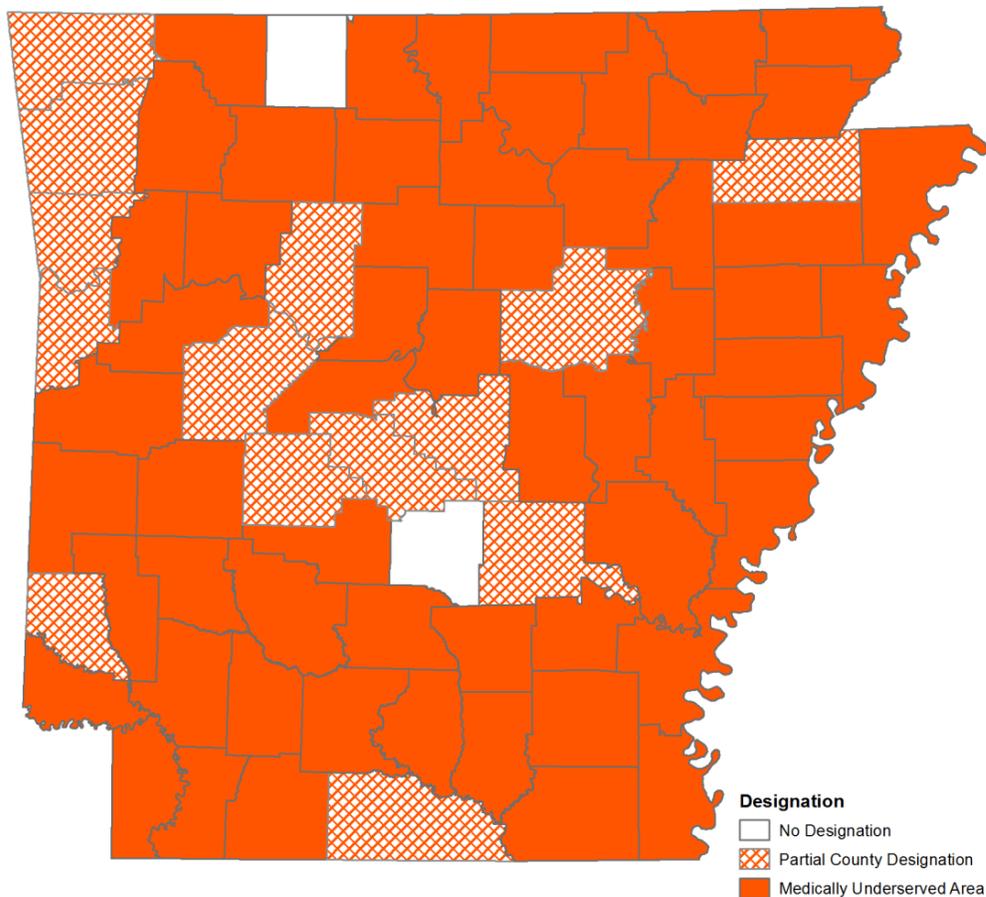


Data Source: Small Area Health Insurance Estimates, U.S. Census Bureau, 2010

A second reason that people who live in rural Arkansas find it hard to get health care is that there is a shortage of health care on hand in their communities. For example, 46 counties in Arkansas have only one hospital and 21 counties have no hospital at all.

Many of the rural counties in Arkansas have been named as Medically Underserved Areas by the Health Services and Resources Administration of the U.S. government. A Medically Underserved Area is a part of a county, a whole county or a group of nearby counties in which the residents have a shortage of personal health services. Here is a map that shows the Medically Underserved Areas in Arkansas.

Figure 6.3: Arkansas medically underserved areas



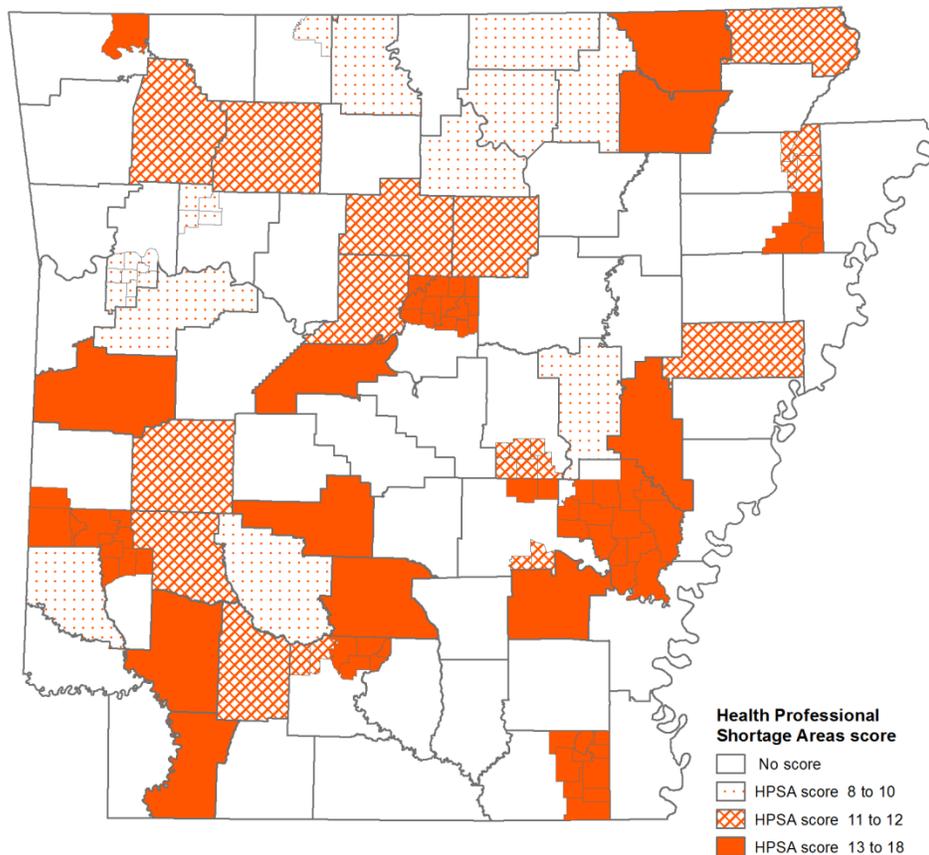
Data Source: Arkansas Department of Health Office of Rural Health and Primary Care

There is also a general shortage of primary care doctors in Arkansas. This shortage can be especially great in the rural areas. Primary care doctors can be doctors who work in general practice medicine, family medicine, internal medicine,

pediatrics or obstetrics and gynecology. The rural areas in Arkansas have 78 primary care doctors for every 100,000 residents, while in the cities there are 133 primary care doctors for every 100,000 residents. Some of the rural areas have a more severe shortage than others. In the delta area of eastern Arkansas, there are only 59 primary care doctors for every 100,000 residents.

Another way to look at it is by how many residents there are for every one primary care doctor. Overall, there are 867 residents in Arkansas for every one primary care doctor. In the U.S., there are 631 residents for every one primary care doctor. Here is a map that shows the Primary Care Health Professional Shortage Areas for counties in Arkansas. These areas are also called HPSAs. An area can be named as a primary care HPSA when there are 3,500 or more residents for every primary care doctor. The higher the HPSA score, the greater the shortage.

Figure 6.4: Arkansas Primary Care Health Professional Shortage Areas



Data Source: County Health Rankings, University of Wisconsin Population Health Institute, 2009 data.

Low Access to Public Transportation

A third reason that people in Arkansas have difficulty getting health care is that a ride to get to the doctor is a problem. More than half of all Arkansans fall into one of three groups that are reliant on public transit. These groups are seniors, people living in poverty and people with disabilities. People in rural areas who do not have their own personal cars have fewer choices when it comes to public transit.

The Arkansas State Highway and Transportation Department has estimated the public transportation needs of people in Arkansas. It found that in a year's time, people need to make a total of 13 million trips somewhere. These trips involve short trips to the local doctor, as well as long trips to medical offices in Little Rock. They also include trips to work or training, as well as trips to the grocery store, bank or other businesses. Unfortunately, the public transportation needs were met for only about one third of the needed trips. This means that the transportation needs were **not** met for 8.4 million trips, and 7 million of those trips were in rural areas. This huge unmet need means that nearly 500,000 people in Arkansas needed public transportation at some time during the year and were not able to get it. This unmet need is predicted to increase to 9.6 million trips by 2020 and will involve 560,000 people – mostly in Arkansas's rural areas.

Low Access to Healthy Food

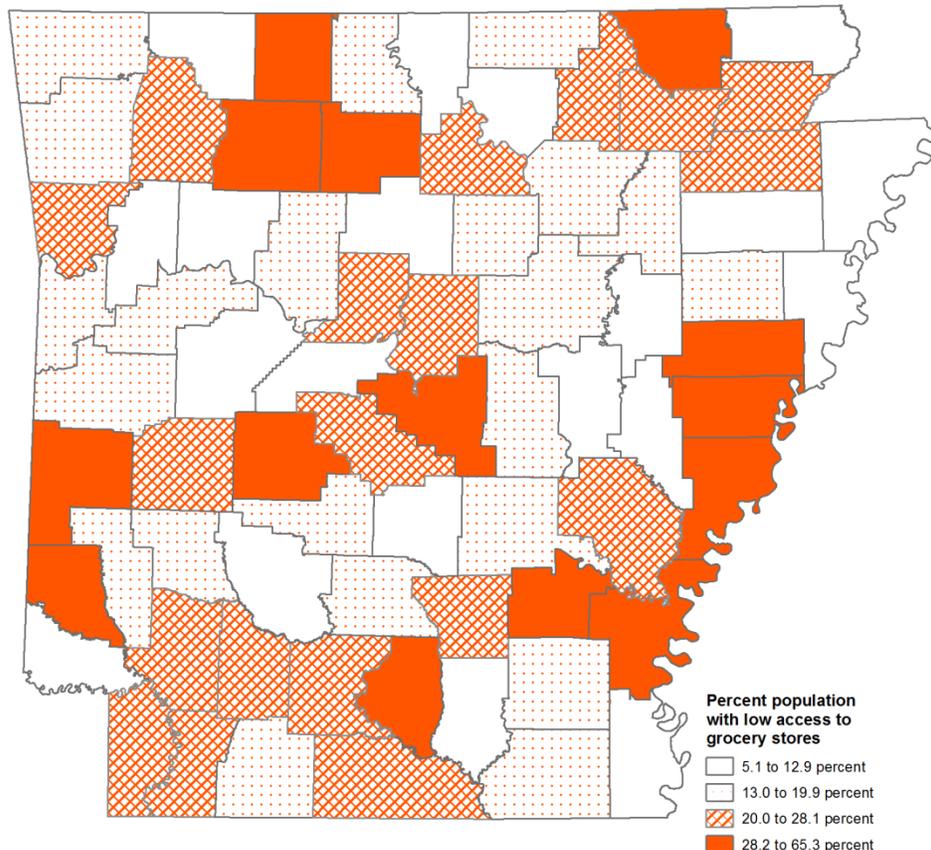
In addition to low access to health care, people who live in rural areas of Arkansas also have low access to high quality food, such as fresh fruits and vegetables. In many rural towns, the only sources of food are small grocers or convenience stores. At those stores, customers pay higher prices for a narrow selection of low quality food. Low cost food of good quality is not available.

Low-income areas where at least one third of the population has difficulty getting to a supermarket or large grocery store are called food deserts. People who live in food deserts are likely to pay more for low quality food or pay greater travel costs to go to a supermarket. The higher travel costs may cancel out any savings they might have gained. For people with limited transportation choices, travel to a supermarket may not be possible. Residents of food deserts who are living in poverty may have few options for making healthy choices in the food they eat.

Here is a map of the food deserts in Arkansas. Not all Arkansas food deserts are located in rural counties. People who live in low-income neighborhoods in some cities may also have few places to buy healthy food. These areas are classified as food deserts also. In cities, low access to a store with healthy food options means residents live more than one mile from a supermarket or large grocery store. In

rural areas, it means residents live more than 10 miles from a supermarket or large grocery store.

Figure 6.5: Food deserts in Arkansas



Data Source: U.S. Department of Agriculture Economic Research Service

What are we doing to improve people's health in rural Arkansas?

In addition to what we are doing to improve life expectancy, infant mortality and health literacy in Arkansas's rural areas, there are a few things we would like to highlight in this chapter.

Health Care

There are three examples of efforts to address low access to health care in rural Arkansas that we will discuss in this report. The first example is the Arkansas Department of Health's Office of Rural Health and Primary Care, which coordinates

federal, state and other efforts focusing on access to health care in Arkansas. Its mission is to help communities set up community-based health care services and systems throughout Arkansas so that quality health care is available to all residents.

The Office of Rural Health and Primary Care works closely with many organizations all over the state. It plays an important role in helping to start Community Health Centers and Critical Access Hospitals around the state. To do its mission, the Office of Rural Health and Primary Care conducts community needs assessments, assists communities to set up primary clinics and hospitals, and recruits primary care doctors and other health care workers to areas that are medically underserved. The Office of Rural Health and Primary Care also oversees state grant programs designed to assist rural communities in maintaining local health care.

A second example is the Center for Rural Health at University of Arkansas for Medical Sciences, which works closely with the Office of Rural Health and Primary Care at the Health Department. It also works closely with state and community organizations to meet the key health care workforce needs of rural communities. In that role, the Center for Rural Health studies the need for rural health care workers by doing regular surveys of all Arkansas hospitals and clinics to find out what kind health care workers they need. The Center for Rural Health also works closely with the UAMS Regional Centers to train primary care doctors, nurses and other health care workers needed to address our primary care shortage. In addition, the Center for Rural Health provides continuing education to rural health workers through workshops and seminars that encourage health care workers and students to stay in rural areas.

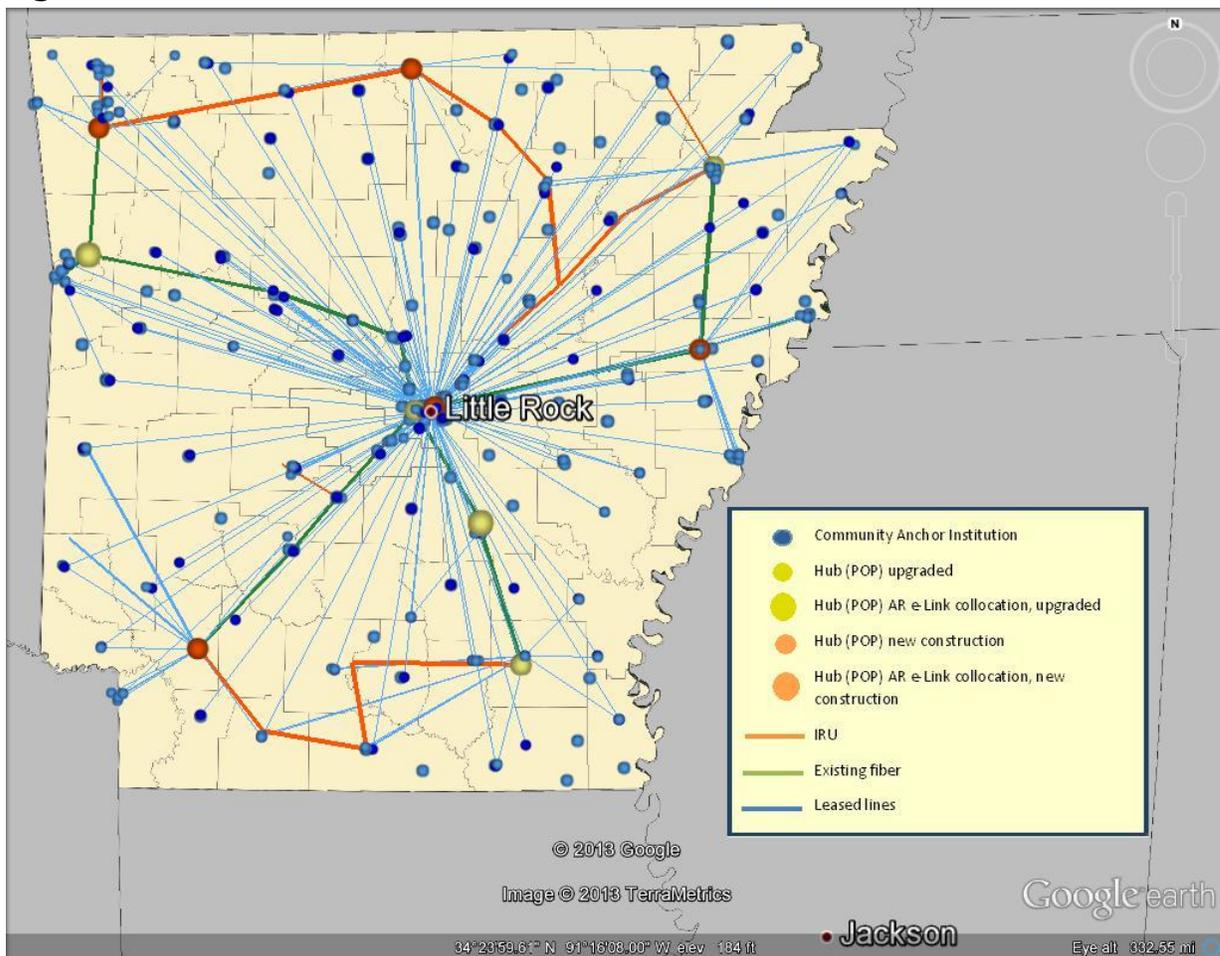
The Center for Rural Health also helps health care providers in rural Arkansas to work together to solve problems. In 2011, the Center for Rural Health held its first annual rural health retreat. The retreat was a meeting that involved all of the major health care providers in rural Arkansas. The purpose was to discuss the challenges facing rural health care and help health care organizations work together to find solutions. Its second retreat was in July 2012. It focused on the key health policy issues facing Arkansas. Attendees included the University of Arkansas for Medical Sciences, rural health organizations, health care clinics and hospitals, health care associations, universities, and state, county, and federal government offices.

The third example is the progress Arkansas has made in building a telemedicine network throughout the state. Telemedicine uses high-speed Internet and video equipment to let a patient in a rural area see and speak with a doctor in another part of the state. In this way patients can get health care at the hospital or

clinic in their own hometowns without having to travel. Telemedicine also allows x-rays, ultrasound pictures, and other test results to be quickly sent to doctors in other towns, who can immediately examine them and save valuable time, especially in emergencies.

The telemedicine network is managed by Arkansas e-Link. There are over 400 telemedicine sites. These sites include hospitals, clinics, colleges and universities that are equipped to connect with the Arkansas Department of Health, the University of Arkansas for Medical Sciences and the state's largest hospitals, such as Baptist Health, where clinical staff and doctors are available to assist rural patients with their health problems. Here is a map that shows the Arkansas e-Link Telemedicine sites.

Figure 6.6: Arkansas E-Link telemedicine sites



Data Source: UAMS, 2012

Healthy Food

The Arkansas Coalition for Obesity Prevention has done excellent work to help Arkansas communities help their residents fight obesity. The Arkansas Coalition for Obesity Prevention is also called ArCOP. ArCOP was formed at the first meeting of the Southern Regional Obesity Summit in Little Rock in August 2007. It is made up of people and organizations who are working together to prevent obesity among Arkansas residents. In the beginning, ArCOP members worked together to merge the goals of their individual organizations that were similar. This let them build on efforts that had already been underway for a number of years. One of the goals that ArCOP developed is the goal to increase people's access to healthy food in their communities. The ArCOP group that works on this goal is the Access to Healthy Foods Team. Its role is to help train communities and to do projects that assist Arkansans in gaining access to healthy and affordable food.

To address food deserts, the Access to Healthy Foods Team started a Food Deserts Workgroup, which gives talks around the state to raise awareness about the problem of food deserts. In the presentation, they give information on how communities can overcome food deserts by taking away the barriers to getting healthy food. The Food Deserts Workgroup is now working on a detailed map of food deserts in Arkansas with the help of the Arkansas Department of Health's Environmental Health Branch.

The Access to Healthy Foods Team has also made a tool that community residents can use to make a food atlas for their own community. A food atlas is a map that shows the places in a community, such as stores and farmers' markets, where people can buy healthy food. The Access to Healthy Foods Team has trained community members around the state on how to use the tool.

What more do we need to do to promote rural health?

Increase Access to Health Care

The Arkansas Department of Health Office of Rural Health and Primary Care for many years has worked closely with other groups to make and maintain an updated State Rural Health Plan. The present Arkansas State Rural Health Plan was published in 2008. It was developed with the help of a group of stakeholders who worked together to update the earlier plan. The plan will be updated again in 2013. The goals of the current plan are listed here.

- Enhance access to health and health services for rural Arkansas residents.
- Improve quality of care in rural Arkansas.
- Enhance emergency medical services.

- Strengthen rural health networks.
- Support existing Critical Access Hospitals and other eligible hospitals.

Meet the Need for Public Transportation

Arkansas Highway and Transportation Department has finished a Statewide Transit Needs Assessment to find and address the public transportation needs in each of Arkansas's 75 counties. It was published in 2012. The purpose of the study was to develop a statewide, regional and county-level assessment of public transportation needs, develop service recommendations to address those needs, and to identify 10-year financial needs for putting those services into place. Here are the recommendations to meet Arkansas's rural public transportation needs.

- Increase the number of rural public transit systems.
- Improve the coordination of trips and increase the efficiency of rural public transit systems by contracting with human service agencies for transit service.
- Enhance services for rural intercity transit through the rural transit systems.

Increase Access to Healthy Food

The ArCOP Access to Healthy Foods Team is working to increase healthy eating opportunities for all Arkansans. Its members have worked closely with community organizations to develop a work plan. The goals of their work plan are listed here.

- Identify a way to collect information from key groups about what food is available and what food is being eaten in Arkansas.
- Increase the kinds of fruits and vegetables eaten by Arkansans.
- Increase the amount of whole grains eaten by Arkansans.
- Decrease the amount of solid fats and added sugars eaten by Arkansans.
- Eliminate very low food security among children in Arkansas households.
- Increase the number of stores and restaurants that sell a variety of foods that are encouraged by the Dietary Guidelines for Americans.
- Increase the number of babies who are breastfed.

Improve Access to Quality Housing

In this chapter we have discussed what is being done to increase access to medical care and healthy food in rural Arkansas. One topic that we have not discussed is the problem we have with low access to quality housing in the rural parts of our state. This is an important topic, because poor housing is linked to problems with poor health. These problems include such things as lead poisoning, asthma attacks and heat stroke.

Recently increased attention has been given to this problem with the formation of medical-legal partnerships among Legal Aid of Arkansas, Arkansas Children's Hospital and community health centers in the delta region of eastern Arkansas. Through these partnerships, lawyers with Legal Aid of Arkansas are able to assist patients with their social problems that are leading to their medical problems. For example, a lawyer may help a patient with asthma solve a problem about housing, such as prevent a utility shut-off or get needed home repairs. Solving the housing problem can help patients better control their asthma and avoid costly trips to the hospital emergency room.

This work is new, and more information about the quality of housing is needed. Here are steps that we could take in Arkansas.

- Study existing information to better understand the quality of housing in rural Arkansas.
- Do surveys to find places with poor housing conditions.
- Study the residents' physical and mental health related to housing quality.
- Provide training to workers who may enter people's homes as part of their job. Such workers may include nurses, social workers, pest control workers and home inspectors. Training will help workers identify hazards, resolve problems and teach people about steps they can take to make their homes healthier.
- Improve the quality of low-income housing, including rental properties.
- Increase opportunities for people in rural communities to own their own homes.

If you would like to know more about rural health and other topics discussed in this chapter, turn to page 127 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Chapter 7

Equal Opportunity for Good Health

In this chapter, we will talk about equal opportunity for good health. This is a way to talk about things in life that affect health but do not get as much attention as health care. Health equity is a term that is sometimes used when talking about equal opportunity for good health. Another term that is often used is health disparities, which describes the differences in health between different groups of people. These differences often result from differences in opportunities that are often unfair. We will discuss what we are doing in Arkansas to make sure everyone has a chance to be healthy. We will also talk about what more we can do.

What makes people healthy?

Access to health care is an important part of staying healthy. However, health is more than what happens in hospitals and doctors' offices. Good health starts long before illness. It starts in strong, loving families and in neighborhoods with sidewalks that are safe for walking and grocery stores that sell fresh vegetables. Good health starts in schools that feed children healthy meals and educate them for jobs in a competitive job market. Good health starts in jobs that are easy to get to and work places that are free of avoidable danger. Good health starts in communities where people have enough time and money to play at the end of a hard day's work and relieve their stress to keep their hearts and minds healthy.

Where people live, work and play has a huge impact on whether they stay healthy. Sadly, not all Arkansas communities have the same opportunities for people to exercise personal responsibility and make choices that lead to good health. The differences in the opportunities lead to differences in the health of the people of those communities.

What are some of the differences in people's health?

In Arkansas many of the differences in health become visible when we compare the health of communities in different areas of the state. We highlighted some of these differences in the earlier chapters in this report when we compared life expectancy and infant mortality in Arkansas counties.

Another way to raise awareness of the differences in health opportunities is to compare racial and ethnic groups about a particular health problem. We highlighted health differences among racial and ethnic groups in this way when we

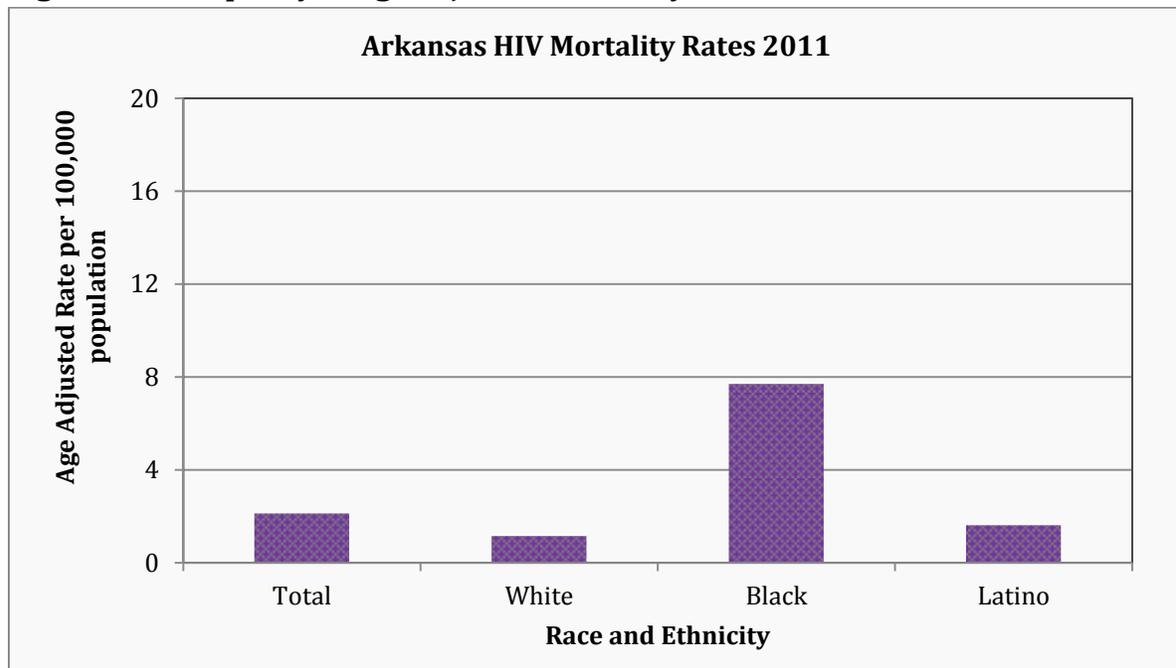
compared the rates of death from various diseases in the chapter on life expectancy. When one racial group has a much higher rate of disease compared to another, then we say that there is health disparity in that group.

HIV is an example of a health problem with a large health disparity. HIV is short for the Human Immunodeficiency Virus. It causes death by destroying people's immune systems, so that they can no longer fight off infections. In Arkansas, the HIV death rate for blacks is almost seven times higher than for whites.

Not all health disparities are in minority groups, however. Suicide is an example of a health problem with a very high rate among whites. The death rate from suicide for whites is more than five times higher than for blacks.

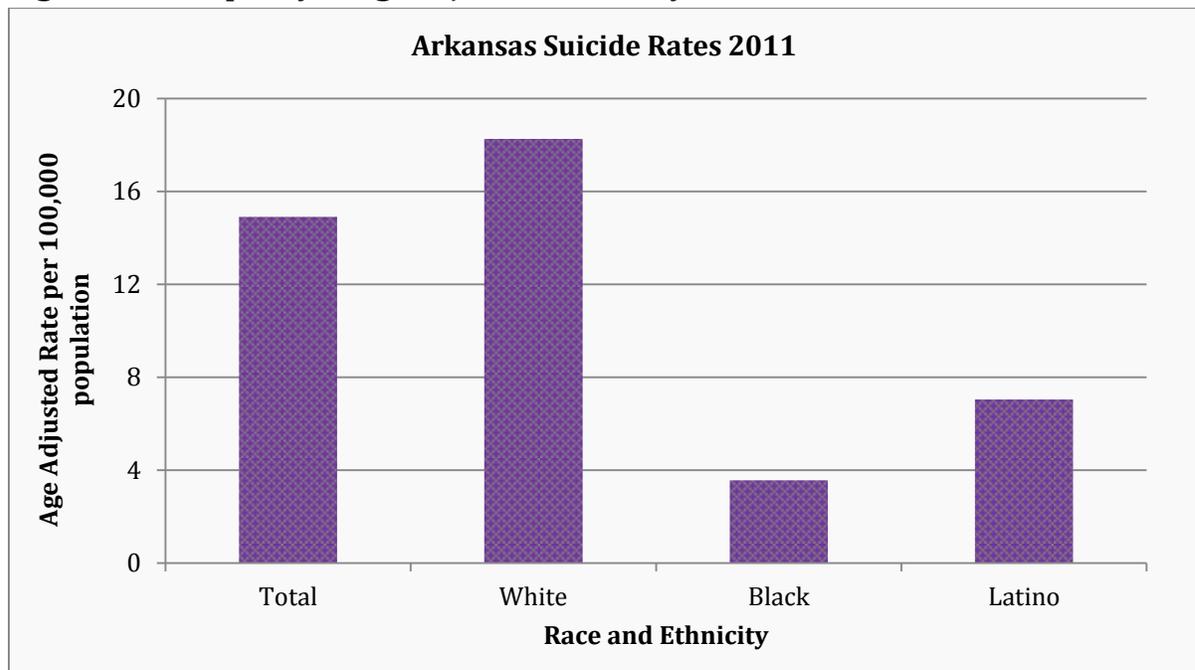
Here are two charts that compare these death rates for whites, blacks and Latinos in Arkansas. The first chart compares HIV death rates, and the second compares suicide.

Figure 7.1: Disparity in age adjusted mortality rates for HIV



Data source: Arkansas Department of Health, Branch for Health Statistics.

Figure 7.2: Disparity in age adjusted mortality rates for suicide



Data source: Arkansas Department of Health, Branch for Health Statistics.

Health disparities can also be uncovered by comparing groups using other traits, such as age, sex, income, or disability. Health disparities often exist because all groups do not have the same opportunities to make healthy choices. Improving opportunities for all Arkansans to make healthy choices will go a long way toward lowering health disparities in our state.

What are we doing in Arkansas to promote equal opportunity for health?

The Arkansas Department of Health conducts several programs that promote the health of everyone in the community regardless of where they live in the state, what group they belong to or how wealthy they are. The statewide trauma system is a good example. However, there are other programs that the Health Department manages in each county of the state with the goal of protecting the health of everyone who lives there.

For example, the Environmental Health program checks all the restaurants in Arkansas to make sure that no matter where people eat out, they will not get sick. In 2012, the Health Department made over 28,000 restaurant inspections. The Environmental Health program also helps communities watch over their water systems to make sure the water is safe to drink. The Environmental Health program also checks dairy farms and milk plants to make sure the milk sold in Arkansas is free from germs that can make people sick.

The Health Department's Communicable Disease program constantly monitors the state for possible disease outbreaks. When outbreaks happen, they look to find the source of the infection and stop the spread. Outbreaks may be caused by sale of contaminated food or milk. They may also be caused by water contaminated by sewage. Many times, however, outbreaks are caused by person-to-person spread.

In addition, the Arkansas Department of Health's Public Health Preparedness program does emergency planning for natural disasters and other emergencies that place the public's health in danger. The Preparedness program works closely with federal, state, and local governments, and with hospitals and other organizations, to make sure that all Arkansas communities are prepared for emergencies. Such emergencies could include disasters like floods and tornados, but they could also include disease outbreaks or some form of terrorism. They have regular drills to test the plans and train workers in what to do. The Health Department has an Emergency Operations Center that is specially designed to coordinate the public health response to emergencies. It is ready to be activated at a moment's notice to assist communities in all corners of the state.

Everyone in Arkansas benefits from these and other Health Department programs, regardless of where they may live, work, or play. In that way, the Health Department's programs work to make sure everyone has an equal opportunity to have good health.

What are we doing in Arkansas to address the differences in people's health?

Arkansas has some of the best health care possible anywhere. Yet people's opportunities for good health start well before they need health care. So while it is important to make sure that all Arkansans can afford to see a doctor when they are sick, there are many organizations and communities that are working together to ensure that people are less likely to need one.

There are two main ways that we are addressing health differences in Arkansas. One is to work at the community level and the other is to tackle specific health problems.

Coordinated School Health

One example of a community-level approach is Coordinated School Health. Coordinated School Health works to ensure that Arkansas children and their families have the opportunity to make choices that let them live long, healthy lives,

regardless of where they live, their family's income, or their racial or ethnic background.

Coordinated School Health is designed to address the health needs of students in public schools all over Arkansas. It has eight parts. Here is the list.

- Health education.
- Physical education.
- Health services.
- Nutrition services.
- Counseling and social services.
- Healthy school environment.
- Health promotion among school staff.
- Family and community involvement.

Through Coordinated School Health, schools, health care providers, community organizations, parents, and children work together to improve the health and education of children in their communities using the eight parts. As a result, students learn better, their behavior improves, and they are absent from school less often.

School districts shape Coordinated School Health to fit the needs of their students and their communities. They get support from a partnership between the Arkansas Department of Education, the Arkansas Department of Health, and the Arkansas Department of Human Services and get funds from federal and state grants. More than 50 Arkansas school districts have at least one school using the Coordinated School Health approach. Nine of these districts created Health and Wellness Centers with support from the 2009 tobacco tax. The Health and Wellness Centers are also called school-based health centers. They supply preventive health care and other services in the school building, which means that children miss less school and parents do not need to miss work to take them to the doctor.

Growing Healthy Communities

Another example of a community approach is Growing Healthy Communities. Growing Healthy Communities is a project started by the Arkansas Coalition for Obesity Prevention in 2009. The Arkansas Coalition for Obesity Prevention is also called ArCOP. Its goal is to cut obesity by helping community leaders make changes so that the people who live in their communities have equal opportunity for walking and other forms of physical activity. It also helps community leaders take steps to increase access to healthy foods, so that everyone has an opportunity to make healthy food choices. The Growing Healthy Communities project is funded through

the Blue and You Foundation, the Arkansas Department of Health, UAMS Partners for Inclusive Communities, UAMS College of Public Health and the Winthrop Rockefeller Institute. Members of ArCOP supply expert help and training to participating communities. Here is a list of the places in Arkansas that are participating in Growing Healthy Communities.

- Batesville
- Conway
- Dallas County
- Desha County
- Faulkner County
- Harrison
- Helena-West Helena
- Little Rock
- Magnolia
- Mississippi County
- Monroe County
- Nashville
- Scott County
- Siloam Springs
- Van Buren County

HIV

The HIV/Ryan White Part B Services Program at the Arkansas Department of Health is an example of an approach that focuses on a specific health problem. The Health Department works closely with community partners and health care providers to run the program. Its mission is to prevent the spread of HIV and to help people who have been infected get the health care they need. The HIV Services Program serves people who have low incomes to make sure they have the same opportunity to get high quality care as people with higher incomes or with health insurance.

Thankfully, HIV can now be viewed as a chronic illness rather than a fatal disease, due to the current treatments that are available. People who know they are infected with HIV can get early treatment and stay healthy much longer than people who do not know they are infected. Also, people who know they are infected can take steps to avoid infecting other people. Sadly, many people have never been tested. In fact, over 20 percent of the people with HIV do not know they have it.

Suicide

Another example of an approach that focuses on a specific health problem is the Arkansas Suicide Prevention Network. Until 2010, there was no coordinated effort to address suicide as a public health problem in Arkansas. That changed, however, in February 2010 when the Arkansas Suicide Prevention Network was formed. It involves different agencies, organizations and foundations committed to preventing suicide. One of the member organizations is the Arkansas Chapter of the American Foundation for Suicide Prevention, which supplies training for people who want to feel more comfortable and competent in helping prevent suicide. They also sponsor Out of the Darkness Walks in communities and on college campuses to raise funds for suicide prevention programs.

What more can we do?

Expand Coordinated School Health

A study of the school districts doing Coordinated School Health was finished in 2011. It recommended that more school districts adopt Coordinated School Health. Expanding Coordinated School Health could be done by using current sources of money and support. Here are the recommended steps that Arkansas schools and their partners can take.

- Use state NSLA funding to invest in school health. NSLA is the National School Lunch Act. This is money that school districts in Arkansas get based on the number of students they have in their free and reduced-lunch programs. This money can be spent on school health and wellness centers.
- Use the Medicaid payments that are available.
- Help students get health insurance.
- Work with community organizations to help support child wellness programs.
- Work with the school wellness committees to connect their efforts to Coordinated School Health.
- Strive for the highest quality physical education and health education possible using the resources available through Coordinated School Health partners.

Stop the Spread of HIV

The HIV Program at the Arkansas Department of Health has developed a state plan for eliminating HIV. Its goals are listed here.

- Decrease the number of people with new infections.
- Increase access to quality care for people infected with HIV.

- Decrease the health disparities that are due to HIV.
- Coordinate the work of the HIV Program with the STD prevention program and with private health care providers. STD stands for sexually transmitted diseases.

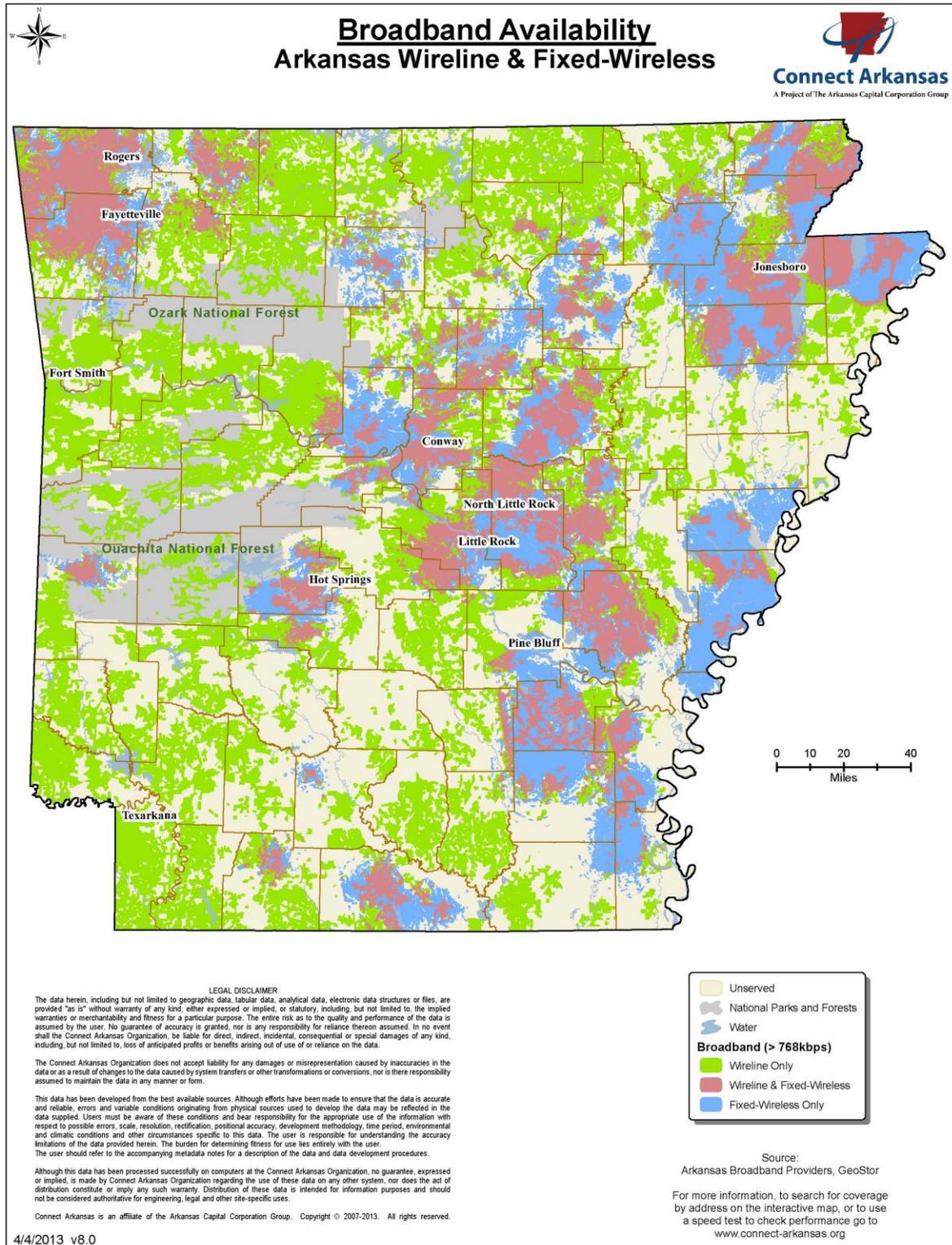
Increase Suicide Prevention

Suicide prevention has been identified as a top priority by the Injury and Violence Prevention Subcommittee of the Governor's Trauma Advisory Council. The Arkansas Suicide Prevention Network was formed to raise awareness of suicide and find ways to prevent it. It is made up of people and organizations, including family members of suicide victims, who are committed to addressing this issue. Stakeholder meetings have been held to discuss ways to increase and improve awareness, intervention, and methodology for suicide prevention in Arkansas. The Network has developed a state plan called the Arkansas Strategy for Suicide Prevention. Here are the goals of the plan.

- Promote awareness of suicide as a public health problem that is preventable.
- Develop broad support for suicide prevention.
- Reduce the stigma from using mental health, drug abuse, and suicide prevention services.
- Establish suicide prevention programs.
- Decrease access for persons at high risk for suicide to ways of harming themselves.
- Provide training on how to recognize people who are at risk for suicide and how to help them.
- Establish effective clinical practices by health and other professionals.
- Increase access to mental health services and drug abuse treatment.
- Improve how suicide, mental illness, and drug abuse are portrayed in the entertainment and news media.
- Promote research on what works to prevent suicide.
- Improve ways to gather information about suicides and report on it.

If you would like to know more about the topics discussed in this chapter, turn to page 128 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Figure 8.1: Broadband Internet availability in Arkansas



Data Source: Connect Arkansas

Chapter 8

Emerging Public Health Issues

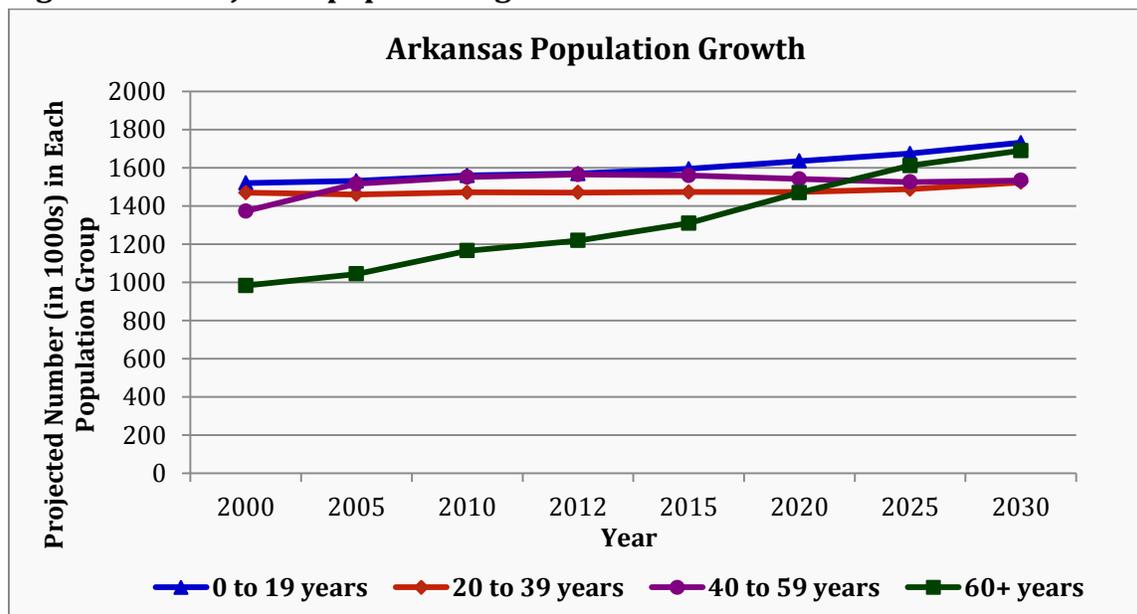
In this chapter we will talk about three issues that will be important in meeting the public health needs of Arkansas in the near future. These three key issues are the growing number of older adults, the lack of access to the Internet, and the shortage of health workers in our state.

How is the age of the people in Arkansas changing?

The percent of Arkansas's population age 60 years and older is growing, and the percent under age 60 is shrinking. In 2012, 21 percent of adults were over age 60. In 2030, it will be 26 percent.

Here is a chart that compares the trends in age groups for Arkansas. It shows that the number of adults age 60 and over is increasing quickly. In the year 2000, there were fewer adults in the 60 and older age group compared to all the other age groups. By 2030, the number of adults older than 60 will almost equal the number of children. By that time, there will also be more adults who are older than 60 than there will be in either the 20 to 39 years age group or the 40 to 59 years age group.

Figure 8.2: Projected population growth in Arkansas



Data Source: Census Bureau

The increasing numbers of older adults will greatly raise the need for health and social services in Arkansas. This is especially true because older adults have

more chronic health problems, such as the chronic diseases we discussed in Chapter 2. There is one chronic disease that we did not talk about in that chapter, which is Alzheimer's disease.

Alzheimer's is the most common form of dementia. Dementia is a type of brain disease that causes people to gradually lose their memory, as well as their ability to think and reason. In 2000 there were 56,000 people in Arkansas with Alzheimer's. By 2025, that number will grow to 76,000.

The impact of Alzheimer's is going to be huge. Alzheimer's robs people of their husbands and wives, mothers and fathers, and grandmothers and grandfathers for many years before they actually die. It causes people to lose their ability to live alone. In the end, they need nonstop nursing care – 24 hours a day, seven days a week. The increasing number of people with Alzheimer's will greatly add to the stress on families. Parents will need to care for both their children and their older family members and hold down their jobs. It will also increase the need for health and social services that can be given in people's homes and in their towns. And it will increase the need for nursing homes when staying at home is no longer a choice. Paying for the care will be very hard for many families in Arkansas, who already struggle with meeting their basic needs.

Why is access to the Internet a public health issue?

More and more, the Internet is becoming an important way for people in Arkansas to get health information. The Internet lets libraries and organizations from all over the world make their health information available to any person who uses the Internet to search for information. Many agencies use the Internet to supply information about their services on their websites. Also, many organizations use the Internet to send health information to the people they serve.

More than 75 percent of people in Arkansas use the Internet. On the flip side, 25 percent do not. This means that one fourth of the people in Arkansas do not have the same chance to get health information that others do. It also means that if agencies and organizations rely only on the Internet to share their information, they will miss an important part of the population. This difference in Internet access to information is often called the Digital Divide.

Several things may lead to this Digital Divide. Many people do not have a computer or a smart phone and cannot afford one. Many people do not have Internet access in their homes. This may be due to its cost or to lack of Internet service in their neighborhoods. Fortunately, Internet access is available through public libraries in Arkansas. Unfortunately, not every town has a public library.

How big is the problem of Arkansas's health workforce shortage?

More than half a million Arkansans live in areas of the state that have a shortage of primary medical care, dental and mental health workers. These areas are called primary care health professional shortage areas. They are also called HPSAs. There are 36 whole counties that are primary care HPSAs, which is almost half of all 75 counties. There are also 20 counties that are dental HPSAs and 69 counties are mental health HPSAs.

People living in these shortage areas have a problem getting the health care they need. The problem is going to be worse in the future. There are several factors that are going to add to the workforce shortage. Some of the factors are listed here.

- There will be more patients who are older, and they will be much sicker than younger patients.
- Many older health professionals will retire soon, and not enough younger professionals are being trained fast enough to replace them.
- People in Arkansas have high rates of chronic diseases, so more and more people are being affected by health problems, such as obesity, diabetes, and high blood pressure.
- Many more people will have health insurance and will seek health care for themselves and their families.
- Many people will keep on struggling with low health literacy, which will make understanding health care difficult and increase emergency room use and hospital admissions.

What are we doing to meet these emerging public health problems?

Older Adults

There are many agencies and organizations in Arkansas that are working to meet the needs of older adults, especially those with Alzheimer's. One such agency is the Division of Aging and Adults Services at the Arkansas Department of Human Services. It is also called DAAS.

The mission of DAAS is to promote the health, safety and independence of older Arkansans and adults with physical disabilities. It plans, coordinates, funds and evaluates programs for older adults. One of its goals is to give older adults a choice of how and where they get long-term care services. DAAS provides several programs to help meet the long-term care needs of older Arkansans in places other

than nursing homes. These other options include Assisted Living Choices, ElderChoices, IndependentChoices, Money Follows the Person, and Adult Family Home.

Also, DAAS offers a free information help center called Choices in Living. Callers to Choices in Living speak with trained counselors and get helpful information about the long-term services and support that are available to them. The counselors help callers sort through their choices and make informed decisions. Choices in Living has a toll-free number, which is 1-866-801-3435. It is open 8 a.m. to 4:30 p.m. Monday through Friday.

Another organization that is working to meet the long-term care needs of older Arkansans is the Arkansas Aging Initiative. The Arkansas Aging Initiative is also called AAI. It is a program of the Donald W. Reynolds Institute on Aging at UAMS. Its mission is to improve the quality of life for older adults and their families, especially in rural areas. AAI is a group of eight Centers of Aging around the state that provides quality health care for older adults. They also provide educational programs for older adults and their families, as well as for health care professionals. They work closely with the UAMS Regional Centers, Area Agencies on Aging, hospitals, colleges and universities, and community leaders to meet the special health needs of their older citizens.

Internet Access

In 2007, the Arkansas General Assembly passed the Connect Arkansas Broadband Act to encourage the expansion of Internet access to all areas of the state. As a result, Connect Arkansas was formed. Connect Arkansas is a private, non-profit corporation that is part of The Arkansas Capital Corporation Group. The mission of Connect Arkansas is to prepare the people and businesses of Arkansas to secure the economic, educational, health, social, and other benefits available through broadband service to every home and business in Arkansas.

Connect Arkansas has mapped the areas of the state where high-speed Internet is available. The map on page 100 shows where there is no access to the Internet. The light tan areas are the areas without Internet service.

Arkansas businesses that provide Internet service can use this information to build their plans to expand their businesses. Connect Arkansas also works with community leaders as they make plans for how to best serve the needs of their schools, businesses, and citizens. They also work with local communities to increase demand for available, affordable, and adequate high-speed Internet.

The work that Connect Arkansas does helps to build healthier communities by conducting education and training activities to show the benefits of using high-speed Internet to Arkansans who are not yet subscribing to the service. One key benefit is that getting online gives a person access to countless resources for health information at any time. This access empowers Arkansans to be informed and in charge of their health, which, in turn, makes for healthier communities. It also helps to strengthen the health system, because health care providers in remote areas can use the Internet to get the electronic health records of their patients. As a result, all Arkansas communities will be able to support high-value jobs and provide a greater quality of life for the people who live there.

Workforce Shortage

Colleges and universities all over Arkansas have increased the number of students that can be signed up for their programs for health professionals. For example, in 2009 the UAMS College of Medicine increased the number of medical students they admit each year from 150 to 174. Unfortunately, it takes a long time for doctors to be trained. A student must get a four-year college degree before entering medical school. Then medical school takes another four years to finish. After medical school, an additional three to five years of training in a clinical residency program is needed before a doctor is ready to go into practice. The number of students who can be admitted to medical school in Arkansas is limited by the number of residency jobs that are available.

Increasing the number of Advanced Practice Nurses in Arkansas can help fill the gap in primary care caused by the doctor shortage. Advanced Practice Nurses can deliver a broad range of primary care services. Advanced Practice Nurses are also called APNs. APNs are registered nurses with advanced education and clinical training that meet the APN rules. To become an APN, nurses must finish one and one-half to two years of full-time study in a master's or doctorate program. This training is above the four-year college degree they received to become a registered nurse. Registered nurses are also called RNs. There are three APN programs in Arkansas. They are at Arkansas State University, the University of Central Arkansas, and the University of Arkansas for Medical Sciences. The University of Arkansas for Medical Sciences is also called UAMS.

Also, to help solve the doctor shortage, two physician assistant programs have been started in Arkansas. Physician is another word for doctor. The first physician assistant program began at Harding University in 2005. The second is at UAMS where its first group of 26 physician assistant students started classes in May 2013. The physician assistant programs are master's degree programs that take 28 months to finish. They require students to have a college degree. Physician

assistants work under the supervision of a doctor to see and examine patients, diagnose and treat their illnesses, and help patients manage their health problems. Physician assistant students get classroom instruction, in addition to clinical training, while taking care of actual patients in clinics and hospitals.

What more do we need to do?

Older Adults

Clearly the need for long-term care for older adults is going to dramatically increase in Arkansas. Many people would like to get care in their own homes, rather than go into nursing homes, which are more costly. Unfortunately, there are not enough services and support available in Arkansas communities for people to be able to stay at home. The Arkansas Department of Human Services is seeking to solve this problem by improving the way services and supports for older adults are provided and paid for. This effort is part of the Arkansas Payment Improvement Initiatives which was discussed in Chapter 5.

The Arkansas Payment Improvement Initiative began in 2011 when Arkansas Medicaid, the Arkansas Department of Human Services, Arkansas Blue Cross and Blue Shield, Humana, and Arkansas QualChoice began working together to improve our state's health care and payment system. They are working closely with doctors, hospital executives, patients, families and advocates to make a new system that meets the needs of Arkansas patients and providers. Arkansas is the first state to use this approach statewide. It is part of a larger effort to improve the state's overall health care system by improving access to care, increasing the number of people who are insured and improving the quality of care patients get.

Health Workforce Shortage

The Arkansas Health Workforce Initiative was started at the request of Governor Mike Beebe to address the shortage of health professionals that Arkansas is facing – both now and in the future. The leaders of the Initiative are from UAMS and the Arkansas Department of Health. It is staffed by the Arkansas Center for Health Improvement. Many other organizations and agencies also serve as workgroup members or as members of a larger stakeholder group. The Arkansas Health Workforce Initiative created a strategic plan for how Arkansas will address the health workforce shortage. This plan was published in April 2012.

Here is a summary of the four goals.

- Support a change to team-based health care that is centered on the needs of the patient. The care should be based on the best science available. It should be coordinated and efficient.
- Increase the use of health information technology.
- Increase the number of health professionals that are being trained in primary care. Decrease the areas of the state that have a shortage of primary care health professionals.
- Improve the health care payment system.

If you would like to know more the topics discussed in this chapter, turn to page 130 in Chapter 10. Chapter 10 has a list of reports and websites where you can find further information.

Chapter 9

Plans for Improving Our Health

In this report, we have discussed some of the big health problems in Arkansas. This chapter gives the goals and strategies of Arkansas's plans for solving three of them – namely, short life expectancy, high infant mortality and low health literacy. In reality, there are several more state plans in place that focus on our big health problems. We have mentioned some of them in this report. Truly, they are all needed for improving the health of our state. However, we have kept the focus of this report on plans that address the three big problems we have discussed – short life expectancy, high infant mortality and low health literacy.

Staff members from various programs at the Arkansas Department of Health have often served as leaders in designing these plans because it is the role of the Health Department to do so. It is important to note that the Health Department did not make these plans alone. These plans were built by groups of people working together. They represented the key organizations and community members that are trying to solve these problems. They are based on many hours of meetings and thoughtful discussions.

These plans are meant as guides for how we can all work together. So, they will change from time to time, as they are updated to reflect changes in what we know about the problems, as well as changes in the situations and resources of the partner organizations. Clearly, no single group can solve these problems alone. It will take everybody working together to solve them. We must all do our part.

Increase Life Expectancy

Reduce Chronic Disease

The Arkansas Chronic Disease Forum has developed the **Healthy People 2020: Arkansas's Chronic Disease Framework for Action** to guide state efforts to decrease chronic diseases. Below is a list of the plan's goals and strategies. The entire plan can be found at

<http://www.healthy.arkansas.gov/programsServices/chronicDisease/Initiatives/Documents/HP2020/ARHP2020ChDzbooklet.pdf>.

Goal 1

Increase the percentage of Arkansans of all ages who take part in regular physical activity.

Strategies

1. Increase education on the importance of exercise.
2. Start a statewide media campaign to increase public awareness of the effects of obesity and physical inactivity on health.
3. Use worksites as health promotion venues, reaching adult Arkansans to create a culture of health and changing unhealthy habits around smoking, obesity, and physical inactivity.
4. Give recommendations for Arkansans on how to make physical activity a part of their daily schedules.

Goal 2

Promote tobacco cessation among Arkansans of all ages.

Strategies

1. Use evidence-based strategy to reduce tobacco use.
2. Design a communication/marketing plan for tobacco cessation.
3. Give technical help to minority communities.
4. Increase diversity and skills of the public health and health care workforce to increase tobacco cessation.

Goal 3

Improve access to testing and health care for all chronic diseases in rural and underserved areas.

Strategies

1. Identify disparities among population groups.
2. Devise systems or promote system changes that will increase testing, particularly for minority and underserved populations.
3. Support the efforts among rural providers and urban providers so that the best care is easier for all patients to get.
4. Increase collaboration among chronic disease programs to spread evidence-based interventions and health communication to areas in Arkansas with the greatest disease burden and need.

Goal 4

Educate and inform the public on health issues about community partnerships, prevention, screening, treatment, outreach, and control of chronic diseases.

Strategies

1. Create and promote a clearinghouse for activities to reduce the burden of chronic diseases. Develop a clearinghouse for resources and information across the state to prevent duplication of work and increase ease of access to resources.
2. Support a combined media campaign on chronic disease to leverage media buying power.
3. Promote education about treatment and support services, especially in the underserved populations.
4. Give training to program leaders on the Stanford Chronic Disease Self-Management program.

Goal 5

Develop and use a legislative agenda to support the policy and fiscal needs of chronic disease activities.

Strategies

1. Promote and encourage a complete tobacco-free law in public places and encourage voluntary change towards smoke-free homes, cars, and private establishments.
2. Influence laws that will support added screening and education for high blood pressure, heart disease, and stroke.
3. Support laws that would give payment for coordination of care for those with chronic disease.
4. Explore funding choices from Centers for Disease Control and Prevention, private foundations, and through laws, seeking to increase the Arkansas Department of Health Cancer Control and other budgets.

Goal 6

Support the development of communities that promote lifelong physical activity, healthy nutrition, and tobacco-free environments.

Strategies

1. Develop collaborative relationships with city planners and private developers, government officials, and grassroots citizens to increase the level of importance of the built environment.
2. Improve access to affordable and nutritious foods in all communities (farmer's markets, community gardens, co-ops, farm to school and farm to table programs, food from local growers). Show where foods are grown.
3. Use schools as health promotion venues, reaching Arkansas students to create a culture of health and changing unhealthy actions around smoking, obesity, and physical inactivity.
4. Encourage and help organizations to select rules or policies for food and drinks for catered meals, events, and vending.

Prevent Injuries

To decrease injuries, the Arkansas Department of Health is working with the Trauma Advisory Council Injury Prevention Subcommittee, the Injury Community Planning Group, and the National Governors Association State Leaders Prescription Abuse Planning Committee to create the **Arkansas State Injury and Violence Prevention Plan for 2013-2018**. Here is a summary of the plan's leading goals and strategies. When completed, the plan can be found at:

<http://www.healthy.arkansas.gov/programsServices/injuryPreventionControl/injuryPrevention/Pages/default.aspx>.

Goal 1

Reduce motor vehicle crashes.

Strategies

1. Support the engineering of safe road environments.
2. Support impaired driving enforcement, education, and underage drinking prevention programs.
3. Increase new driver safety.
4. Promote public awareness, policy, and implementation of passenger safety interventions.

Goal 2

Prevent suicide.

Strategies

1. Increase effective clinical care for mental, physical, and substance abuse disorders.
2. Increase family and community support.
3. Increase support from ongoing medical and mental health care relationships.
4. Support cultural and religious beliefs that discourage suicide and support instincts for self-preservation.

Goal 3

Reduce unintended poisoning.

Strategies

1. Support appropriate use of prescription medication.
2. Support appropriate storage and disposal of prescription medication.
3. Support poisoning emergency resolution.
4. Support implementation of electronic prescription monitoring tools.

Goal 4

Reduce falls.

Strategies

1. Increase community programs to educate at-risk groups about falls prevention.
2. Increase community programs to educate at-risk groups about home safety to prevent falls.
3. Increase programs to reduce falls in health care settings.

Prevent the Flu

The Immunization Program at the Arkansas Department of Health has worked with local communities, schools, and other organizations to develop a plan for increasing the number of people who get the flu vaccine every year. Immunization is another word for vaccine. Here are the goal and the strategies of the **Arkansas Flu Prevention Plan**. The entire plan can be found at <http://www.healthy.arkansas.gov/programsServices/infectiousDisease/Immunizations/Documents/FluPreventionPlan6-20-13.pdf>.

Goal 1

Increase the number of people in Arkansas who receive a yearly flu vaccine.

Strategies

1. Increase communities' ability to prevent the flu through churches and other faith-based organizations.
2. Strengthen the public health networks that give vaccines.
3. Provide flu vaccine clinics in each county and in schools.

Decrease Infant Mortality

The Infant Mortality Action Group has developed a state plan for lessening infant deaths in Arkansas. Members of the Infant Mortality Action group are from several agencies and organizations that meet together every month to share new information, plan new strategies, and coordinate their activities for reducing infant mortality in Arkansas. Its meetings are hosted by Arkansas Children's Hospital as part of the Natural Wonders Partnership Council. Here are the goals and strategies from the **Infant Mortality Action Plan**. The entire plan can be found at <http://www.healthy.arkansas.gov/programsServices/familyHealth/Documents/2011-2012IMAGStateActionPlan-final.pdf>.

Goal 1

Improve our understanding of the causes of infant death in Arkansas.

Strategies

1. Put in place a process for reviewing infant and child deaths in Arkansas.
2. Keep a written report containing the latest information about infant mortality.

Goal 2

Prevent unplanned pregnancies.

Strategies

1. Reduce the teen birth rate.
2. Help mothers lengthen the amount of time between births, so they are not too close together.

Goal 3

Prevent low birth-weight and birth defects.

Strategies

1. Promote healthy behaviors among women of child-bearing age, including
 - Decrease smoking.
 - Improve chronic disease self-management.
 - Decrease alcohol use.
 - Improve nutrition.
2. Do research to find out what works to prevent bad pregnancy results.

Goal 4

Prevent post-neonatal mortality.

Strategies

1. Improve health management and parenting skills of parents, including
 - Expand home visiting and other parent education programs.
2. Prevent injuries.
3. Increase healthy sleep habits.

Goal 5

Increase access to quality and appropriate care before and after birth.

Strategies

1. Reduce the rate of late pre-term deliveries.
2. Improve the quality of neonatal hospital care.
3. Assure needed transitions to high quality primary care and subspecialty care.

Improve Health Literacy

The Partnership for Health Literacy in Arkansas has developed a state action plan that is modeled after the National Action Plan to Improve Health Literacy. The Partnership's members are people from adult education and literacy organizations, libraries, state agencies, universities, and health care organizations, as well as many other groups. Its plan is called the **Arkansas Action Plan to Improve Health Literacy**. The complete plan can be found at the Partnership's website, which is <http://phla.net/>. Here are the goals and objectives.

Goal 1

Make health and safety information easy to grasp so that people who need it can get it and use it to take action.

Strategies

1. Increase the use of plain language by organizations giving written health information to the public.
2. Increase use of teach-back and other oral communication methods by health professionals so that people will understand what action they need to take.
3. Make it easier for people to get health information.

Goal 2

Make changes that improve the health literacy of the health care system.

Strategies

1. Train primary care clinics and other health care organizations in the AHRQ Health Literacy Universal Precautions Toolkit.
2. Include health literacy in hospital discharge planning.
3. Include health literacy in health system reforms taking place in Arkansas.

Goal 3

Include health literacy in the lessons plans for all children in Arkansas, from infants in child care through college students.

Strategies

1. Expand infant home visiting programs in Arkansas.
2. Expand the use of health literacy programs in child care and early childhood education.
3. Expand the use of K-12 health education curricula that build health literacy skills.
4. Implement a general education course in health literacy in all two and four-year colleges and universities in Arkansas.

Goal 4

Work with the adult education system and other organizations in Arkansas to improve the health literacy of the people in the communities they serve.

Strategies

1. Expand the use of health literacy lessons in the curricula used in Arkansas to teach reading and English as a second language.
2. Establish partnerships between health care providers and adult education providers to improve the health literacy of the people in the communities they serve.
3. Expand the use of health literacy curricula by health care and service organizations in their community outreach.

Goal 5

Build a network of health literacy partners committed to making changes at their organizations that will improve health literacy in Arkansas.

Strategies

1. Increase the number of engaged members in the Partnership.
2. Help change agents in each of the key agencies, organizations and systems that can change health literacy in Arkansas.
3. Establish working relationships with change agents in other states to learn from their experiences.

Goal 6

Do research to better understand and measure what works to improve health literacy of the public and the health care system.

Strategies

1. Increase the number of research projects in Arkansas that include health literacy.
2. Increase the number of faculty members and the number of institutions that are engaged in health literacy research.
3. Increase the amount of funding granted for doing health literacy research.

Goal 7

Share and promote the use of health literacy practices that are based on the best science available.

Strategies

1. Increase the number of websites that include information on health literacy best practices.
2. Increase the number of written publications promoting best practices in health literacy.
3. Provide presentations about best practices in health literacy.

If you would like to know more about life expectancy, infant mortality, and health literacy, please turn to Chapter 10. There you will find a list of reports and websites for each of these topics where you can find further information.

Chapter 10

Resources for More Information

Chapter 1. The People of Arkansas and Their Health

Every ten years the U.S. Census Bureau does a survey of the entire population in the U.S. This survey is also called a census. The results of the **2010 Census** can be found on the US Census Bureau's website, which is <http://www.census.gov>. Facts about Arkansas can also be found at <http://factfinder2.census.gov> by typing in the name of the state or the name of the county or town you are interested in.

The U.S. Census Bureau also does the **American Community Survey**. Information about this survey is at <http://www.census.gov/acs/www/>. Specific facts about Arkansas can be found by typing in the name of our state in the box under Current Data Profiles.

The U.S. Census Bureau has also written several reports that have helpful information about all the states, including Arkansas. These reports are called Current Population Reports. A report on **Income, Poverty, and Health Insurance Coverage in the United States: 2011** at <http://www.census.gov/prod/2012pubs/p60-243.pdf>.

The Institute for Economic Advancement at the University of Arkansas at Little Rock uses census facts to study Arkansas. Their website, which is <http://www.aiea.ualr.edu/>, has a lot of helpful information about Arkansas.

Arkansas Advocates for Children & Families has written a **2012 Arkansas Child Poverty Update**. This report studies U.S. Census facts for each county in Arkansas related to the number of children who are living in poverty.

Information about the **Behavioral Risk Factor Surveillance System** can be found on the website for the Arkansas Department of Health. The Behavioral Risk Factor Surveillance System is also called BRFSS. Here is the webpage for BRFSS. <http://www.healthy.arkansas.gov/programsServices/healthStatistics/Brfss/Pages/default.aspx>. You can find specific facts about Arkansas by clicking on Prevalence and Trends Data at the bottom of their webpage.

The website for **America's Health Rankings** is <http://www.americashealthrankings.org/>. It has information about all of the specific health measures that are used in the rankings. The entire 2012 report for America's Health Rankings written by the United Health Foundation can be found

at <http://cdnfiles.americashealthrankings.org/SiteFiles/Reports/Americas-Health-Rankings-2012.pdf>.

Chapter 2. Life Expectancy

The **2012 Red County Life Expectancy Profile** was prepared by the Arkansas Department of Health Office of Minority Health and Health Disparities in conjunction with the Arkansas Minority Health Commission in accordance to Act 790 and Act 798 of 2011. It can be found at <http://www.healthy.arkansas.gov/programsServices/minorityhealth/Documents/Reports/REDCOUNTYPROFILEREPORT.pdf>.

The Red County Action Planning Committee has prepared two reports with information about projects to increase life expectancy in the Red Counties. The first report is **Existing Projects in the High Risk Counties in Arkansas**, which was published in October 2012. It can be found at www.healthy.arkansas.gov/programsServices/minorityhealth/Documents/Reports/RCAPCAct790Report.pdf. The second report is **Devising a Collaborative Project to Be Completed in the High Risk Counties**, which was also published in October 2012. It can be found at www.healthy.arkansas.gov/programsServices/minorityhealth/Documents/Reports/Act798Report.pdf.

Additional **statistics and data related to life expectancy and mortality rates** can be found at the Arkansas Department of Health's Center for Health Statistics website <http://www.healthy.arkansas.gov/programsServices/healthStatistics/Pages/Statistics.aspx#le>.

Chronic Diseases

The **Healthy People 2020: Arkansas's Chronic Disease Framework for Action** was prepared by the Arkansas Chronic Disease Forum to guide state efforts to decrease the burden of chronic diseases. It can be found at <http://www.healthy.arkansas.gov/programsServices/chronicDisease/Initiatives/Documents/HP2020/ARHP2020ChDzbooklet.pdf>.

Additional information and reports about **chronic diseases** in Arkansas, including heart disease, cancer, stroke, diabetes, as well as information about obesity, diet and physical activity can be found at the Arkansas Department of Health's Chronic Disease website at <http://www.healthy.arkansas.gov/programsServices/chronicDisease/Pages/default.aspx>.

Information and reports about **tobacco use** in Arkansas can be found at the Arkansas Department of Health's Tobacco Prevention and Cessation website, which is <http://www.healthy.arkansas.gov/programsServices/tobaccoprevent/Pages/default.aspx>.

The website for the UAMS College of Public Health's website **Public Health in Arkansas Community Search** can be found at <http://www.uams.edu/phacs/>.

The **Arkansas Cancer Plan: A Framework for Action** was prepared by the Arkansas Cancer Coalition to guide state efforts to decrease the burden of cancer. It can be found at <http://www.arcancercoalition.org/arkansas-cancer-plan>.

Trauma System and Injury Prevention

Information about the **Arkansas Trauma System** and where to find a trauma center can be found on the Arkansas Department of Health's website <http://www.healthy.arkansas.gov/programsServices/injuryPreventionControl/TraumaticSystems/Pages/default.aspx>.

An **evaluation of the trauma system** in Arkansas was conducted by the American College of Surgeons Committee on Trauma in June 2011. A copy of their report can be found at <http://www.healthy.arkansas.gov/programsServices/injuryPreventionControl/TraumaticSystems/Documents/trauma/Reports/ARFinalACSReport.pdf>.

Information about seat belt use in Arkansas compared to the U.S. and to other states can be found at <http://www.nrd.nhtsa.dot.gov/Pubs/811651.pdf>. This is a short report, called **Seat Belt Use in 2011- Use Rates in the States and Territories**.

Information about the lives saved through the **Graduated Driver's License** can be found on the website of the Arkansas Center for Health Improvement at <http://www.achi.net/VehicularSafety.asp>.

Information about the Arkansas Department of Health's **Injury Prevention** efforts can be found at <http://www.healthy.arkansas.gov/programsServices/injuryPreventionControl/injuryPrevention/Pages/default.aspx>.

The website to the **Injury Prevention Center** at Arkansas Children's Hospital is <http://www.archildrens.org/Services/Injury-Prevention-Center.aspx>.

Influenza and Pneumonia

Information about the **flu and flu vaccines** is available on the Arkansas Department of Health's website at <http://www.healthy.arkansas.gov/programsServices/infectiousDisease/Immunizations/SeasonalFlu/Pages/default.aspx>.

General Health Information

A good source of information about specific health topics is **Medline Plus**. It also has general health information for seniors, men, women, and children, as well as information about drugs and supplements, and lots of videos. The Medline Plus website is <http://www.nlm.nih.gov/medlineplus/>. The information on this website is also available in Spanish.

Chapter 3. Infant Mortality

From Data to Action: A Background Paper on Infant Mortality in Arkansas was prepared by Dr. Richard Nugent in collaboration with the Arkansas Department of Health Family Health Branch. It was made available in March 2012. It is a well-researched document that thoroughly reviews the scientific articles and statistics about infant mortality in Arkansas. It can be found at [http://www.arkmed.org/wp-content/uploads/2012/05/Data to Action Nugent 2012.pdf](http://www.arkmed.org/wp-content/uploads/2012/05/Data%20to%20Action%20Nugent%202012.pdf).

Information about **Newborn Screening** can be found on the Arkansas Department of Health's website using this link <http://www.healthy.arkansas.gov/PROGRAMSSERVICES/FAMILYHEALTH/CHILDANDADOLESCENTHEALTH/NEWBORNSCREENING/Pages/default.aspx>.

MedlinePlus has information about **birth defects** at <http://www.nlm.nih.gov/medlineplus/birthdefects.html>, **premature babies** at <http://www.nlm.nih.gov/medlineplus/prematurebabies.html>, and **Sudden Infant Death Syndrome (SIDS)** at <http://www.nlm.nih.gov/medlineplus/suddeninfantdeathsyndrome.html>.

The website for the **Antenatal & Neonatal Guidelines, Education & Learning System (ANGELS)** here in Arkansas is <http://angels.uams.edu/>.

Information about the Arkansas **WIC** program can be found at <http://www.healthy.arkansas.gov/PROGRAMSSERVICES/WIC/Pages/default.aspx>.

Help for pregnant women to quit smoking can be found at the **Stamp Out Smoking** website <http://www.stampoutsmoking.com/get-help-to-quit/>.

Information about the **family planning** services offered through the Arkansas Department of Health is at <http://www.healthy.arkansas.gov/programsServices/familyHealth/WomensHealth/Pages/FamilyPlanning.aspx>.

Reports on the State of Children's Health in Arkansas, as well as information about the **Natural Wonders Partnership Council** can be found on the website for Arkansas Children's Hospital. <http://www.archildrens.org/News/Publications-Newsletters/Natural-Wonders.aspx>.

The **Arkansas Home Visiting Network** has a website with information about home visiting programs in Arkansas at <http://www.arhomevisiting.org/>.

The **Injury Prevention Center** at Arkansas Children's Hospital has information about home safety and Safety Baby Showers at <http://www.archildrens.org/Services/Injury-Prevention-Center/Home-Safety.aspx>.

Sisters United is on Facebook <https://www.facebook.com/arsistersunited>.

The **Arkansas Center for Birth Defects Research and Prevention** has a website at <http://arbirthdefectsresearch.uams.edu/>.

The Arkansas Department of Human Services has provided a helpful report called **Arkansas Medicaid Program Overview** for 2012. It includes information about the services provided for family planning and maternity care. The report can be found at <http://humanservices.arkansas.gov/reportDocuments/Medicaid%20Program%20Overview.pdf>.

Chapter 4. Health Literacy

A good introduction to the problem of low health literacy is the report published in 2004 by the Committee on Health Literacy of the Institute of Medicine of the National Academies. It is called **Health Literacy: A Prescription to End Confusion** and was edited by Lynn Nielsen-Bohlman, Allison M. Panzer, and David A. Kindig. It can be read online or downloaded for free at <http://www.nap.edu/openbook.php?isbn=0309091179>.

A report on the 2003 National Assessment of Adult Literacy (NAAL) health literacy assessment can be found at <http://nces.ed.gov/naal/health.asp>. The report is called **The Health Literacy of America's Adults: Results From the 2003 National Assessment of Adult Literacy**. The NAAL assessment was the first

national assessment of health literacy in the U.S. It established a baseline against which to measure progress in health literacy in future assessments.

For more technical information about the scientific studies of health literacy, there is a comprehensive report that was prepared for the Agency for Healthcare Research and Quality. It is called **Health Literacy Interventions and Outcomes: An Update of the Literacy and Health Outcomes Systematic Review of the Literature**. This report was published in 2011. It is an update to a 2004 systematic review of the relationship of health literacy levels on health care service use and health outcomes. It documents disparities in health outcomes and effectiveness of interventions designed to improve outcomes of individuals with low health literacy. The link to the report is http://www.effectivehealthcare.ahrq.gov/ehc/products/151/671/Health_Literacy_Update_FinalTechBrief_20110502.pdf.

More information about **Reach Out and Read** in Arkansas can be found at this link <http://www.reachoutandreadarkansas.org/index.htm>.

Information about **HealthTeacher** can be found at <http://www.healthteacher.com/>. HealthTeacher is an online resource for teachers that can be used to integrate health into any classroom. The health education tools include lessons, interactive presentations, and additional resources.

Information about **Coordinated School Health** in Arkansas can be found at their website, which is <http://www.arkansascsch.org/>. Coordinated School Health is a research-based collaboration between the Arkansas Department of Education and the Arkansas Department of Health to effectively address students' health as a way to improve their ability to learn.

More information about the **Stanford Chronic Disease Self-Management Program** can be located at their website, which is <http://patienteducation.stanford.edu/programs/cdsmp.html>. In addition to the face-to-face workshops, there is also an Internet version of the Chronic Disease Self-Management Program.

The **Arkansas Literacy Councils** have a website, which is <http://www.arkansasliteracy.org/>. Their website includes a map and contact information for all of the literacy councils in Arkansas.

The **Staying Healthy** curriculum was developed by the Florida Literacy Coalition. It can be downloaded for free from their website at http://floridaliteracy.org/literacy_resources_teacher_tutor_health_literacy.html.

They have developed other literacy curricula that teach health literacy, which can also be downloaded from their website.

The Internet link to the **Health Literacy Universal Precautions Toolkit** is <http://www.ahrq.gov/professionals/quality-patient-safety/quality-resources/health-literacy-measurement/healthliteracytoolkit.pdf>. It can be downloaded as a PDF. However, it works best when used as an online tool, because it has numerous links to additional resources.

The website for the **Partnership for Health Literacy in Arkansas** is www.phla.net, where more information can be found about health literacy activities in Arkansas.

Chapter 5. The Cost of Poor Health

The Milken Institute published **An Unhealthy America: The Economic Burden of Chronic Disease on Charting a New Course to Save Lives and Increase Productivity and Economic Growth** in October 2007. The main authors are Ross Devol and Armen Bedroussian. The entire report, as well as an Executive Summary and Research Findings, can be found at <http://www.milkeninstitute.org/publications/publications.taf?function=detail&ID=38801018&cat=resrep>.

The **Arkansas Payment Improvement Initiative** has a website with information about how it works and the episodes of care. It also includes information about medical homes and health homes. It is <http://www.paymentinitiative.org>.

The **State Innovation Plan**, which contains a detailed description of the Arkansas Payment Improvement Initiative, can be found at <http://www.paymentinitiative.org/referenceMaterials/Documents/SIM%20III.%20%20State%20Innovation%20Plan%202012%2009%2021%20%20FINAL%20-%20TO%20SUBMIT.pdf>. It was submitted to the Center for Medicare & Medicaid Innovation at the Centers for Medicare and Medicaid Services (CMS) in September 2012.

Information about the ROI on smoking cessation can be found in a study called **Potential Costs and Benefits of Smoking Cessation for Arkansas**. This study was done by scientists at Pennsylvania State University on behalf of the American Lung Association. A report of the study can be found at <http://www.lung.org/stop-smoking/tobacco-control-advocacy/reports-resources/cessation-economic-benefits/reports/AR.pdf>.

More information about the oral health problems in Arkansas can be found in a report called **Oral Health in Arkansas**. This report was published by the Arkansas Department of Health's Office of Oral Health in 2013. It can be found on the Health Department's webpage for oral health, which is

<http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/default.aspx>. The direct link to the report is <http://www.healthy.arkansas.gov/programsServices/oralhealth/Documents/OralHealthArkansas.pdf>.

The **Arkansas Oral Health Plan 2012-2015** can be found on the Arkansas Department of Health's webpage for the Office of Oral Health, which is

<http://www.healthy.arkansas.gov/programsServices/oralhealth/Pages/default.aspx>. The direct link to the plan is <http://www.healthy.arkansas.gov/programsServices/oralhealth/Documents/AROHPlan.pdf>.

More information about oral health topics can be found at the website for the Centers for Disease Control and Prevention. The link to their oral health webpage is <http://www.cdc.gov/OralHealth/index.htm>. Information about community water fluoridation can be found at <http://www.cdc.gov/fluoridation/benefits/index.htm>, and information about school-based dental sealants can be found at http://www.cdc.gov/OralHealth/dental_sealant_program/index.htm.

Information about the dental sealant program in Arkansas can be found in the 2012 Community Benefits Report by Arkansas Children's Hospital called

Dreams for Our Children. The link to the report is http://www.archildrens.org/documents/Services/community_outreach/community_benefit2012.pdf.

Information about medical bankruptcy can be found in an article published in The American Journal of Medicine on 2009. The title is **Medical Bankruptcy in the United States, 2007: Results of a National Study**. The authors are David U.

Himmelstein, MD, Deborah Thorne, PhD, Elizabeth Warren, JD, and Steffie Woolhandler, MD, MPH. Here is a link to the article.

http://www.pnhp.org/new_bankruptcy_study/Bankruptcy-2009.pdf.

Chapter 6. Rural Health

The Center for Rural Health at the University of Arkansas for Medical Sciences has published **The Picture of Rural Health in Arkansas: A Call to Action**. It is a detailed report on rural health in Arkansas and can be found at this link www.ruralhealth.uams.edu/centerforruralhealth.

The University of Arkansas Division of Agriculture has published a detailed report called **Rural Profile of Arkansas 2013**. This report describes the social and economic trends affecting rural Arkansas and includes information about rural health. It can be found at http://www.uaex.edu/Other_Areas/publications/PDF/mp511.pdf.

Information about the **Office of Rural Health and Primary Care** at the Arkansas Department of Health can be found at <http://www.healthy.arkansas.gov/programsServices/hometownHealth/Pages/orhpc.aspx>. The State Rural Health Plan can also be found at that website.

The Arkansas Highway and Transportation Department has completed a **Statewide Public Transportation Needs Assessment**. A Statewide Summary Report was published in July 2012. You can get a copy of the report by calling the Arkansas Highway and Transportation Department at 501-569-2471.

The United States Department of Agriculture has a website with an interactive map of **food deserts** in the U.S., including Arkansas. Here is the link <http://www.ers.usda.gov/data-products/food-desert-locator.aspx>. This website makes it possible to create maps showing food-desert census tracts, view statistics on the population in different food-desert census tracts, and download data from food-desert tracts.

The website for the **Arkansas Coalition for Obesity Prevention** is <http://www.arkansasobesity.org/>. It has links to helpful information related to healthy food.

The Access to Health Foods Team of the Arkansas Coalition for Obesity Prevention has published the **Food Atlas Tool Kit**. It is step-by-step guide on how to make a food atlas for a community. The food atlas lists the places where residents can go to get healthy food in their community. The tool kit also gives community leaders information on how to evaluate what food is locally available and determine if their community has a food desert. It can be found at http://www.healthy.arkansas.gov/programsServices/chronicDisease/Nutrition/Documents/Access_to_Healthy_Foods_Food_Atlas_Toolkit.pdf.

The Arkansas Food Policy Council with help from the Access to Healthy Foods Team has published a brochure called **Shopping Farmers Markets in Arkansas**. It lists when various types of fresh fruit and vegetables are in season in Arkansas and tells how to shop for them and how to store them. Here is the link for the brochure. <http://www.arkansasobesity.org/wp-content/uploads/2011/07/FarmersMarketBrochure.pdf>.

Information about **Legal Aid of Arkansas** can be found on the Arkansas Legal Services Partnership website at <http://www.arlegalservices.org/>.

More information about medical-legal partnerships can be found at the website for the National Center for Medical Legal Partnership <http://www.medical-legalpartnership.org/>. Specific Information about medical legal partnerships in Arkansas can be found using their interactive map under “The Movement” tab.

Chapter 7. Equal Opportunity for Health

There are several reports that have been produced by the Arkansas Minority Health Commission in partnership with the UAMS Fay W. Boozman College of Public Health, Department of Epidemiology that provide information on the health of Arkansas minorities. Here are a few of them.

- **Health Status of African Americans in Arkansas** is a 2012 report that provides information on the health of blacks in our state. It can be found using this link <http://www.arminorityhealth.com/pdf/African%20American%20Health%20Report,%202012.pdf>.
- **Health Status of Latinos in Arkansas** is a 2012 report that provides information on the health of Latinos in our state. This link is <http://www.publichealh.uams.edu/files/2012/06/2012-Lation-report-Feb-2013.pdf>.
- **Trends in Health Disparities: A Report for Arkansas** is a recent report that summarizes how the differences in the health of blacks, Latinos, and whites have changed over time. It can be found at http://www.uams.edu/prc/reports/Trends%20in%20Health%20Disparities_report.pdf.
- **Healthy People 2020 Health Statuses Report** is a 2012 report that compares health information about Arkansas whites, blacks and Latinos to the objectives set by Healthy People 2020. The link to this report is <http://www.healthy.arkansas.gov/programsServices/minorityhealth/Documents/Reports/HealthyPeople2020Update.pdf>.

More information about what makes people healthy, which is often referred to as the **social determinants of health** can be found at the Healthy People 2020 website. Here is the link <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=39>.

General information about **health disparities** can be found at the MedlinePlus website using this link <http://www.nlm.nih.gov/medlineplus/healthdisparities.html>.

The **Arkansas Center for Health Disparities** at the UAMS Fay W. Boozman College of Public Health has a website where additional information about health disparities in Arkansas can be found. It is <http://www.uams.edu/archd/>.

The **Arkansas Minority Health Commission** is working to bridge the gap in the health status of the minority population and that of the majority population in Arkansas. Their website is <http://www.arminorityhealth.com/index.html>.

More information about **Coordinated School Health** in Arkansas and a list of the school districts that are participating can be found at <http://www.arkansascsh.org/>.

Health and Schools: A Partnership for Results is a 2011 report written by Arkansas Advocates for Children and Families that examined the impact of Coordinated School Health in school districts in Arkansas. It contains recommended steps for expanding Coordinated School Health to additional school districts. The report can be found at <http://aradvocates.org/assets/PDFs/Health/CH-AACF-SchoolHealth-2011-Web-errata.pdf>.

More information about the **Growing Health Communities** project can be found on the Arkansas Coalition for Obesity Prevention's website at <http://www.arkansasobesity.org/programs/>.

The website for the Arkansas Department of Health has more information about the **HIV/Ryan White Part B Services Program**. The link is <http://www.healthy.arkansas.gov/programsServices/infectiousDisease/hivStdHepatitisC/Pages/HIVServices.aspx>.

General information about suicide prevention can be found at the national Suicide Prevention Resource Center website, which is <http://www.sprc.org/>. They have an Arkansas webpage at <http://www.sprc.org/states/arkansas>. The **Arkansas Strategy for Suicide Prevention**, which is the plan that the Arkansas Suicide Prevention Network developed, can be downloaded from the Arkansas webpage.

General information about suicide can also be found at the **American Foundation for Suicide Prevention** website. The link is <https://www.afsp.org/>. They have a webpage for the **Arkansas Chapter**, which can be found at <https://www.afsp.org/local-chapters/find-your-local-chapter/afsp-arkansas>.

There is a helpful YouTube video that highlights some of the ideas in this chapter. It talks about health in Arkansas and why some people are healthier than others. Here is the link: <http://www.youtube.com/watch?v=8Sm8ZtCnPlw>.

The Arkansas Department of Health's **Guide to Programs and Services**, as well as **County Health Facts Maps** can be found at <http://www.healthy.arkansas.gov/programsServices/communications/Pages/Publications.aspx>.

Chapter 8. Emerging Issues

The **Institute for Economic Advancement** at the University of Arkansas at Little Rock is a good source for more information about the population in Arkansas and links to 2010 U.S. Census Data. The link to their webpage for Demographic Research is <http://www.aiea.ualr.edu/resourceslinks-101/data/demographic-data.html>.

More information on **Alzheimer's disease** is available through the Alzheimer's Association website, which is <http://www.alz.org/index.asp>. You can find information about the number of people with Alzheimer's in Arkansas through their Public Health Alzheimer's Resource Center at <http://www.alz.org/publichealth/overview.asp>. There is a helpful YouTube video called **Understanding Alzheimer's Disease as a Public Health Issue** at http://www.youtube.com/watch?v=Qwh5QG_Mj4o.

Arkansas 2020 is report on the changing demographics and related challenges facing Arkansas state government in 2020. It was produced in 2007 for Senator Shane Broadway and the 86th General Assembly of the State of Arkansas. It can be downloaded from this website: http://www.atu.edu/research/docs/Arkansas2020_FullReport.pdf.

The website for the **Division of Aging and Adult Services** at the Arkansas Department of Human Services is <http://www.daas.ar.gov/>.

The Arkansas Department of Human Services has provided a helpful report called **Arkansas Medicaid Program Overview** for 2012. It includes information about long-term care services provided in Arkansas. The report can be found at

<http://humanservices.arkansas.gov/reportDocuments/Medicaid%20Program%20Overview.pdf>.

More information about the **Arkansas Care Payment Improvement Initiative** can be found at <http://www.paymentinitiative.org>.

More information about the overall effort to improve Arkansas's health care system is available on the website of the **Arkansas Center for Health Improvement**. It is <http://www.achi.net>.

Further information about the **Arkansas Aging Initiative** can be found at <http://aging.uams.edu/?id=4605&sid=6>.

Information about **Connect Arkansas** can be found on their website, which is <http://www.connect-arkansas.org/>.

Information about the medical school at **UAMS** can be found on the College of Medicine webpage, which is <http://medicine.uams.edu/>. Information about the UAMS physician assistant program can be found at the College of Health Related Professions website, which is <http://www.uams.edu/chrp/>.

For more information about the physician assistant program at **Harding University** go to <http://www.harding.edu/paprogram/>.

The strategic plan of the **Arkansas Health Workforce Initiative** can be downloaded from the ACHI website at <http://www.achi.net/news/120420%20Workforce%20Strategic%20Plan.pdf>.

There is also a newer report called the **Arkansas Health Care Workforce: A Guide for Policy Action**, which provides addition information about the workforce shortage. The link to it is <http://www.achi.net/HCR%20Docs/AR%20Health%20WF%20Guide%20for%20Policy%20Action%20web.pdf>.

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Acknowledgements

The purpose of this report is to serve as a combined state health assessment and improvement plan that brings together prior assessments and improvement plans into a unified report. This report builds upon the state health assessments for chronic disease and injury carried out by the Arkansas Department of Health in collaboration with many groups working together, partner organizations and community members from all over the state. It also builds upon the state health assessment for child health done by Arkansas Children's Hospital in collaboration with members of the Natural Wonders Partnership Council.

In addition, this report builds upon the state health improvement plan for chronic diseases that was developed by the Chronic Disease Forum. It is known as the *Healthy People 2020: Arkansas's Chronic Disease Framework for Action* and was published in 2011. The Natural Wonders Infant Mortality Action Group produced the state health improvement plan for infant mortality. It is called the *Arkansas Infant Mortality Action Group 2011-2012 Action Plan* and will be updated in 2013. The Trauma Advisory Council Injury Prevention Subcommittee, the Injury Community Planning Group and the National Governors Association State Leaders Prescription Abuse Planning Committee developed the state health improvement plan for injury. It is called the *Arkansas Injury and Violence Prevention Plan 2013-2018* and will be published in 2013.

Showing up for the first time in this report is the work of the Arkansas Department of Health in collaboration with the Partnership for Health Literacy in Arkansas, which developed a state health literacy assessment, as well as the *Arkansas Action Plan to Improve Health Literacy*.

The writing of this report was overseen by a team with representatives from the Arkansas Department of Health, the UAMS Center for Rural Health, University of Arkansas at Little Rock, and the Arkansas Center for Health Improvement. Special thanks go to Pat Conway, PhD, LCSW, and Tara V. deJohn, PhD, LCSW, of the University of Arkansas at Little Rock, who compiled the first data and report drafts; Jennifer Dillaha, MD, of the Arkansas Department of Health, for compiling the final report; and Letitia de Graft-Johnson, DrPH, MHSA, of the Arkansas Department of Health, for providing oversight for the report. Also, special thanks go to Richard Nugent, MD, MPH, who is the author of the background paper on infant mortality that we used in writing Chapter 3. In addition, Kristie Hadden, PhD, of the UAMS Center for Rural Health, added to the chapter on health literacy.

The Health Department's goal has been to make this report easy to read and engaging to people who may not be familiar with public health. We hope you read it with interest and will use it to become involved in helping to improve the health of your community. We welcome your questions and comments. Please email us or write to us at one of the addresses below.

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