

<b>Table 25. PPOR Map of Fetal and Infant Deaths, Oklahoma, 2002-2006</b>				
	<b>Fetal Death</b>	<b>Neonatal</b>	<b>Post-Neonatal</b>	
500-1499 grams	3.4 fetal-infant deaths per 1,000 fetal deaths and live births			1393 Fetal-Infant Deaths
	<b>Maternal Health &amp; Prematurity</b>			
1500+ grams	1.9 fetal deaths per 1,000 fetal deaths and live births	1.5 neonatal deaths per 1,000 fetal deaths and live births	2.6 post-neonatal deaths per 1,000 fetal deaths and live births	152,120 live births and fetal deaths
	<b>Maternal Care</b>	<b>Newborn Care</b>	<b>Infant Health</b>	
<b>"9.2 overall feto-infant mortality rate"</b>				
Overall feto-infant mortality rate is number of fetal and infant deaths per 1,000 fetal deaths and live births Source: Oklahoma Vital Statistics				

To estimate the contribution of deaths that are attributed to birth weight in the Maternal Health/Prematurity group, the Kitagawa Formula was used (Kitagawa, 1955). This formula can provide an estimation for excess deaths due to having more than the expected proportion of infants being born low weight or of having infants born low weight but not surviving at the expected rates. The results showed that while African American/Black VLBW infants survive better than white VLBW infants, the larger than expected proportion of African American/Black infants born too small contributes greatly to the racial disparities seen in infant mortality rates and further emphasizes the need for preventing prematurity among this group (data not shown). Decreasing infant mortality for whites will require both preventing prematurity and reducing mortality for the smallest infants.

For the Maternal Health/Prematurity category, Oklahoma prevention efforts are focused on maternal behaviors before and during pregnancy such as preconception/interconception care and education, maternal infections (sexually transmitted infections), postpartum depression, and tobacco use. Infant Health efforts focus on infant safe sleep including sleep position and bed sharing, breastfeeding, tobacco exposure, and infant injury prevention.

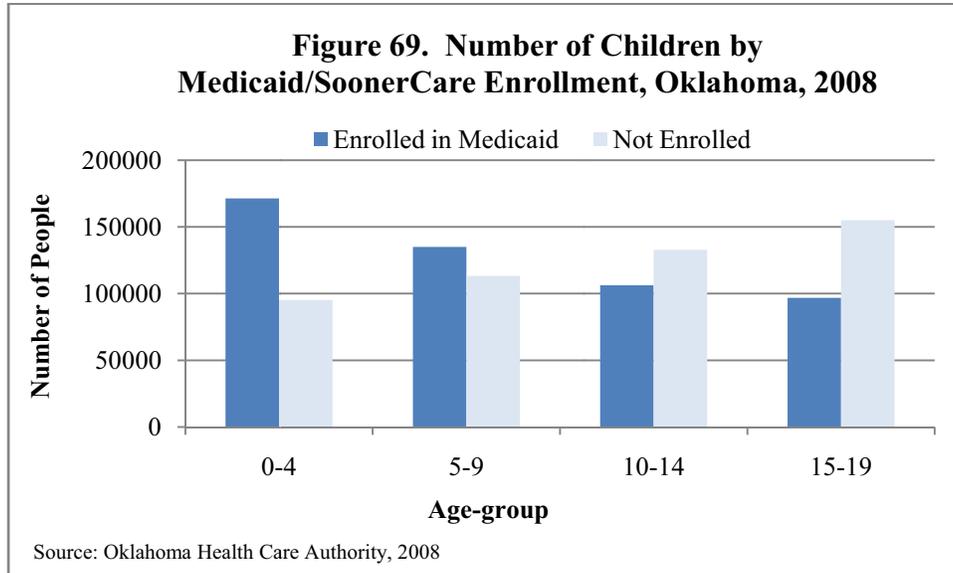
## **B. Children**

### **Access to Care**

A lack of access to health care is correlated with low socio-economic status and presents families with a multitude of problems. While enrollment in social programs does increase a caretakers' ability to provide needed services for their children, it is indicative of the elevated poverty levels in the state. Throughout counties in Oklahoma, child poverty levels range from 11.3% to 41.3%, with almost half of the counties with rates of 25% or higher. Overall, a lack of health care access and insurance coverage is associated with a decrease in the use of preventive health services, a delay in seeking medical attention, and poor health status, which translates into more school absenteeism for children.

According to the Kaiser Family Foundation, 13.3% of Oklahoma children 18 years and under were uninsured compared to 11.3% nationally (data not shown) (Kaiser Family Foundation, 2007). Additionally, data provided by the OHCA show that 509,354 children and adolescents

ages 0-19 were enrolled for SoonerCare services in 2008 (Figure 69). This represents 50.6% of the estimated 1,005,750 individuals aged 0-19 in the state; however, it does not include those individuals who are potentially eligible but have not been certified to receive assistance. Uninsured rates are lowest for 15-19 year-olds but increases successively with each of the younger age-groups. Children up to age 18 qualify for SoonerCare with family incomes up to 185% of the FPL. Individuals aged 18-20 qualify with incomes up to 100% of the FPL. Oklahoma has utilized the SCHIP to expand SoonerCare eligibility up to 185% for all age-groups up to age 18.



TOTS showed that 94.5% of Oklahoma’s two-year-olds had health insurance in 2008 (Table 26). Over half had some type of government funded health coverage, 50.8% had SoonerCare, 1.2% had military health coverage, and 4.9% utilized the Indian Health Service or tribal facilities for health care services. While most families (55.0%) reported less than \$100 out of pocket expenses for their toddler’s health care, 4.4% reported spending \$1,000 or more in the past year. Almost one in five mothers indicated that their toddler went without health insurance at some time during their two years of life, with 2.5% never having health insurance coverage. The most common barriers for those toddlers who had gaps in their health insurance coverage were not qualifying for Medicaid, waiting for coverage to start, not being able to afford coverage, and parental unemployment.

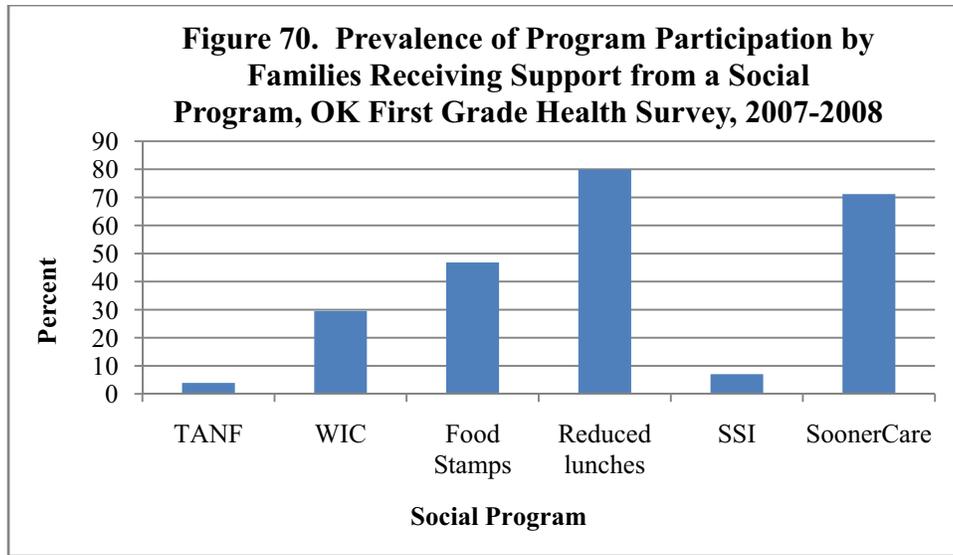
<b>Table 26. Health Insurance Coverage Among Toddlers, TOTS, 2008</b>		
<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Does your two-year-old currently have health insurance?		
Yes	94.5	92.3, 96.1
No	5.5	3.9, 7.7
Don't know	0.1	0.0, 0.3
If yes, what kind of health insurance?		
Group insurance	39.3	35.1, 43.7
Private insurance	2.9	1.9, 4.5
HMO	3.4	2.2, 5.3
SoonerCare/Medicaid	50.8	46.3, 55.4
Indian Health Insurance	4.9	3.3, 7.1
Military facility	1.2	0.6, 2.5
Other	1.9	1.0, 3.6
During the past 12 months, how much money has your family spent on health care for your two-year-old?		
Less than \$100	55.0	50.6, 59.3
\$100 to \$299	19.9	16.7, 23.5
\$300 to \$499	10.5	8.2, 13.4
\$500 to \$999	6.9	5.1, 9.3
\$1,000 to \$1,999	1.6	0.9, 2.8
\$2,000 or more	2.8	1.8, 4.4
Don't know	3.3	1.9, 5.6
Since your two-year-old was born, has there ever been a period that he/she was not covered by any health insurance?		
Yes	18.0	14.8, 21.7
No	80.5	76.7, 83.9
Don't know	1.4	0.7, 3.0
If yes, how many months was your two-year-old not covered?		
Less than one month	16.7	10.2, 26.0
1-3 months	34.5	25.1, 45.2
4-6 months	21.2	13.8, 31.1
7+ months	23.6	15.7, 34.0
Never covered	2.5	0.8, 7.4
Don't know	1.6	0.4, 6.1

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Why was your two-year-old not covered?		
Preexisting condition	1.1	0.2, 5.8
Couldn't afford	15.6	9.4, 24.5
Unemployed	14.3	8.5, 23.1
Don't believe in health insurance	0.2	0.0, 1.0
Didn't qualify for Medicaid	30.6	21.6, 41.4
Medicaid application too difficult	2.2	0.9, 5.4
Waiting for coverage to start	30.0	21.2, 40.5

Data from the 2007-2008 1GHS show that 91% of parents/guardians surveyed reported their first grader had some form of health insurance. Of the 9% not covered by health insurance, the leading factor preventing access to care was cost at 41.8%. More than one-third (35.1%) reported that they did not qualify for SoonerCare. Moreover, the results also showed that nearly one in ten (9.9%) first graders' insurance did not cover routine well-care visits. Approximately 6% of parents/guardians reported that in the 12 months before the survey was administered there was at least one time that their first grader needed health care but could not get it. Of those who did not get the health care they needed:

- 40.6% reported they had no health insurance.
- 33.1% reported that it costs too much.
- 26.3% reported they were unable to get an appointment.
- 7.5% reported inconvenient doctor's office hours.
- 5.3% reported transportation problems.
- 3.8% could not find a doctor who accepted their insurance.
- 3.0% reported that no doctor was available in their area.

Just under half (43.7%) of first graders' parents/guardians reported receiving some type of support from an assistance program during the 12 months before the survey was administered (e.g., SoonerCare, Temporary Assistance for Needy Families (TANF), WIC, food stamps, Supplemental Security Income (SSI)). For families of first graders, free or reduced lunches and SoonerCare were the two most received assistance programs (Figure 70).



Medical homes for children are important in ensuring children receive the care they need, when they need it, from a provider the family is familiar with and trusts. According to 2008 TOTS data, 79.4% of Oklahoma’s toddlers had a provider they could contact at all times (Table 27). For those who indicated they did not have a medical home, 40% indicated it was because the toddler was seldom or never got sick. Five percent said it was due to lack of insurance. One-third indicated it was due to “other” issues, the most prevalent being their provider did not offer a 24-hour service. When asked if anything prevented them from getting their toddler health care, mothers reported that expenses and inconvenient office hours were factors in delaying or not seeking health care for their two-year-old.

Question	Percentage	95% CI
Does your two-year-old have a health care provider available 24 hours per day, 7 days per week?		
Yes	79.4	75.4, 82.9
No	19.2	15.8, 23.1
Unknown	1.5	0.6, 3.4
If no, what is the one main reason you do not have someone you can contact when needed?		
Seldom or never gets sick	39.9	29.9, 50.8
Recently moved into the area	2.5	0.9, 6.6
Don’t know where to go for care	3.6	1.3, 10.0
Usual place in my area no longer available	0.1	0.0, 0.5
Can’t find provider who speaks my language	2.6	0.6, 10.5
No insurance or lost insurance	5.0	2.2, 10.8
Don’t use doctors/treat child myself	1.2	0.3, 5.1
Cost of medical care	0.5	0.2, 1.5
Other	32.7	23.5, 43.4
Unknown	11.9	6.2, 21.3

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Have any of the following prevented you from getting any type of health care for your two-year-old?		
Too expensive	8.3	6.2, 11.0
Inconvenient office hours	8.7	6.4, 11.6
Transportation problems	5.1	3.3, 7.7
Didn't have regular health care provider	3.8	2.3, 6.2
Couldn't find a provider who would take my child	1.2	0.6, 2.8
Provider or service not available	1.3	0.5, 3.1
Couldn't miss work or school	6.4	4.5, 9.0
No child care for other children	2.1	1.3, 3.6
No insurance	5.1	3.5, 7.4
Insurance did not cover	2.2	1.3, 3.7
Other	1.1	0.5, 2.2

Results from the 2007-2008 1GHS show that 86.1% of first graders' parents/guardians reported to have a person or place they think of as their child's personal health care provider. Of those first graders who did not have a personal health care provider, the main reason reported was:

- 30.3% reported their first grader seldom or never gets sick.
- 8.7% reported their first grader has no insurance.
- 5.9% reported they recently moved into the area.
- 5.3% cited the cost of medical care.
- 2.8% reported they could not get an appointment.
- 2.5% cited transportation problems.
- 2.2% reported the provider does not accept SoonerCare.

Less commonly cited reasons were: inconvenient office hours; cannot find a provider who speaks their language; there was no doctor available in their area; and knowing where to go for care.

BRFSS data for 2008 show that 38.5% of young adults aged 18-24 do not have a personal doctor. Furthermore, 18.2% stated that in the last year before the survey they needed a doctor but the cost was too high. Information from the 2008 National Health Interview Survey (NHIS) shows that for young adults aged 20-29 years, 73.4% had a doctor visit within the past year (Cohen & Bloom, 2010).

- **Immunizations**

Immunizations are an important aspect of preventative health care for children as vaccines immunize children against life-threatening and debilitating bacteria and viruses. Data from the 2008 National Immunization Survey (NIS), which estimates the proportion of children who have been vaccinated and is the latest year available, showed a coverage rate of 73.6% for Oklahoma

compared to the national average of 78.2% for children 19-35 months of age. These immunizations included the 4:3:1:3:3 primary vaccination series (DTap, Polio, MMR, Hib, HepB) and gave Oklahoma a ranking of 39<sup>th</sup> nationally. Oklahoma's neighboring states had similar coverage rates with Arkansas at 78.0%, Colorado at 79.4%, Kansas at 78.2%, New Mexico at 79.1%, Missouri at 76.0%, and Texas at 78.6%. While there appear to be minor differences in these rates, the margins of error from this survey indicate the differences were not statistically significant. In 2007, Oklahoma ranked 25<sup>th</sup> with a coverage rate of 80.1% (Centers for Disease Control and Prevention, 2008).

Tracking immunizations reduces the likelihood of duplicative shots, missed vaccines, and provides valuable information on which vaccines are most commonly missed. The Oklahoma State Immunization Information System (OSIIS) registry increased its provider participation during the past year from 871 to 944 providers. Additionally, over 1,000 schools and 208 child care centers continue to utilize the OSIIS registry as a means to track state immunization requirements. Over 90% of children aged six years or younger have multiple vaccinations recorded in the registry.

At present, approximately 13% of state children lack just one dose by 24 months of age to complete the series. Therefore, with data collected from the state immunization registry, new strategies, such as child care audits as well as the OK By One project, have been developed to improve Oklahoma's compliance. Oklahoma's newest intervention strategy is called Operation Buzzer Beater (OBB). OBB is a specific reminder/recall intervention that targets 21 month-old children who are one or two doses behind in completing the primary series of vaccinations.

Immunizations are also important for teens and preteens because some childhood vaccinations can start to lose their effectiveness over time. In addition, new types of infections need to be addressed for teens that were not covered as a child, such as meningococcal meningitis and the human papillomavirus (HPV). Meningococcal meningitis is a very serious disease, which affects the lining around the brain and spinal cord, and can result in death. HPV is a viral infection that is spread through sexual contact. The HPV4 vaccine provides protection against the two types of HPV that cause the majority of cervical cancer in females as well as genital warts in males and females. The three vaccines recommended for preteens are: Meningococcal conjugate vaccine (MCV); Tetanus, diphtheria, and acellular pertussis vaccine (TDaP); and HPV4. Data from the 2008 NIS for Teens indicate that 36% of adolescents aged 13-17 years in Oklahoma received at least one or more doses of HPV4 compared to 37% nationally. The results also showed that 29% of adolescents aged 13-17 years in Oklahoma received at least one or more doses of MCV4 compared to 42% nationally. Lastly, 29% of adolescents aged 13-17 years in Oklahoma received one or more doses of TDaP compared to 41% nationally (Centers for Disease Control and Prevention, 2010).

- **Oral Health**

According to the CDC, tooth decay is the most common chronic childhood infectious disease in the U.S. While most oral diseases are preventable and treatable, there are many children who live with untreated dental caries (cavities). Children with dental caries can experience occasional to persistent discomfort and pain, may have difficulty chewing food, and often have discolored or damaged teeth (CDC and the Association of State and Territorial Dental Directors, 2010). An

integral component to improving the oral health status of Oklahoma’s children is insuring access to preventative oral health care statewide. According to the Oklahoma Board of Dentistry, six of the state’s 77 counties do not have a practicing dentist and five counties do not have a dental hygienist. Therefore, access to basic dental care is limited in some areas of the state (largely rural) and families may have to travel considerable distances to receive necessary oral health care (Oklahoma Dental Association, 2009).

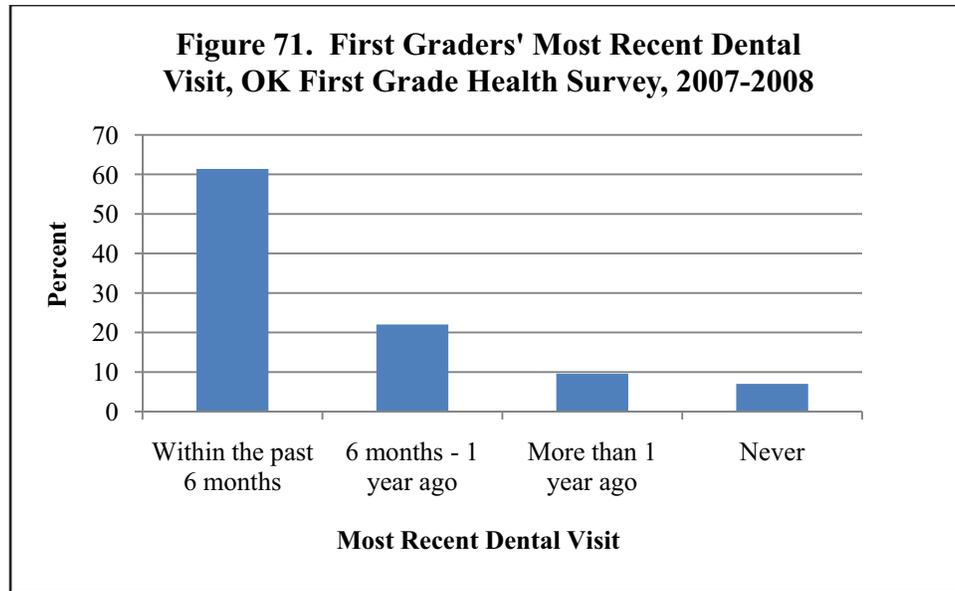
Data from TOTS indicate that three-fourths of Oklahoma’s two-year-old population had dental health insurance coverage in 2008. TOTS data showed that 2.5% of toddlers had a provider diagnose them with tooth decay or cavities. However, some parents reported (anecdotally) not being able to find a dentist who would see their child before age two and sometimes at two years of age, so the prevalence of tooth decay may be underreported even among those children with dental health insurance (Table 28).

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Has a health care provider ever said that your two-year-old has tooth decay or cavities?		
Yes	2.5	1.3, 4.6
No	90.5	87.4, 92.9
Unknown	7.0	5.1, 9.7
Does your health care coverage pay for all or part of your two-year-old’s bills for Dental Care?		
Yes	75.1	71.0, 78.8
No	11.0	8.6, 13.9
Don’t know	10.8	8.2, 14.1
Unknown	3.1	1.7, 5.3

Barriers to receiving dental care exist for older children as well. The Oklahoma First Grade Health Survey asked parents/guardians the timing of the most recent visit to the dentist for their child; 9.6% of first graders had not had a dental visit for more than a year and 7.0% had never been to a dentist (Figure 71). Approximately one in ten (9.1%) first graders’ parents reported there was a time in the 12 months before the survey that their child needed dental care but could not get it.

Among those who reported not getting the dental care they needed, the most commonly reported barriers were:

- 44.3% reported that it cost too much.
- 41.9% reported they had no insurance.
- 9.5% reported having transportation problems.
- 9.1% could not get an appointment.
- 7.6% reported their insurance was not accepted by the dentist.



In 2003, a statewide assessment was conducted to establish a baseline for oral health indicators for children in Oklahoma. The assessment showed that more than two-thirds (69.4%) of third-graders in Oklahoma had dental caries, which was higher than any other state in the nation. Additionally, 40.2% of third-graders in Oklahoma had untreated decay. A follow-up assessment conducted in 2008 indicates that 32.3% of third graders had at least one permanent or primary tooth with untreated decay, which was an improvement from 40.2% in 2003. Additionally, 71.5% of third graders had experienced dental caries, which was a slight increase from 69.4% in 2003 (OSDH Dental Health Service, 2009).

Dental sealants have been shown to be a safe and effective measure for preventing dental caries in children. However, data from the Association of State and Territorial Dental Directors indicate that only about one-third of children aged 6-19 years have sealants (CDC and the Association of State and Territorial Dental Directors, 2010). The Health People 2010 objective is for 50% of all children aged eight years to have dental sealants. Data from the 2007-2008 1GHS show that 62.6% of first graders did not have dental sealants at the time of the survey. Similarly, data from the Oklahoma Oral Health Needs Assessment indicate that 60.3% of third graders did not have dental sealants in 2008 (OSDH Dental Health Service, 2009).

For Oklahoma youth and young adults, BRFSS data for 2008 show that half (50.2%) of 18-24 year olds had a dental visit in the 12 months prior to the survey, an increase from 34.4% in 1999, 36.4% in 2004, and 40.7% in 2006. While some improvements have been observed in some areas of access to and utilization of dental health services, it is clear that much more work is to be done.

In order to address such shortcomings, the Governor of Oklahoma, Brad Henry, issued an executive order in 2007 to establish a Task Force to look into the issue of Children and Oral Health. This unique task force was comprised of the Oklahoma Dental Association along with 12 other state agencies. The findings of this task force revealed that Oklahoma is making considerable improvements over past years. For instance, the number of Oklahoma dentists that,

as of 2008, participate in SoonerCare is 804, which is up from the 359 previous participating dentists in 2003. SoonerCare has done much to help strengthen the number of participating dentists with continued efforts such as reimbursement rate increases, even though most practices cite economic concerns as to their lack of participation in the SoonerCare program.

According to the PEW Center on the States, among those children age 1-18 who report to be low income, Oklahoma has seen an increase in SoonerCare utilization of dental services from 36.9% in 2005 to 42.7% in 2007 (The PEW Center on the States, 2010). Oklahoma has also shown tremendous resolve by attacking this health issue with many established and newly created programs in an effort to reach those areas and populations of the state most affected by access to care issues. Examples of this include: water fluoridation programs, at present, 81% of our state's 50 most populated cities are at proper fluoridation levels reaching 74% of Oklahoma's population, just under the national goal of 75%; The Delta Dental of Oklahoma Charitable Foundation's, the Captain Supertooth Program that was launched in 2000. Since that time, more than 100,000 children attending public school in grades kindergarten through third have heard the message of the importance to floss and to regularly visit a dental health care provider. The OSDH is yet another example with ten dental health educators that teach "Friends for Life"; a dental health educational program that instructs school aged children in grades kindergarten through sixth grade how to properly care for their teeth and mouths. Oklahoma schools also offer a program known as Adopt-A-Dentist that works in conjunction with the Council on Dental Education and Schools for Healthy Lifestyles (SHL). There were 46 dentists and 53 schools participating during the 2009-2010 school year (Oklahoma Dental Association, 2009).

Head Start and Early Head Start are two additional programs offered in Oklahoma with a current enrollment of 16,474 children in 2008 serviced at 80 sites. These programs seek to provide oral health exams/screenings, referral, and follow-up treatments to enrollees along with comprehensive medical health. As of 2008, three year-olds and four year-olds involved in this program show a decay rate of 30-40%, and 50-60%, respectively. It is reported that approximately 87% of Head Start and Early Head Start children have a "dental home", a place where oral health care is delivered in a comprehensive, continuously accessible, coordinated and family-centered way by a licensed dentist. The Indian Head Start program sees 3,297 children at 15 sites with 78% reporting to have a "dental home" (Oklahoma Dental Association, 2009).

Oklahoma also has a mobile dental care project. This service visited 195 sites in 35 counties providing services and treatments to 2,091 patients (not all necessarily children) with approximately 73% of those served in 2006 reportedly being uninsured (Oklahoma Dental Association, 2009).

It is reported that 64% of Oklahoma's community health centers/Federally Qualified Health Centers (FQHCs) provide preventive dental care, while 10 of the sites provide comprehensive oral health services either on site or by contract with a local dentist. As of 2007, these health centers employed 13 dentists and five hygienists and have had 29,051 encounters with 13,385 patients. These patients made up 7% of the total 2007 community health center population in Oklahoma (Oklahoma Dental Association, 2009).

- **Mental/Behavioral Health**

According to the September 2008 issue of the State of the State Children's Behavioral Health in Oklahoma, 40% of youth in need of mental health services and 80% of youth in need of substance abuse services are not receiving the services they require. It is estimated that among Oklahoma's youth, 10% experience a mental health disorder with an estimated additional 10% experiencing substance abuse issue(s). Inadequate treatment has the potential to lead to more severe mental health issues, contribute to delinquency, and increase the likelihood of youth to fail and/or drop out of school. Lack of access to proper treatment will have a long lasting adverse impact upon this population group. In addition, for the past decade in Oklahoma, suicides among youth aged 10-19 (14.8%) were not only the second leading cause of death for this age group, but Oklahoma's experience was higher than the national average. Nationally, suicide ranks as the third leading cause of death among youth aged 15-24 years (Oklahoma Department of Mental Health and Substance Abuse Services, 2008). Oklahoma, according to the Governor's and Attorney General's Blue Ribbon Task Force on Mental Health, Substance Abuse, and Domestic Violence, estimates the cost of untreated mental health issues and substance abuse to be \$3.2 billion in direct expenditures and as high as \$4.4 billion in indirect costs ascribed to premature death and lost productivity (Oklahoma Governor's and Attorney General's Blue Ribbon Task Force: Mental Health, Substance Abuse and Domestic Violence., 2006). It has also been ascertained that within the foster care system in Oklahoma, 85% of children have a diagnosis of mental health issues (Oklahoma Department of Human Services, 2009).

Figure 72 is a U.S. map that shows having at least one major depressive episode in the past year among youth aged 12 to 17, by state: percentages, annual averages based on 2005 and 2006 National Survey on Drug Use and Health (NSDUHs). Oklahoma is among those ten states with the highest percentage [8.97% to 9.73%, (Substance Abuse and Mental Health Services Administration, 2008)].



<b>Question</b>	<b>Percent</b>	
	<b>Yes</b>	<b>No</b>
<b>Has a health care provider ever said that your first grader has the following?</b>		
Speech or language delays	7.6	92.4
Attention Deficit Hyperactivity Disorder (ADHD)	7.1	92.9
Learning disability	2.2	97.8
Poor eye sight	10.2	89.8
Poor hearing	2.6	97.4

SoonerStart is Oklahoma’s Early Intervention Program for infants and toddlers, birth to 36 months, who have developmental delays or who have a physical or mental condition, such as Down syndrome or cerebral palsy, which will most likely cause a delay. SoonerStart is a collaborated effort of the Oklahoma Departments of Education, Health, Human Services, Mental Health Services, the Commission on Children and Youth, and the Oklahoma Health Care Authority. The Mission of the SoonerStart Early Intervention Program is *to enhance the abilities of Oklahoma infants and toddlers with delays and disabilities by strengthening the capacity of their families to support their development through an individualized, comprehensive, coordinated system of services and supports that are family-centered and transdisciplinary, occur in natural life context, and are based on evidence and current best practices in early intervention* (Interagency Coordinating Council for Early Childhood Intervention, 2009).

Entry into the SoonerStart program is voluntary and is at no direct cost to the family. To be eligible for the program a child must be between the ages of birth to 36 months and must exhibit a delay in their developmental age compared to their chronological age of fifty percent (50%) in one or twenty-five percent (25%) in two or more of the following developmental areas: adaptive, cognitive, communication, physical or social emotional development, or have a diagnosed physical or mental condition that has a high probability of resulting in a delay. Data from the SoonerStart 2009 Annual Report indicate that during SFY 2009, the SoonerStart Early Intervention Program received 9,057 referrals and provided screening, evaluation, and services to 13,532 infants and toddlers. Approximately half (45%) of the referrals were children under 12 months of age. The remaining 55% of referrals were for 12-23 month olds (28%) and 24-36 month olds (27%). There are 10 regions with 16 satellite offices that provide services to all 77 counties in Oklahoma. In SFY 2009, 586 children graduated from the program prior to their third birthday, which was an increase from 352 in SFY 2007 and 452 children in SFY 2006 (Interagency Coordinating Council for Early Childhood Intervention, 2009).

According to the CDC approximately 17% of children have a developmental or behavioral disability such as autism, ADHD, or speech and language delays. However, it is estimated that less than 50% of children with disabilities are identified before beginning school. Parents need to be better informed about their child’s development and the important milestones that should

be achieved. Developmental screening needs to be strengthened among health care providers seeing children from 0-3 years of age during well-child and sick-care visits.

### **Tobacco Exposure**

A report from the Surgeon General concluded that there is no risk-free level of second-hand smoke exposure. Even brief exposure can be dangerous and cause an array of health concerns as second-hand smoke contains more than 250 toxic chemicals, with more than 50 of those being considered carcinogenic. Second-hand smoke exposure can cause ear and acute respiratory infections, severe asthma attacks, and slowed lung growth in children as well as immediate harmful effects on the cardiovascular and respiratory systems (U.S. Department of Health and Human Services, 2006). Results from the 2007-2008 IGHS show that approximately one-third (32.4%) of first graders' parents/guardians reported that they or someone else in their home smoked. More than one-fourth of parents/guardians reported their first graders were exposed to tobacco smoke. Of those first graders exposed to tobacco smoke:

- 73.1% were exposed one to three hours per day.
- 26.9% were exposed four or more hours per day.
- Nine out of ten (89.1%) respondents reported that they have talked with their first grader about the effects of smoking.

More than one fourth (28.5%) of women with two year olds in Oklahoma reported smoking cigarettes, even if only occasionally. Approximately 15% of Oklahoma's toddlers were exposed to secondhand smoke for one hour or more per day, almost 4% for more than six hours per day (Table 30).

<b>Table 30. Secondhand Smoke Exposure Among Toddlers, TOTS, 2008</b>		
<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
How many hours per day is your two-year-old around cigarette smoke?		
Zero	85.7	82.2, 88.6
One hour	4.4	2.9, 6.8
2-3 hours	1.8	1.0, 3.2
4-5 hours	1.1	0.4, 2.8
6+ hours	3.8	2.5, 5.9
Unknown	3.2	1.9, 5.4
Do you (the mother) smoke cigarettes, even if only occasionally?		
Yes	28.5	24.5, 32.8
No	71.4	67.1, 75.4
Unknown	0.1	0.0, 0.2

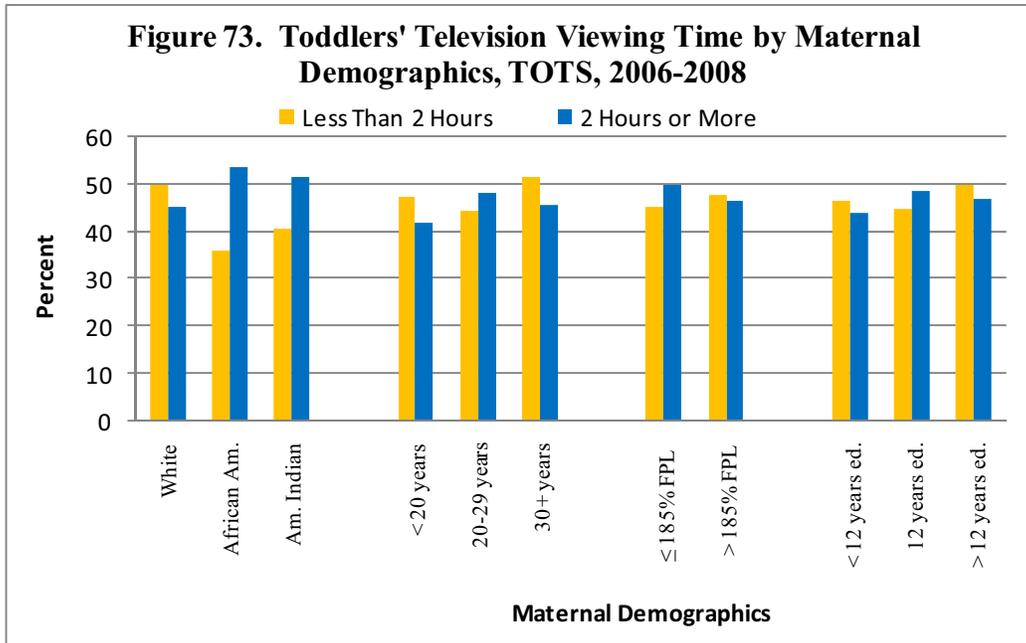
## Obesity and Overweight

- **Physical Activity**

In Oklahoma, two-year-olds watched an average of 1.75 hours of television (TV) or videos per day. The AAP strongly discourages TV viewing for children ages 2 or younger. For older children, AAP advises no more than one to two hours per day of educational, nonviolent programs watched while supervised. However, far too many toddlers watch TV longer than the maximum suggested by the AAP. Almost 1 in 20 watch TV for five hours or more per day (Table 31). The more time a child spends in front of a screen watching TV or videos, the less time they have to engage in creative, social, and physical activities necessary for development.

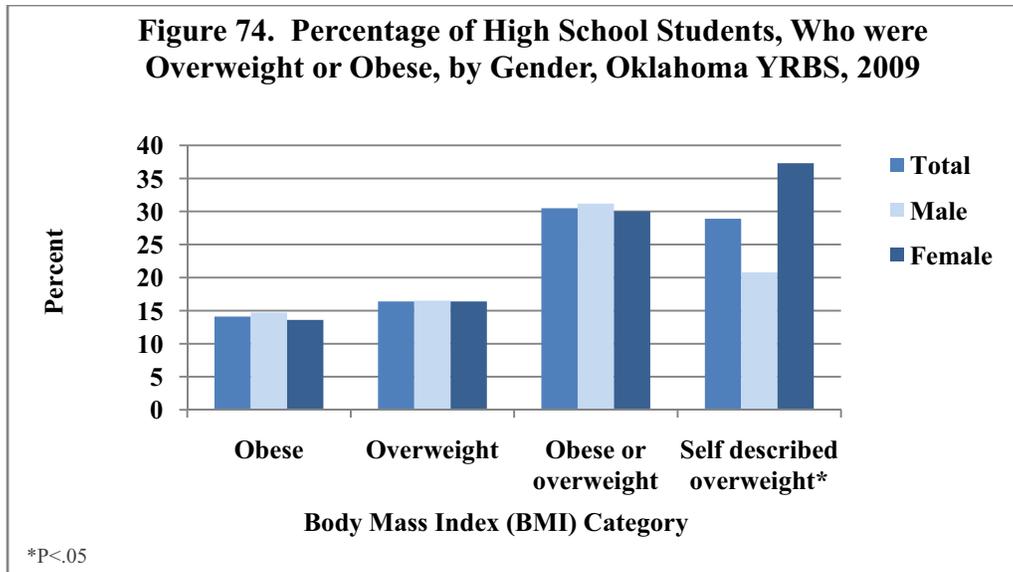
<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
On an average day, how many hours does your two-year-old usually watch TV or videos?		
Total		
Don't own a television	0.1	0.0, 0.3
Zero hours	5.1	3.4, 7.5
More than zero, less than one hour	30.0	26.2, 34.2
One hour	11.1	8.7, 14.0
Two hours	25.3	21.7, 29.3
Three hours	12.9	10.2, 16.2
Four hours	5.1	3.4, 7.5
Five or more hours	4.5	2.8, 7.0
Don't know/Unknown	5.9	4.1, 8.5

For some families, toddler TV and video watching is more prevalent than others. Mothers who were less than 20 years-old when they delivered their toddler were more likely to have a two-year-old who watched TV for two hours or more (Figure 73). African American/Black and American Indian mothers were more likely to report screen time of two hours or more than white mothers. Ethnicity was not significant (data not shown).

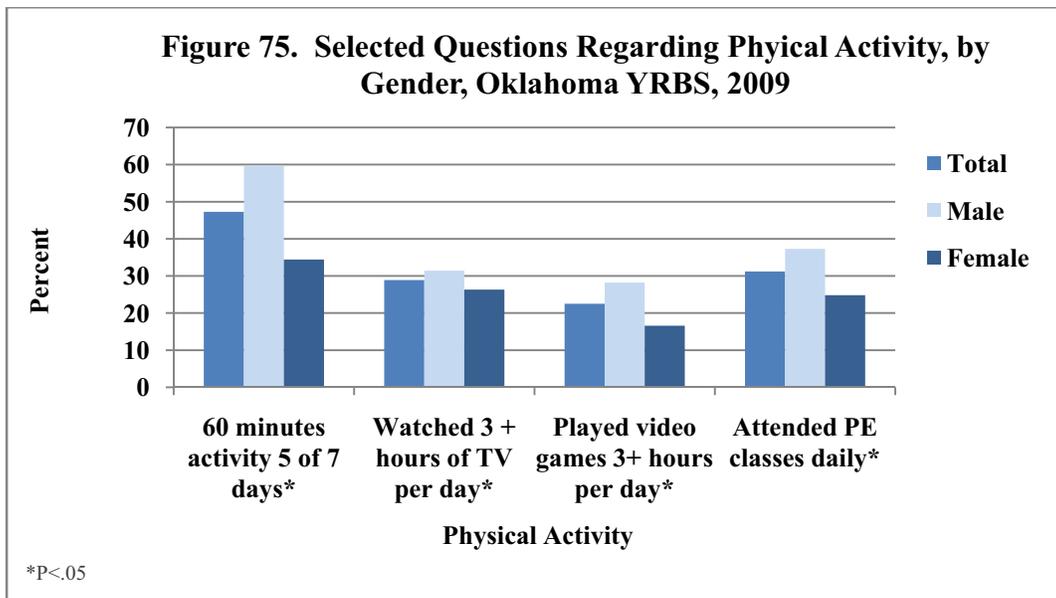


Obesity in children ages 6-11 has increased from 6.5% to 17% in the past 30 years. Childhood obesity is a public health concern as it increases the risk of cardiovascular disease, asthma, and Type II diabetes later in life. Childhood obesity also increases the risk of obesity in adulthood, particularly with the onset of obesity at an earlier age (National Center for Health Statistics (NCHS), 2009). Physical inactivity, in addition to increased and prolonged exposure to TV screen time, increases the probability of obesity in childhood. Results from the 2007-2008 1GHS show that fewer than half (44.5%) of parents/guardians reported that their first grader spent one hour or less watching TV, playing video or computer games, or surfing the internet. Nearly half (47.9%) spent 2-3 hours per day, and 7.5% spent 4 or more hours per day. Less than one-third (32.0%) of parents/guardians reported that their first graders participated in some sort of physical activity for at least 20 minutes each day (data not shown).

Data from the 2009 Oklahoma YRBS show that nearly 15% of public high school students are obese, that is, at or above the 95<sup>th</sup> percentile (Figure 74). An additional 16% are overweight, which is at or above the 85<sup>th</sup> percentile but below the 95<sup>th</sup> percentile. While no difference existed by gender for overweight or obesity, females were significantly more likely than males to describe themselves as overweight at 37% and 28%, respectively.



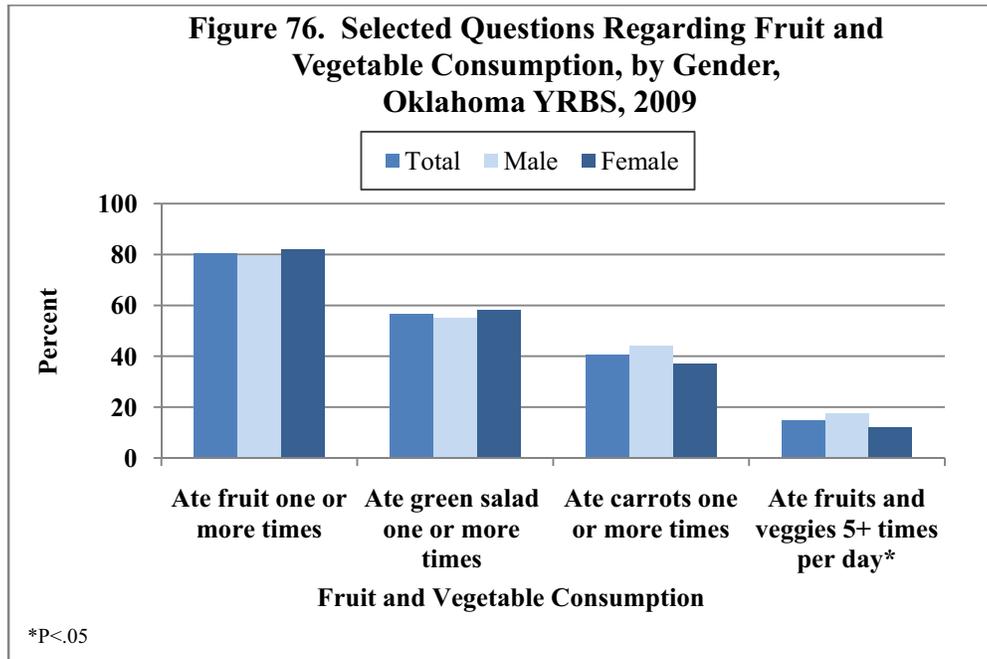
Differences were observed by gender for physical activity (Figure 75). Males were significantly more likely than females to have engaged in 60 minutes of physical activity on five of the previous seven days, to have watched three or more hours of TV per day, to have played video games three or more hours per day, and to have attended physical education (PE) classes daily at school.



- **Nutrition**

Proper diet and nutrition is an important component of maintaining a healthy weight and preventing the development of chronic diseases. This is especially true for children and adolescents since their bodies are in such a critical stage of development. Currently, few state sources collect data on child nutrition in Oklahoma. Recent revisions to several state surveys

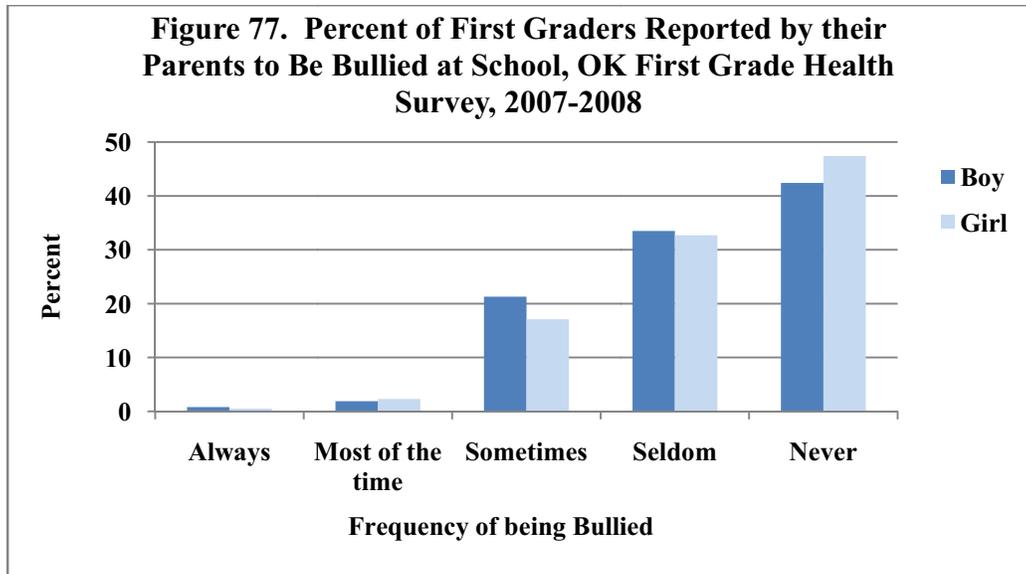
will include additional questions related to nutrition among the state’s child population. Several questions from the YRBS asked about fruit and vegetable consumption. YRBS data for 2009 showed that nearly 80% of public high school students ate fruit one or more times during the past seven days before the survey (Figure 76). Slightly more than half of students ate green salad one or more times during the past seven days, which was down from 66.4% of students in 2003.



### Bullying

Bullying poses serious social and health problems for children of all ages, not only for the victim but for the aggressor as well. Bullying can be verbal or physical, or include exclusion from social groups. Cyber-bullying, or bullying using electronic means such as text messaging, email, or the use of social messaging boards, is also becoming a prominent problem in the youth population, mostly affecting pre-adolescent and adolescent youth. Research has shown that victims of bullying are more likely to experience depression and issues of low self-esteem than children who are not bullied. Children who are bullied on a weekly basis experience additional health and social problems such as anxiety and insomnia more frequently than children who are not bullied or who are bullied less often (Harachi, Catalano, & Hawkins, 1999).

The 2007-2008 1GHS asked only one question about bullying “How often is your first grader bullied at school?” The following definition was provided in the survey: *Bullying can be physical, mental, or emotional. It is repeated actions or gestures that have the intent to harass, harm, or humiliate another person.* More than half (55%) of first graders were reported by their parents to have been bullied at school (Figure 77). Differences were observed by gender as 57.6% of first grade boys were bullied compared to 52.6% of first grade girls.

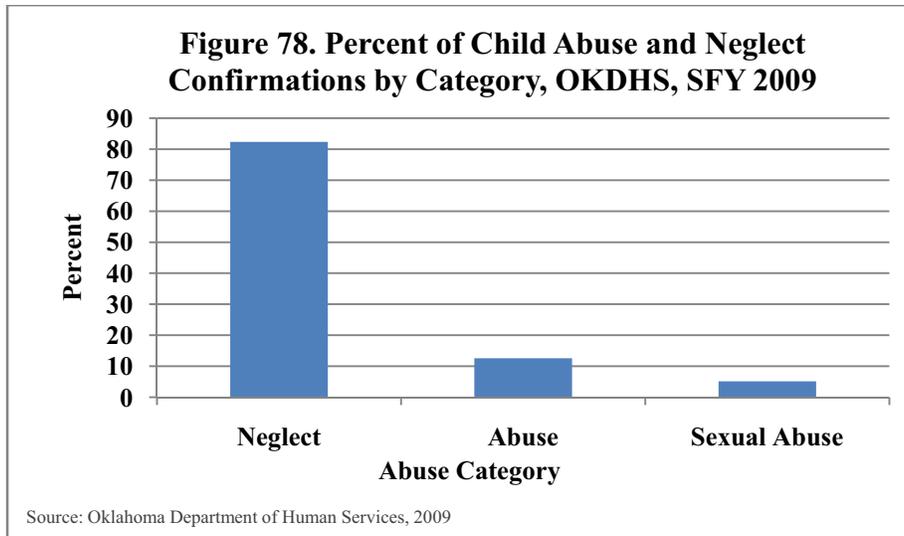


In addition, YRBS 2009 data reveal that nearly one in five students (17.5%) reported to have been bullied at school in the past 12 months. The following definition of bullying was provided in the YRBS: *Bullying is when 1 or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when 2 students of about the same strength or power argue or fight or tease each other in a friendly way.* Statistically significant differences existed among gender as 20.6% of females reported to have been bullied at school in the past 12 months compared to 14.6% of males. Ninth grade females reported the highest percentage of being bullied at 24.5%, while twelfth grade males reported the lowest percentage of being bullied at 15.7% (data not shown).

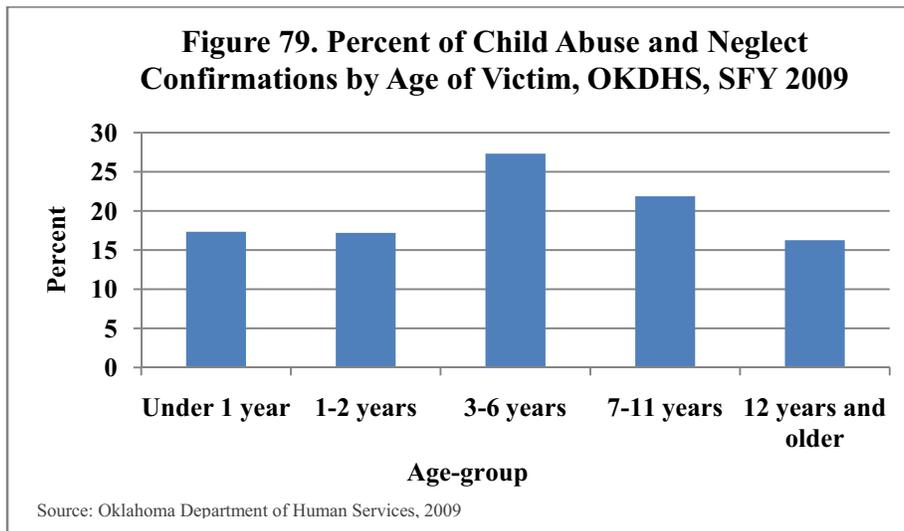
### **Child Abuse and Neglect**

In SFY 2009 there were 8,605 confirmed reports of child abuse and neglect. This was significantly lower than the 11,000 confirmed in SFY 2008, and the 16,000 confirmed in SFY 2007. A review of child welfare in Oklahoma by the Child Health Panel at the OKDHS highlighted key points that may explain the decrease in the number of children experiencing child abuse and neglect. The amount of money distributed for child support services increased three-fold from \$100 million in 1998 to \$325 million in 2009, possibly reducing stress among custodial parents and caregivers. In addition, Oklahoma has experienced record levels of adoptions over the past three fiscal years and had a record high of 1,531 finalized adoptions in SFY 2009. Furthermore, SFY 2009 saw the lowest number of children being removed from their permanent homes to enter foster care in over ten years.

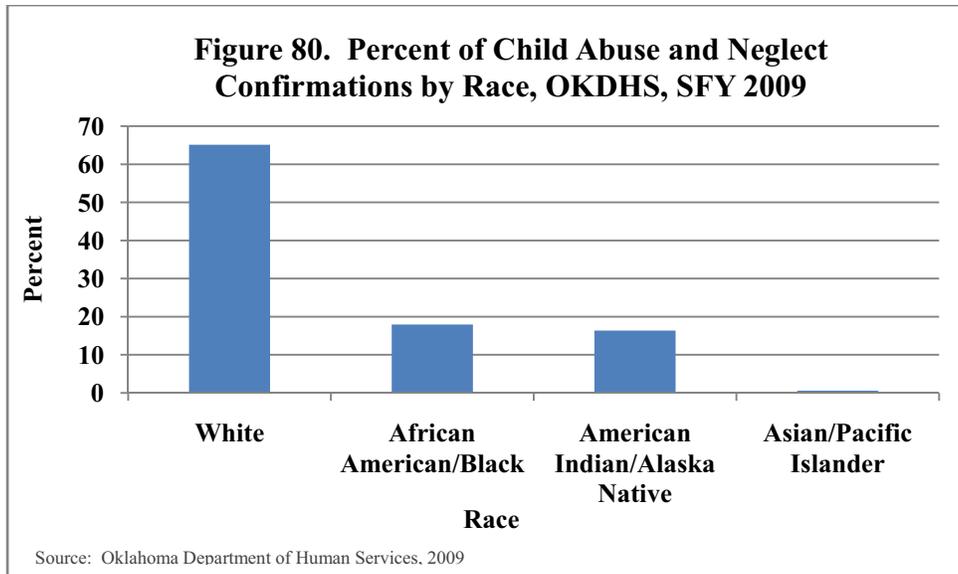
Child abuse and neglect reports are grouped into three categories: neglect, abuse, and sexual abuse. Examples of neglect are failure to protect, threat of harm, and substance abuse by caretaker. Examples of abuse are any abuse which is not sexual, such as beating or hitting, injury from spanking, slapping, and mental injury. Sexual abuse is any type of sexual abuse or exposure to the child. The most reported category was neglect at 82.3%, followed by abuse at 12.6%, then sexual abuse at 5.1% (Figure 78).



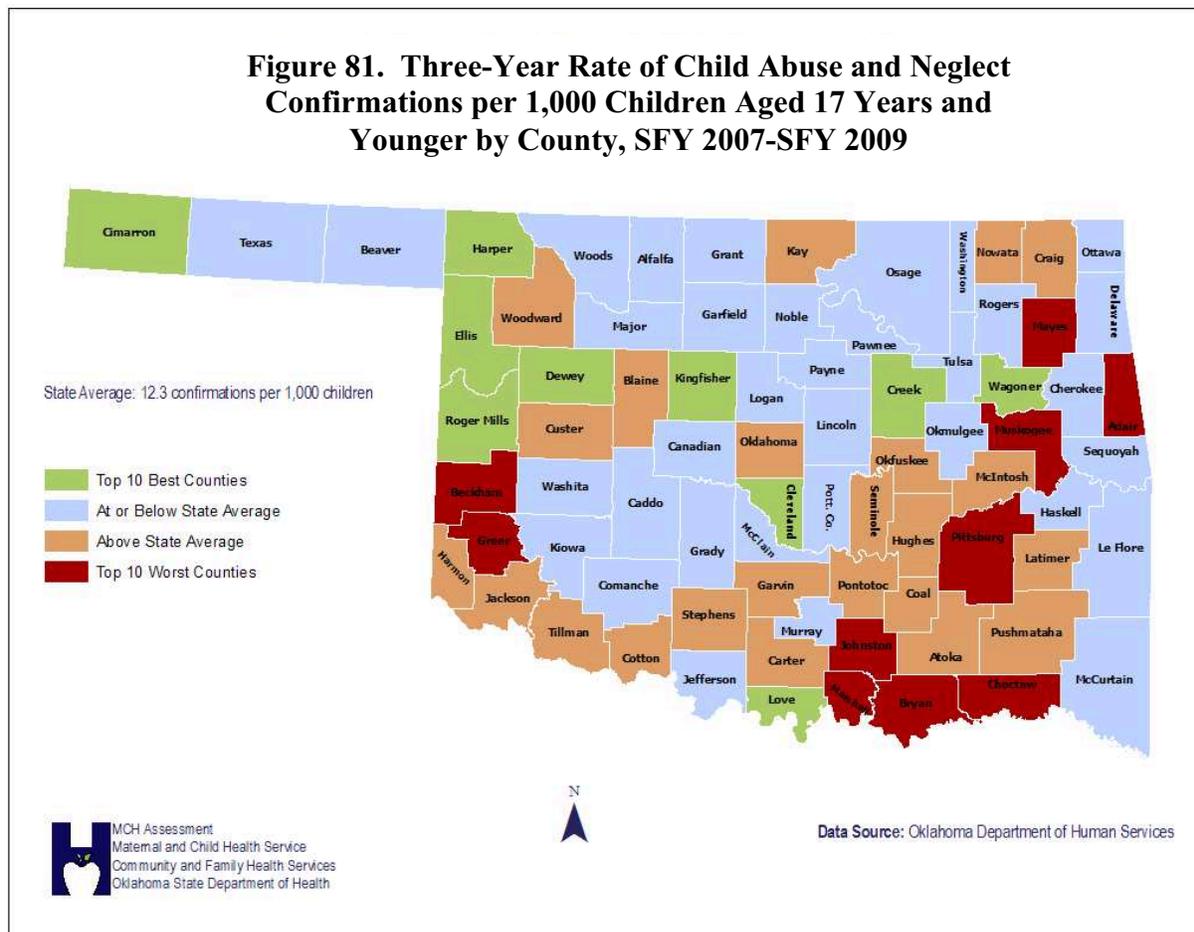
Slight differences were observed among gender as 51.3% of confirmations were female and 48.7% were male (data not shown). Figure 79 shows child abuse confirmations by age-group. Three to six-year-olds comprised the majority of confirmations at 27.3%, followed by 7-11 year-olds at 21.9%, under one year of age at 17.3%, 1-2 years at 17.2% and 12 years and older at 16.3%.



Significant disparities were observed by race. While whites comprised the majority of cases at 65.1%, African American/Blacks and American Indians/Alaska Natives were disproportionately represented as they comprised 34.3% of cases yet were approximately 24% of the population as a whole during this time frame (Figure 80).



Disparities also exist among counties for child abuse and neglect rates. A child abuse and neglect rate is the number of confirmed reports per 1,000 children aged 17 years and younger. The state average child abuse and neglect rate from SFY 2007 to SFY 2009 was 12.3 confirmations per 1,000 children aged 17 years and younger. Figure 81 displays child abuse and neglect rates by county. The ranges selected reflect the top 10 best counties, counties at or below the state average, counties above the state average, and the top 10 worst counties. Ellis County had the lowest child abuse and neglect rate at 2.2 confirmations per 1,000 children aged 17 years and younger. Conversely, Pittsburg County had the highest child abuse and neglect rate at 28.4 confirmations per 1,000 children aged 17 years and younger. Eight of the 10 worst counties were in the eastern half of the state with the largest cluster in the southeastern region of the state. Six of the ten best counties were in the western and northwestern regions of the state. The county with the largest metropolitan area, Oklahoma County, had a child abuse and neglect rate above the state average at 16.7 confirmations per 1,000 children aged 17 years and younger. Tulsa County had a child abuse and neglect rate below the state average at 8.6 confirmations per 1,000 children aged 17 years and younger.



Oklahoma has more than 10 home visitation programs currently being implemented throughout the state. Home visitation programs, such as Oklahoma Parents as Teachers, Early Head Start, Children First, and Healthy Start, to name a few, offer a variety of family-centered services to assist pregnant women, new mothers, and families with young children. Not all models are the same but most aim to positively impact one or more child or family outcomes across three primary domains: maternal and child health; early childhood development (including social, emotional, and cognitive development); and family/parent functioning. In SFY 2009, home visitation programs in Oklahoma served 12,761 families which included pregnant women, new mothers, and families with children (totaling 1,835 parents, and 7,247 children). Since not all programs reported ‘numbers served’, these figures represent at the very least a minimum number served. Some programs have enrollment requirements, such as, only serving low-income families or first-time mothers; however, it is often these very factors that put children at higher risk for abuse and neglect.

Ensuring the continuous delivery of appropriate and vital services for children in need is paramount, not only in protecting the children of Oklahoma, but also in laying the foundation to help children thrive. Three levels of prevention make up this continuum of care: primary prevention; secondary prevention; and tertiary prevention. A matrix developed by the Office of Child Abuse Prevention (OCAP) outlines 27 types of services or programs that should be

available in a community to ensure the availability and delivery of appropriate services for families and children in need. Of the 27 services, 13 are in the primary prevention category, five are in the secondary prevention category, and the remaining nine are in the tertiary prevention category. While all three levels of prevention are vital, primary prevention is inarguably the most important. However, while every county in Oklahoma has at least one secondary prevention service available and most counties have two or more tertiary prevention services available, two-thirds (51) of Oklahoma counties do not have one primary prevention service or program at their disposal. If Oklahoma is to see continued improvement in the health of its children, then a ‘prevention first’ mentality must be adopted and implemented throughout the state.

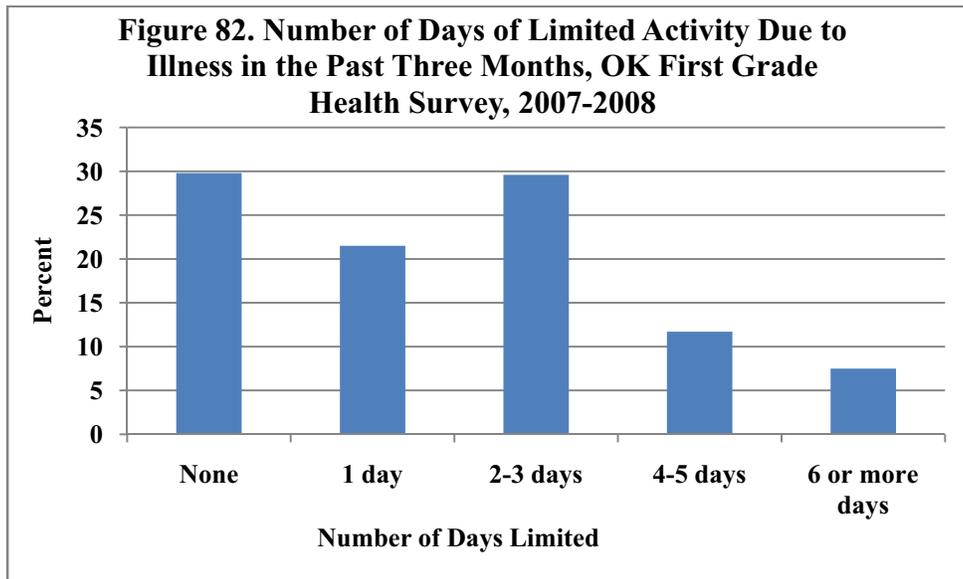
### Morbidity

The 2008 TOTS found that over half of Oklahoma’s toddlers had one or more days of limited activity due to illness in the three months before the survey was administered. Over twelve percent (12.4%) stated their child’s activity was limited for four or more days (Table 32).

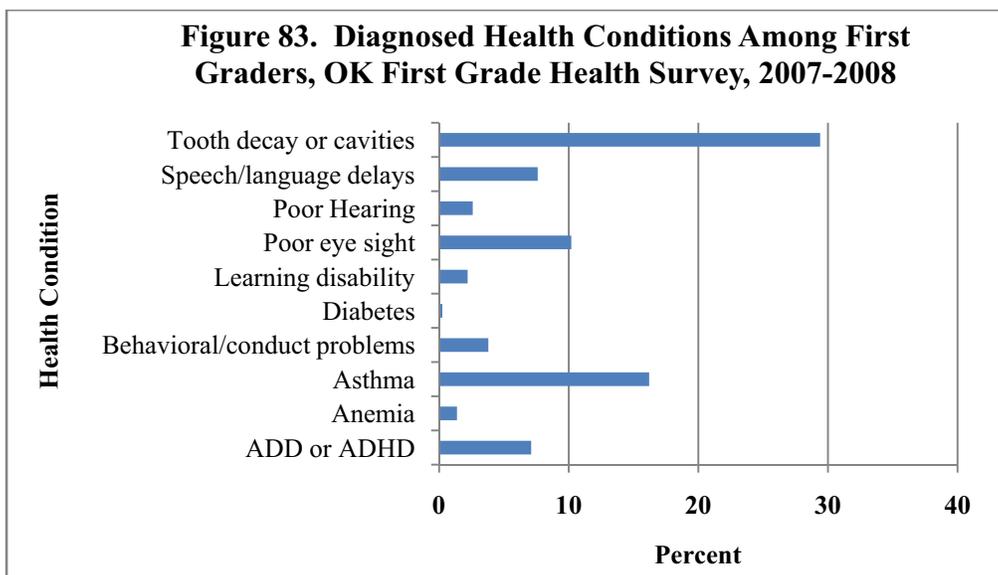
When asked if their two-year-old had ever been diagnosed with various health conditions, 14.2% indicated their child had been diagnosed with an asthma-like condition, including wheezing; 15.4% indicated their toddler had croup, bronchitis, or bronchiolitis; and 5.6% indicated their child had been diagnosed with pneumonia since birth.

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
During the past three months, how many days was your two-year-old’s activity limited due to illness?		
None	49.0	44.6, 53.5)
One day	13.9	11.2, 17.0)
2-3 days	24.7	21.1, 28.6)
4-5 days	8.5	6.2, 11.4)
6+ days	3.9	2.5, 6.0)
Unknown	0.1	0.0, 0.3)
Has a health care provider ever said that your two-year-old has any of the following conditions?		
Asthma-like condition	14.2	11.6, 17.3%
Croup, bronchitis, bronchiolitis	15.4	12.5, 18.7
Pneumonia	5.6	4.1, 7.8
Epilepsy, convulsions, or seizures without fever	0.8	0.3, 1.8
Heart condition requiring surgery or medication	0.3	0.2, 0.4
Ongoing bone, joint, or other orthopedic conditions	0.3	0.2, 0.5
Anemia	3.9	2.5, 6.1
Vision problems requiring correction	0.5	0.3, 0.6
Hearing problems	2.8	1.6, 4.7
Tooth decay or cavities	2.5	1.3, 4.6
Developmental delays	2.9	2.0, 4.3

The 1GHS asked several questions that help identify the prevalence of first graders who may have special needs. One aspect of childhood morbidity is limited activity due to illness. Approximately half (48.8%) of first graders' parents/guardians reported their child experienced limited activity due to illness on two or more days during the past three months. One in five first graders (21.5%) experienced limited activity due to illness for one day in the past three months and 29.8% experienced no days of limited activity (Figure 82).



When asked to identify diagnosed health conditions, the most commonly reported conditions by parents/guardians of first graders were tooth decay/cavities at 29.4%, followed by asthma (16.2%), and poor eyesight (10.1%) (Figure 83). Furthermore, 21.7% of first graders were, at the time of the survey, taking a medication other than a vitamin prescribed by a health care provider (data not shown).



- **Asthma**

Among the 14% of toddlers with asthma, certain disparities exist (Table 33). Children with an asthma-like condition were more likely to not have health insurance, were more likely to have a mother 25 years or older, were more likely to have an African American/Black mother, a mother who is non-Hispanic, and were more likely to have a mother with a high school education or greater.

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Health care provider ever said that your two-year-old has an asthma-like condition, including wheezing- YES		
Insurance status of two-year-old		
No insurance	22.4	10.4, 41.8
Medicaid	12.4	9.1, 16.8
Private, group, HMO, or other insurance	15.6	11.6, 20.6
Maternal Age		
<20 years	8.8	3.9, 18.4
20-24 years	12.8	8.6, 18.5
25-29 years	17.1	12.1, 23.5
30+ years	15.0	10.2, 21.5
Maternal Race		
White	12.4	9.8, 15.7
African-American	37.3	24.1, 52.7
American Indian	10.2	4.5, 21.3
Other	4.1	1.0, 15.9
Hispanic Origin		
Non-Hispanic	15.2	12.3, 18.7
Hispanic	8.0	3.9, 15.7
Maternal Education		
< 12 years	2.8	1.8, 4.5
12 years	18.5	13.5, 24.9
> 12 years	16.1	12.2, 20.9

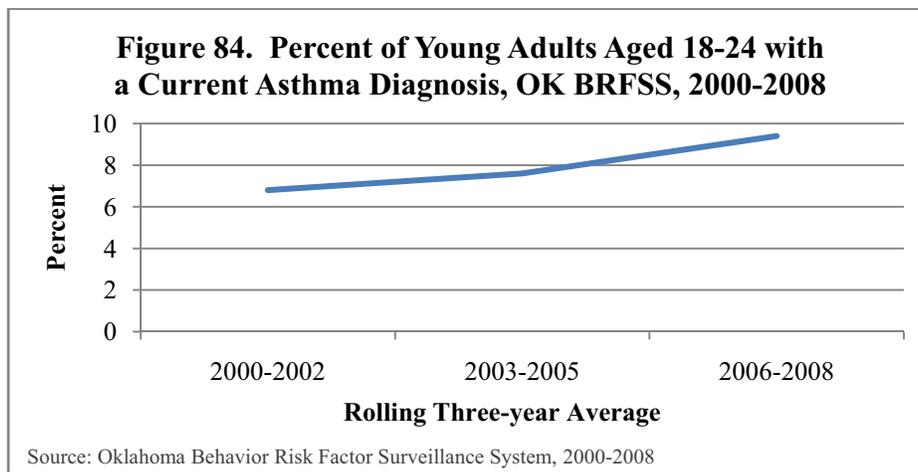
Table 34 shows data from the 2007 National Survey of Children’s Health. There are two categories for asthma, the first is for children who had asthma at some point in their life but not currently and the second category includes children who currently have asthma. Oklahoma was higher than the U.S. for both having had asthma at some point in their life but not currently and for currently having asthma (The Child and Adolescent Health Measurement Initiative, 2003, 2007).

Data from the 1GHS indicate that 16% of first graders surveyed have been diagnosed with asthma (data not shown).

<b>Table 34. Percentage of Children with Asthma Aged 0-17, NSCH, 2007</b>		
	Had at some point but not currently	Currently have asthma
U.S.	4.5	9
Oklahoma	5.7	11.7

Source: National Survey of Children's Health, 2007

The Oklahoma BRFSS asked the survey participants if they have a current asthma diagnosis. Due to small numbers, data were aggregated into three year averages, and while the numbers were still relatively small it is apparent there was an increasing trend in the percent of those with asthma from 2000 to 2008 (Figure 84).



### Substance Use

Drug use among adolescents is associated with academic failure, unwanted pregnancy, truancy, violence, and suicide. According to SAMHSA National Survey on Drug Use and Health, adolescents aged 12-17 who used an illicit drug in the past 12 months were almost twice as likely to have engaged in violent behavior. The report also showed a positive association between violent behavior and drug use as the likelihood of having engaged in violent behavior increased with the number of drugs used in the past 12 months (Substance Abuse and Mental Health Services Administration, 2009). The Oklahoma YRBS asked several questions regarding substance abuse (Table 35). The following substance abuse questions saw significant decreases from 2003-2009: the percentage of students who used marijuana at least once in their lifetime decreased from 42.5% in 2003 to 31.9% in 2009; the percentage of students who used marijuana before age 13 decreased from 11.1% in 2003 to 7.3% in 2009; the percentage of students who used marijuana during the past 30 days decreased from 22.0% in 2003 to 17.2% in 2009; the percentage of students who used methamphetamines one or more times during their lifetime decreased 9.9% in 2003 to 4.8% in 2009; and the percentage of students who were offered, sold, or given an illegal drug by someone on school property during the past 12 months decreased from 22.2% in 2003 to 16.8% in 2009. Although the percentage of students who “sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life” appears to be on an upward trend from 9.9% in 2003 to 12.7% in

2009, the increase is not statistically significant. However, while additional years of data are needed to confirm this trend, the increase during this period is worth noting.

<b>Percentage of students who.....</b>	<b>2003</b>	<b>2005</b>	<b>2007</b>	<b>2009</b>
used marijuana one or more times during their life*	42.5	39.3	33.2	31.9
used marijuana before age 13*	11.1	9.4	8.1	7.3
used marijuana one or more times during the past 30 days*	22.0	18.7	15.9	17.2
used marijuana on school property one or more times during the past 30 days	4.3	3.0	2.6	2.9
used any form of cocaine one or more times during their life	9.2	8.7	7.3	7.4
used any form of cocaine during the past 30 days	3.4	2.6	3.0	2.3
sniffed glue, breathed the contents of aerosol spray cans, or inhaled any paints or sprays to get high one or more times during their life	9.9	12.0	11.7	12.7
used heroin one or more times during their life	2.7	2.1	2.2	2.3
used methamphetamines one or more times during their life*	9.9	7.1	5.5	4.8
used ecstasy one or more times during their life	7.2	6.7	5.9	8.1
took steroid pills or shots without a doctor's prescription one or more times during their life	4.8	3.7	4.7	5.3
used a needle to inject any illegal drug into their body one or more times during their life	2.4	2.0	2.1	1.7
were offered, sold, or given an illegal drug by someone on school property during the past 12 months*	22.2	18.4	19.1	16.8

\* Significant change over time

- **Alcohol Use**

Mortality data show that 22,073 persons in the U.S. died from alcohol-induced deaths in 2006 (Heron, Hoyert, Murphy, Xu, Kochanek, & Tejada-Vera, 2009). Alcohol use among teens and young adults is a serious public health concern as excessive alcohol consumption is responsible for more than 4,600 deaths of youth less than 21 years of age in the U.S. each year, (Centers for Disease Control and Prevention, 2010). Additionally, research has shown that alcohol use among underage youth is strongly correlated with health problems such as smoking and alcohol-impaired driving as well as social problems such as increased sexual activity and poorer school performance (Miller, Naimi, Brewer, & Jones, 2006). The Oklahoma YRBS asked six questions about alcohol use. Two additional questions were asked regarding driving a vehicle while under the influence of alcohol or riding with another driver who had been drinking alcohol. Nearly three-fourths (71.5%) of students reported they have had at least one drink of alcohol in their lifetime. One in five students reported having their first drink of alcohol before age 13; however, males were significantly more likely than females to have their first drink by age 13 at 23.6% and 15.3%, respectively. Of those who reported current alcohol use, females were significantly more likely than males to have gotten the alcohol from someone else at 51.8% and 40.5%, respectively (Table 36).

<b>Percentage of students who....</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
had at least one drink of alcohol on one or more days during their life	71.5	68.3	74.8
had their first drink of alcohol before age 13*	19.5	23.6	15.3
had at least one drink of alcohol on one or more of the past 30 days	38.9	38.2	39.6%
had five or more drinks of alcohol in a row on one or more of the past 30 days	23.9	25.9	21.9
had at least one drink of alcohol on school property on one or more of past 30 days	3.86	3.96	3.75
Of those who reported current alcohol use, the percentage who got the alcohol they drank from someone who gave it to them during the past 30 days*	46.2	40.5	51.8

\* Significant difference by gender, P <.05

Nearly one-fourth (23.9%) of high school students reported having five or more drinks in a row (binge drinking) in the past 30 days, which is significantly higher than the Healthy People 2010 goal of 11% (Table 37). BRFSS data from 2006-2008 show that 20.4% of 18-24 year olds engaged in binge drinking (having five or more drinks on one occasion), which is not significantly different than the Healthy People 2010 goal of 20% of college students (data not shown).

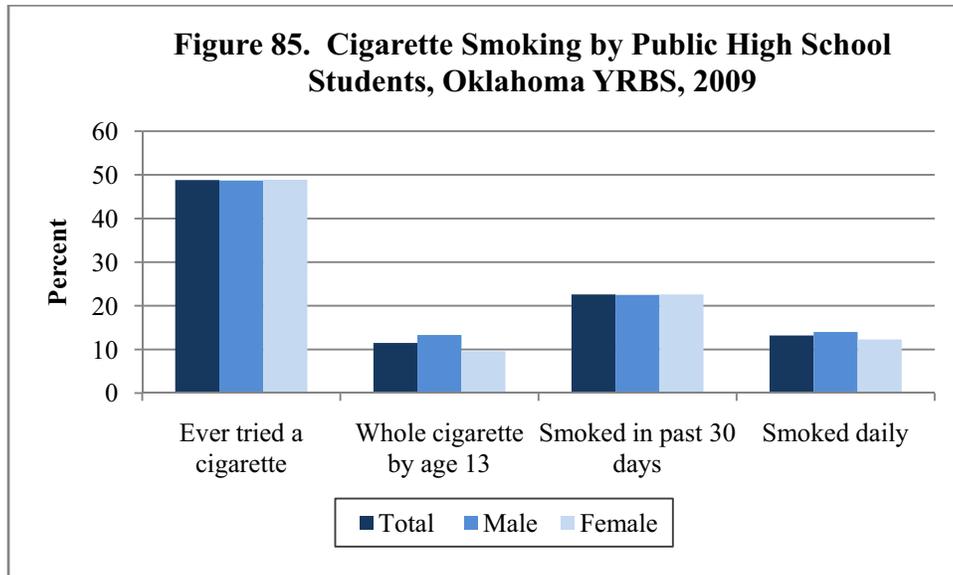
Data from the YRBS show significant reductions in some alcohol use behaviors from 2003-2009 (Table 30). The percentage of students who had at least one drink of alcohol on one or more days during their life decreased from 78.6% in 2003 to 71.4% in 2009. The percentage of students who had their first drink of alcohol before the age of 13 years decreased from 26.8% in 2003 to 19.4% in 2009. The percentage of students who had at least one drink of alcohol on one or more of the 30 days before the survey decreased from 47.8% in 2003 to 39.0% in 2009. Among those students who reported current alcohol use, the percentage of students who received the alcohol they drank from someone who gave it to them in the 30 days before the survey, increased from 40.5% in 2007 to 46.0% in 2009. While other alcohol use behaviors experienced some change, they were not statistically significant.

<b>Percentage of students who....</b>	<b>2003</b>	<b>2005</b>	<b>2007</b>	<b>2009</b>
had at least one drink of alcohol on one or more days during their life*	78.6	76.5	75.6	71.4
had their first drink of alcohol before age 13*	26.8	25.2	23.3	19.4
had at least one drink of alcohol on one or more of the past 30 days*	47.8	40.5	43.1	39.0
had five or more drinks of alcohol in a row on one or more of the past 30 days	34.0	26.6	27.9	24.0
had at least one drink of alcohol on school property on one or more of past 30 days	3.2	3.8	5.0	3.9
Of those who reported current alcohol use, the percentage who got the alcohol they drank from someone who gave it to them during the past 30 days*	-	-	40.5	46.0

\*Significant change over time

- **Tobacco Use**

According to the CDC, cigarette smoking accounts for more than 400,000 deaths each year in the U.S. making it the leading cause of preventable death. Tobacco use is a leading health indicator outlined in Healthy People 2010 Objective 27-2b. Data from the 2009 YRBS show that nearly half (48.8%) of public high school students had ever tried a cigarette (Figure 85); 11.5% of students had tried a whole cigarette by the time they were age 13; nearly one-fourth (22.6%) of students had smoked on at least one of the past 30 days; and 13.2% of students had smoked daily, that is, at least one cigarette every day for 30 days. No differences were observed amid any of the four cigarette use questions among gender.



Differences were observed by grade as 11<sup>th</sup> and 12<sup>th</sup> graders were more likely than 9<sup>th</sup> and 10<sup>th</sup> graders to have ever tried a cigarette (Figure 86). Nearly one-fourth (22.5%) of Oklahoma public high school students smoked on one or more of the past 30 days before the survey, which is significantly higher than the Healthy People 2010 Objective, 27-2b of 16%. Ninth graders were less likely than students in other grades to have smoked daily, that is, at least one cigarette every day for the past 30 days.

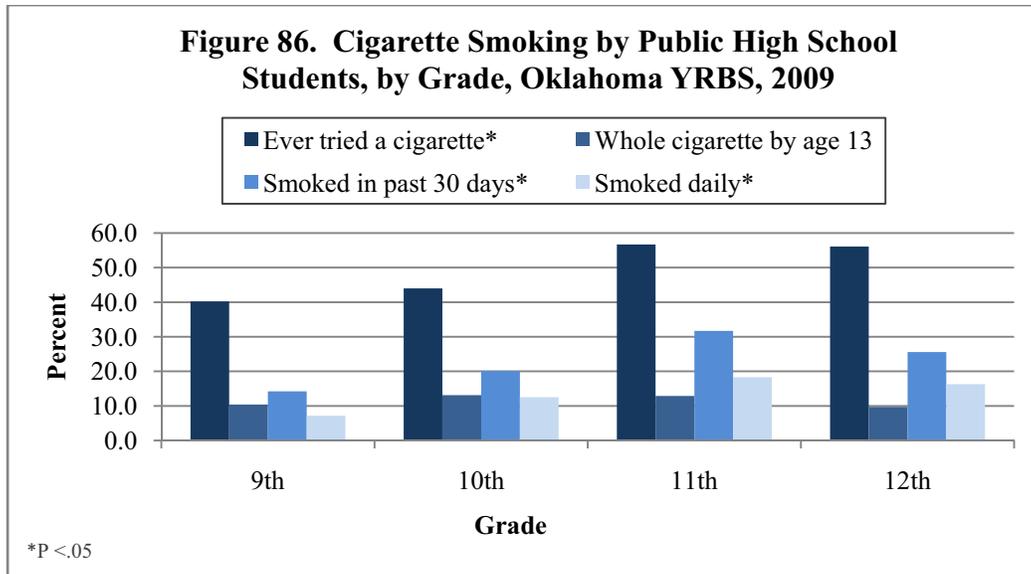
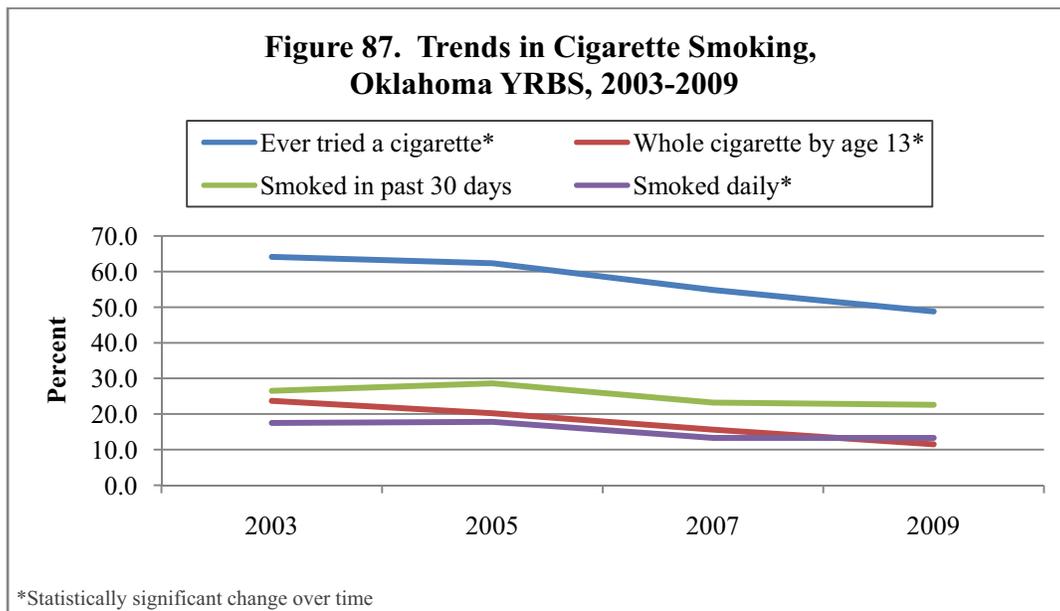


Figure 87 shows these same four cigarette use questions over time. Three out of four cigarette use behaviors saw statistically significant decreases from 2003-2009. Having smoked in the past 30 days did not see a statistically significant decrease.



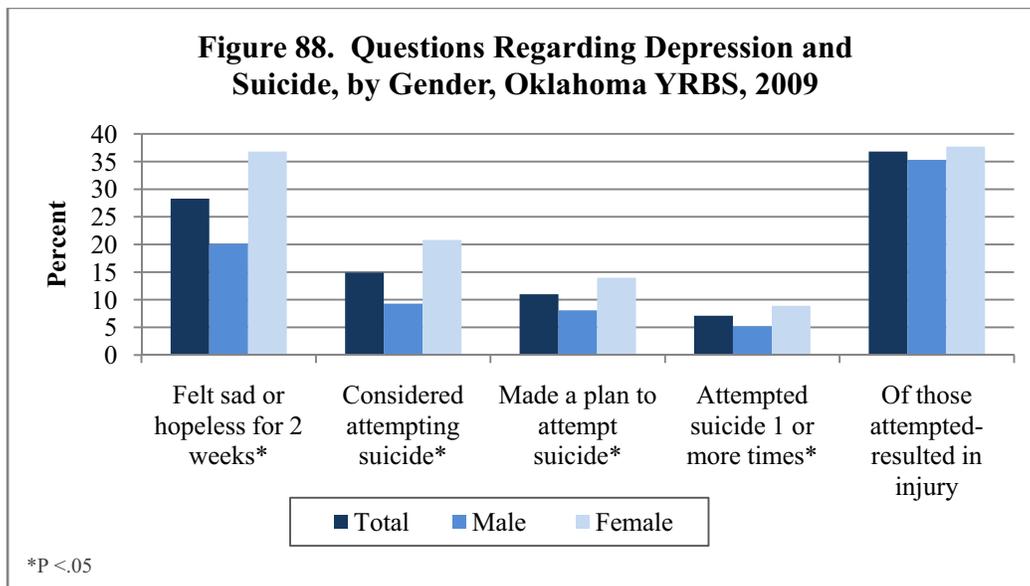
### Depression/Suicide Ideation

Data from the 2005-2006 National Health and Nutrition Examination Survey (NHANES) indicate that in any two-week period, 5.4% of Americans 12 years of age and older experienced depression (Pratt & Brody, 2008). Depression is especially detrimental for adolescents because of the increased risk of suicide ideation. The YRBS asks high school students five questions related to depression and attempted suicide. Symptoms of depression include feeling sad or hopeless for a period lasting two weeks or longer that stops a person from doing some usual

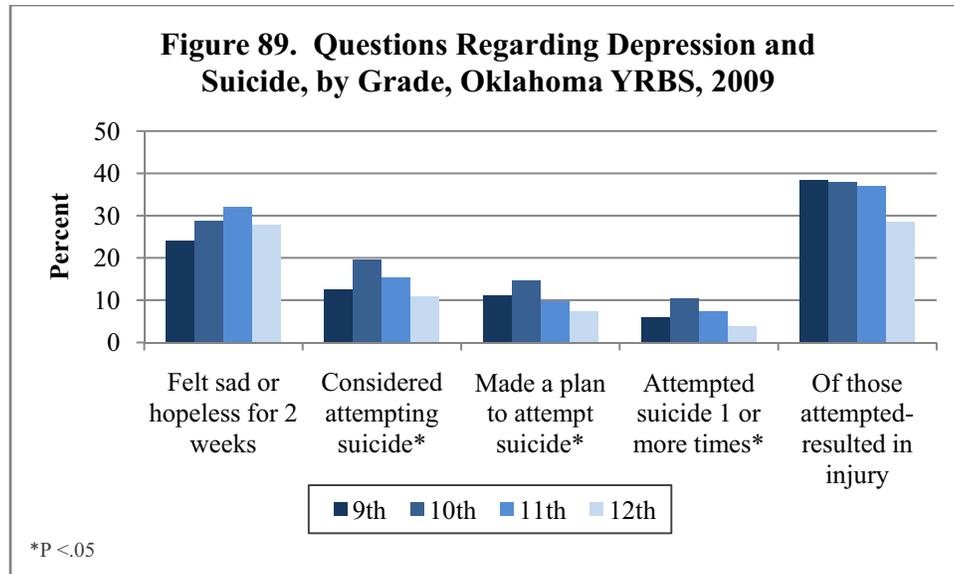
activities. While the YRBS does not ask about a clinical diagnosis of depression, it does ask about extended periods of sadness or hopelessness that affect normal daily activities. More than one-fourth of students (28.2%) reported they had felt so sad or hopeless almost every day for two weeks or more in a row during the past 12 months that they stopped doing some usual activities (Figure 88).

Disparities exist by gender as females were significantly more likely than males to experience extended periods of sadness and hopelessness at 36.8% and 20.1%, respectively. This is supported by national trends as younger children may have equal feelings of depression by gender but by high school females experience higher rates of depression. In addition, 14.9% of respondents reported they had seriously considered attempting suicide during the past 12 months before the survey. There is also significant gender disparity as females were more than twice as likely as males to consider attempting suicide at 20.8% and 9.3%, respectively.

Females (14.0%) were also more likely than males (8.1%) to have made a plan about how they would attempt suicide. Females were more likely than males to have attempted suicide one or more times at 8.9% and 5.2%, respectively. There was no statistical difference between males and females for the percent of suicide attempts that resulted in injury, poisoning, or overdose that required treatment by a doctor or nurse.



Differences were also observed by grade level for seriously considering attempting suicide, to have made a plan about how to commit suicide, and to have attempted suicide one or more times (Figure 89). There was no significant difference seen between grades for feeling sad or hopeless for two weeks in a row or for the percent of attempted suicides that resulted in an injury, poisoning, or overdose that required treatment by a doctor or nurse.



### Sexual Behavior

According to a study titled “Trends in Premarital Sex in the United States, 1954-2003”, 95% of Americans have had sex before marriage and 74% have had sex by age 20 (Finer, 2007). Teens in the U.S. begin having sex at about the same age as teens in other developed countries, yet American teens have higher rates of pregnancy and STD infections (Alan Guttmacher Institute, 2001).

More than half (50.9%) of Oklahoma public high schools students have ever had sexual intercourse. Nearly 40% of students had sexual intercourse during the past three months (Table 38). One in five (19.9%) students had used alcohol or drugs at last sexual intercourse. Fourteen percent of students reported they used no contraceptive method at last sexual intercourse. Males were more likely than females to have had four or more sexual partners in their lifetime. Males were less likely than females to report they had ever been taught in school about acquired immune deficiency syndrome (AIDS) or HIV. Males were more likely than females to have used a condom at last intercourse.

**Table 38. Questions Regarding Sexual Behavior by Gender, Oklahoma YRBS, 2009**

<i>Percentage of students who.....</i>	<b>Total</b>	<b>Male</b>	<b>Female</b>
ever had sexual intercourse	50.9	51.2	50.7
had sexual intercourse before age 13	4.7	5.9	3.4
had sexual intercourse with 4 or more people in their lifetime*	17.7	20.1	15.2
had sexual intercourse during the past three months	39.9	39.5	40.3
had ever been taught in school about AIDS or HIV*	82.0	79.1	85.0
<i>Among students who had sexual intercourse during the past three months, the percentage who at last sexual intercourse....</i>	<b>Total</b>	<b>Male</b>	<b>Female</b>
used alcohol or drugs	19.9	19.6	20.2
used a condom*	56.7	64.1	49.5
no method was used to prevent pregnancy	14.0	11.9	16.1

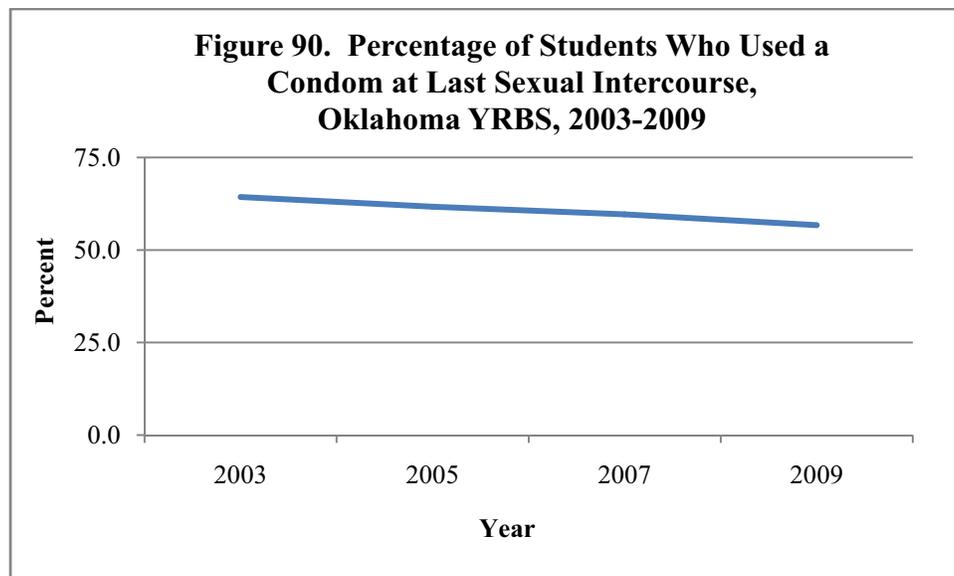
\*P < .05

Significant differences were observed by grade as 9<sup>th</sup> graders were less likely as students in other grades to have ever had sexual intercourse. The percentage of students who had ever had sexual intercourse increased as age increased. Ninth graders were also less likely than students in other grades to have had sex with four or more people in their lifetime, to have had sex in the past three months, and to report they had ever been taught in school about AIDS or HIV. Differences were also observed by grade for having used alcohol at last sexual intercourse and having used a condom at last sexual intercourse (Table 39).

<b>Table 39. Questions Regarding Sexual Behavior by Grade Level, Oklahoma YRBS, 2009</b>				
<b>Percentage of students who.....</b>	<b>9th</b>	<b>10th</b>	<b>11th</b>	<b>12th</b>
ever had sexual intercourse*	32.2	48.7	56.3	70.2
had sexual intercourse before age 13	4.9	4.6	5.9	3.0
had sexual intercourse with 4 or more people in their lifetime*	10.2	17.2	20.2	24.1
had sexual intercourse during the past three months*	22.9	36.8	43.6	58.8
had ever been taught in school about AIDS or HIV*	76.2	83.0	81.1	88.9
<b>Among students who had sexual intercourse during the past three months, the percentage who at last sexual intercourse....</b>				
	<b>9th</b>	<b>10th</b>	<b>11th</b>	<b>12th</b>
used alcohol or drugs*	16.2	29.9	13.2	20.1
used a condom*	63.6	62.4	52.5	52.6
no method was used to prevent pregnancy	13.8	16.1	12.2	13.8

\*P <.05

Of all sexual behaviors reviewed, only one showed a statistically significant decrease over time. Among students who had sexual intercourse during the past three months, the percentage who used a condom at last sexual intercourse decreased from 64.3% in 2003 to 56.7% in 2009 (Figure 90).



- **Sexually Transmitted Diseases (STDs)**

Of the diseases that are notifiable to the CDC, Chlamydia trachomatis is the most commonly reported. A 2009 report indicates that 1,210,523 cases of sexually transmitted chlamydia infections were reported to the CDC in 2008, which is the highest number of cases ever reported to the CDC for any condition. The national rate for 2008 was 401.3 cases per 100,000 population, significantly higher than the 2007 rate of 367.5. Nationally, the highest age specific rates were among 15-19 year-olds at 3,275.8 cases per 100,000 population.

In Oklahoma, approximately 90% of the reported chlamydia cases were for persons between the ages of 15 and 29, with 75% between the ages of 15 and 24. Those aged 15-19 and 20-24 had rates of infection five times higher than the overall state rate, at 2,106 and 2,130 cases per 100,000 age-specific population, respectively (Figure 91). Oklahoma and Tulsa counties reported 51% of the total chlamydia cases in 2008.

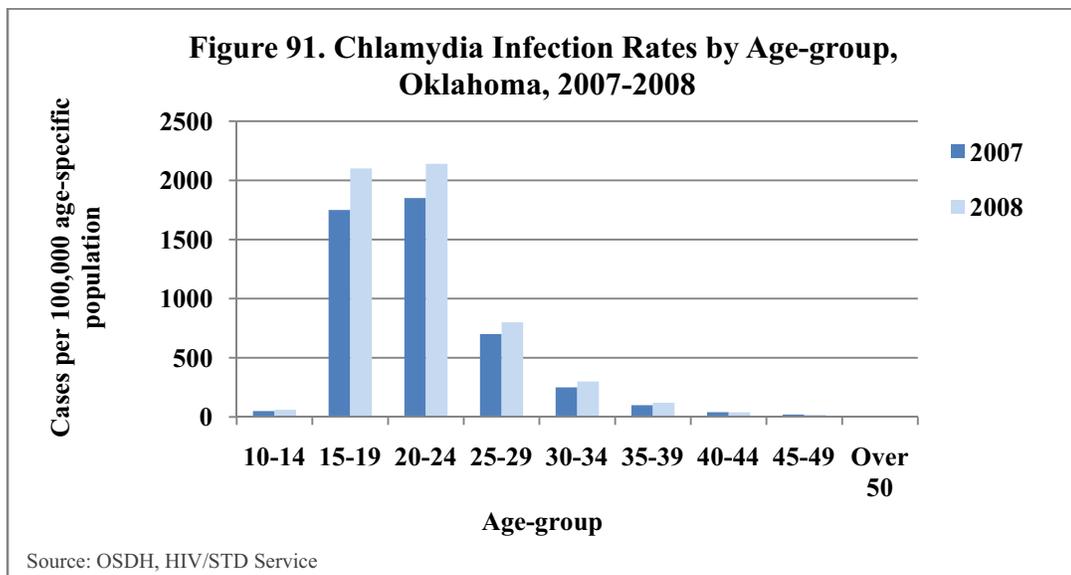
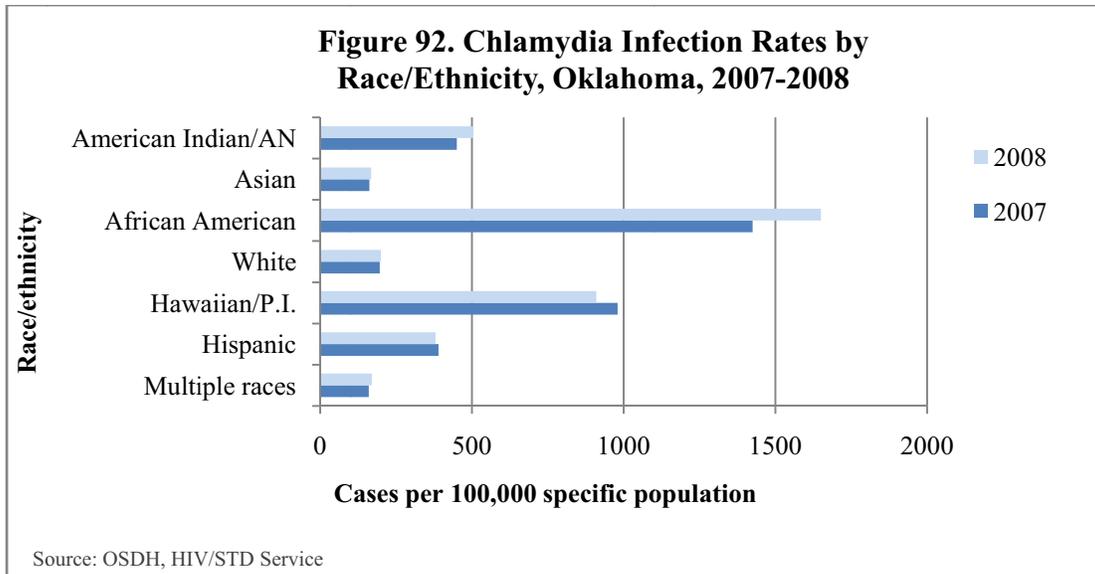


Figure 92 shows chlamydia rates by race and ethnicity. Throughout the needs assessment, Asians, Hawaiians, and Pacific Islanders have been presented as one group. This is a common practice and adheres to the Office of Management and Budget's (OMB) 1977 directive on racial classification. However, to maintain the consistency to reporting OSDH, HIV/STD Service data, the following graph represents Asians as one group and Hawaiian and Pacific Islanders as another. African American/Blacks were disproportionately represented as well as Hawaiian/Pacific Islanders, and American Indian/Alaska Natives. African American/Blacks comprised less than 10% of the population as a whole but comprised more than 40% of the reported chlamydia cases in 2008 and had nearly twice the infection rate of any other racial and ethnic group.



### High School Dropouts

Objective 7-1 of Healthy People 2010 is to increase the high school completion rate to 90%. According to the National Center for Education Statistics, Oklahoma was ranked 23<sup>rd</sup> in the nation with a 2006-2007 school-year average freshman graduation rate of 77.8%, which was 5.3% higher than the national average of 73.9%. Racial and ethnic subgroups show vast discrepancies. For instance, Asian/Pacific Islander graduation rates were 100%, compared to whites at 78.6%, American Indian/Alaska Natives at 77.3%, Hispanics at 75.0%, and African American/Blacks at 70.7%. The overall cost to Oklahomans associated to 2008 dropouts, as reported by the Alliance for Excellent Education, will amount to almost 3.8 billion dollars in lost wages over their lifetimes. Racial minorities experience this event more frequently. Reports state that close to 50% of African American/Blacks and Hispanics fail to complete high school on time and graduate (U.S. Department of Education, 2006–2007).

It must be noted that accurate and state comparable graduation rates have historically been difficult to ascertain. Examples of this inaccuracy for the 2005-2006 school year are as follows: State-reported for No Child Left Behind Act of 2001, 85%; U.S. Department of Education, 78%; Education Week, 71%. For the 2010-2011 school year federal regulations will require all states to apply a common formula (U.S. Department of Education, 2006–2007).

### Juvenile Violence

- **Violence**

The percentage of students who carried a weapon on school property was 5.5%, which was slightly higher than the Healthy People 2010 objective of 4.9%. Significant differences were observed by gender, however, as males were more likely than females to have carried a weapon in the past 30 days, to have carried a gun in the past 30 days, to have carried a weapon on school property in the past 30 days, to have been threatened or injured with a weapon on school property in the past 12 months, to have been in a physical fight in the past 12 months, to have been in a physical fight in which their injury had to be treated by a doctor or nurse, and to have been in a physical fight on school property in the past 12 months (Table 40).

**Table 40. Questions Regarding Violence by Gender, Oklahoma YRBS, 2009**

<b>Percentage of students who.....</b>	<b>Female</b>	<b>Male</b>	<b>Total</b>
Carried a weapon such as a gun, knife, or club one or more of the past 30 days*	7.7	29.9	18.9
Carried a gun on one or more of the past 30 days*	0.6	10.5	5.6
Carried a weapon such as a gun, knife, or club on school property one or more of the past 30 days*	3.6	7.4	5.5
Did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way home from school	4.3	3.9	4.1
Had been threatened or injured with a weapon on school property one or more times during the past 12 months*	4.0	7.6	5.8
Were in a physical fight one or more times in the past 12 months*	22.5	38.6	30.7
Were in a physical fight one or more times in the past 12 months in which they were injured and had to be treated by a doctor or nurse*	1.9	6.1	4.0
Were in a physical fight on school property one or more times in the past 12 months*	8.2	17.3	12.8
Were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months	6.2	8.6	7.4
Had ever been physically forced to have sexual intercourse when they did not want to*	9.1	3.8	6.4
*Statistically significant difference between males and females: $P < .05$			

Statistically significant differences were also observed among grade levels for violent behaviors (Table 41). Differences were observed for having been in a physical fight one or more times in the 12 months before the survey was administered; 9<sup>th</sup> graders reported the highest percentage at 36.8%, followed by 10<sup>th</sup> graders at 34.1%, 11<sup>th</sup> graders at 30.0%, and 12<sup>th</sup> graders at 19.9%. Differences were also observed for having been in a physical fight on school property in the 12 months before the survey was administered; 10<sup>th</sup> graders reported the highest percentage at 17.9%, followed by 9<sup>th</sup> graders at 16.6%, 11<sup>th</sup> graders at 10.1%, and 12<sup>th</sup> graders at 4.5%. No other statistically significant differences were observed by grade level for violent behaviors.

**Table 41. Questions Regarding Violence by Grade Level, Oklahoma YRBS, 2009**

Percentage of students who.....	9th	10th	11th	12th
Carried a weapon such as a gun, knife, or club one or more of the past 30 days	22.9	21.2	16.6	14.0
Carried a gun on one or more of the past 30 days	5.4	7.2	5.1	4.3
Carried a weapon such as a gun, knife, or club on school property one or more of the past 30 days	7.1	5.2	6.0	3.5
Did not go to school on one or more of the past 30 days because they felt they would be unsafe at school or on their way home from school	4.6	5.8	4.0	1.6
Had been threatened or injured with a weapon on school property one or more times during the past 12 months	6.6	4.7	7.1	4.6
Were in a physical fight one or more times in the past 12 months*	36.8	34.1	30.0	19.9
Were in a physical fight one or more times in the past 12 months in which they were injured and had to be treated by a doctor or nurse	4.5	4.6	4.8	1.8
Were in a physical fight on school property one or more times in the past 12 months*	16.6	17.9	10.1	4.5
Were ever hit, slapped, or physically hurt on purpose by their boyfriend or girlfriend during the past 12 months	6.0	8.7	6.9	8.1
Had ever been physically forced to have sexual intercourse when they did not want to	5.6	5.9	6.5	7.7
*Statistically significant difference between males and females: P<.05				

- **Dating Violence**

Teen dating violence is a form of Intimate Partner Violence (IPV). Teen dating violence can include physical assault; sexual assault; economic, emotional, verbal, and psychological abuse; isolation; stalking; and/or damage to the victim’s or, even, the perpetrator’s own property (U.S. Department of Justice, 2000). Teen dating violence is somewhat different than IPV in adult relationships and without intervention a lifelong relationship pattern may emerge for both the abuser and the victim. Furthermore, involvement in a violent relationship can leave the victim with various mental health problems, such as depression or Post Traumatic Stress Disorder (PTSD).

According to 2009 YRBS data, 6.0% of 9<sup>th</sup> grade students, 8.7% of 10<sup>th</sup> grade students, 6.9% of 11<sup>th</sup> grade students, and 8.1% of 12<sup>th</sup> grade students reported ever being hit, slapped, or intentionally physically hurt by their boyfriend or girlfriend in the last 12 months (Table 41). Moreover, 6.2% of females and 8.6% of males reported ever being hit, slapped, or physically hurt on purpose by their girlfriend or boyfriend in the past 12 months, with a total of 7.4% of all high school students reporting this. More than one in twenty reported past sexual assault; 5.6% of 9<sup>th</sup> grade students, 5.9% of 10<sup>th</sup> grade students, 6.5% of 11<sup>th</sup> grade students, and 7.7% of 12<sup>th</sup> grade students reported having been physically forced to have nonconsensual sexual intercourse (Table 41). Female students were almost three times as likely to report nonconsensual sexual intercourse compared to males (9.1% vs. 3.8%, Table 40). Due to the sensitive nature of this particular topic there may be some under-reporting of abuse of all types. And, although the question addresses teen dating violence, victimization in a non-dating relationship is not explored in the YRBS survey.

## Injury

More than one in eight two-year-olds experienced an unintentional injury in 2008 that was serious enough to seek medical advice or treatment (Table 42). The majority of injuries were the result of falls (48.1%). This is consistent with national studies that show falls are the most common cause of non-fatal injury to children aged 1-4 (Morton, Spicer, Korn, Thomas, & Jones, 2007). The second most prevalent cause was “other” which included broken bones, eye injuries, dislocated elbows, etc. The third most common injury was due to cuts (16.4%). One in ten (9.3%) reported a burn injury (Morton, Spicer, Korn, Thomas, & Jones, 2007).

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
During the past 12 months, was your two-year old injured seriously enough that he/she got medical advice or treatment?		
Yes	12.1	9.5, 15.3
No	85.9	82.4, 88.7
Unknown	2.0	1.0, 4.0
If yes, how was your two-year-old injured?		
Hurt in car accident	0.2	0.0, 0.8
Burn	9.3	4.1, 19.6
Cut	16.4	9.0, 27.9
Fall	48.1	35.8, 60.7
Bite	3.3	1.0, 10.6
Choking	1.7	0.3, 8.7
Poisoning	1.8	0.3, 11.4
Near drowning	0.0	0.0, 0.0
Other	22.1	13.5, 34.1

TOTS asked mothers a series of questions designed to ascertain the level of safety in the toddler’s home. These safety measures covered issues from fenced drowning hazards to keeping guns in the home. Roughly 40% of mothers indicated their pools, ponds, etc., were protected by a fence on their property; the majority of the 60% who said they were not, reported it was “not applicable” to them. Twenty-one percent did not keep latches and locks on cabinets with dangerous and harmful items stored inside (like chemicals and cleaning supplies). Ten percent did not store matches or lighters in a safe or child proof place. Almost 28% of families with toddlers kept a gun and/or rifle in their home (Table 43).

<b>Question</b>	<b>Percentage</b>	<b>95% CI</b>
Do you do any of the following in your home?		
An adult always watches my child while in the bathtub	96.7	94.8, 97.9
Swimming pools, ponds, irrigation ditches, stock tanks, or canals on your property are protected by fences	39.3	35.1, 43.8
Matches and lighters are stored in a childproof place	89.3	86.3, 91.7
A working smoke detector is on each level of your home	95.2	93.0, 96.7
Medicines and vitamins are stored in a childproof place	97.6	96.0, 98.6
Safety latches and locks are on all cabinets within a child’s reach that have dangerous or harmful items stored in them	79.0	75.2, 82.4
Safety caps cover unused electrical outlets	83.6	80.0, 86.6
Do you keep guns and/or rifles in your home?		
Yes	27.9	24.2, 31.8
No	69.4	65.4, 73.2
Unknown	2.7	1.5, 4.9

- **Bicycle Injury**

According to the OSDH Injury Prevention Service for the year 2003, Oklahoma experienced 56 traumatic brain injuries (TBI) as a result of a bicycle mishap, three of which proved to be fatal. Bicycle-related injuries are a leading cause of nonfatal TBI among elementary school aged children 5-12 years. BRFSS reports that in Oklahoma, 25% of children report wearing a bicycle helmet. Also, Oklahoma Safe Kids reports that every year, 270,000 children under the age of 14 in the U.S. are injured as a result of improper fit of a bicycle helmet or non-use of a helmet while bicycle riding (Morton, Spicer, Korn, Thomas, & Jones, 2007). Data from the 1GHS also showed that nine out of ten (91%) first graders rode a bicycle, skateboard, scooter, or skates, of which 35.2% never wore a helmet while riding; 17.6% wore a helmet always; 47.2% wore a helmet most of the time, sometimes, or seldom.

A nonfatal TBI is a devastating injury, leaving many survivors struggling with severe physical, emotional, or cognitive problems resulting in long-term disability. Persons that experience a mild to moderate brain injury may also have long lasting difficulties with learning and activities associated with daily living.

- **Motor Vehicle Injury**

According to the CDC, motor vehicle injuries are the leading cause of death among children in the U.S. Child restraint usage often correlates with the driver’s restraint usage as 40% of unrestrained children are the passengers of unrestrained drivers. Contributing to the injury rate as well is the incorrect use of child restraint systems. In one observational study of the use of nearly 3,500 car and booster seats, 72.6% were found to be misused in such a way as would increase the risk of injury during a crash (National Highway Traffic Safety Administration, 2006). Data from the 2007-2008 1GHS show that nearly all (99.5%) parents/guardians reported that their first-grader used a safety restraint when riding in a motor vehicle in the 30 days before

the survey was administered. Of those first graders who used a safety restraint: 76.9% were reported by their parent/guardian to use it always; 4.9% used their restraint either seldom or never. Among those first graders who used a safety restraint: 67.2% used a lap and shoulder belt; 25.9% used a booster seat with the car's lap or shoulder belt; 5.6% used a lap belt only.

In 1999 Senate Bill 1413 was passed in Oklahoma which introduced the Graduated Driver License Law. This bill was created to address the high injury and mortality rate from motor vehicle crashes for teen drivers. In 2005 the bill was strengthened with House Bill 1653 to increase restrictions. Data from the Oklahoma Department of Public Safety show that teen drivers aged 16-17 are disproportionately represented for all motor vehicle crashes and fatal crashes in the state. From 2000-2008, 185 drivers aged 16-17 were killed in crashes. Of the 169 drivers whose seatbelt use was known, 58.6% were not using their seat belts (data not shown).

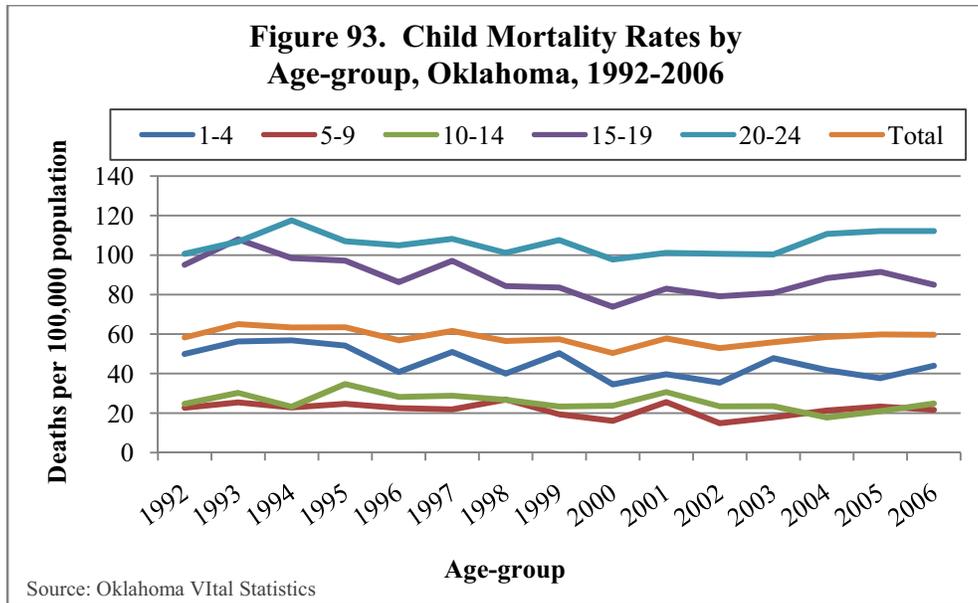
The Oklahoma YRBS asks two questions related to driving or riding as a passenger in a car while drinking alcohol. The percentage of students who rode in a vehicle one or more times in the past 30 days with someone who had been drinking alcohol decreased significantly from 30.6% in 2003 to 23.1% in 2009, and is significantly lower than the Healthy People 2010 goal of 30% (Table 44). No significant differences were observed by grade or gender. The percentage of students who drove a car while they had been drinking was 11.0% in 2009, a significant decrease from 17.5% in 2003. Differences were observed by gender as males were more likely than females to have driven a car when they had been drinking alcohol at 13.2% and 8.6%, respectively. Significant differences were observed by grade as 12<sup>th</sup> graders were more likely than students in other grades to have driven a vehicle when they had been drinking.

Percentage of students who during the past 30 days.....							
	Female	Male	9th	10th	11th	12th	Total
rode in a vehicle driven by someone who had been drinking alcohol	22.8	23.6	21.8	23.7	25.2	22.1	23.2
drove a vehicle when they had been drinking alcohol	8.6	13.2% <sup>†</sup>	5.7	9.3	11.5	18.7 <sup>‡</sup>	10.9
<sup>†</sup> P=0.0747 <sup>‡</sup> P<.05							

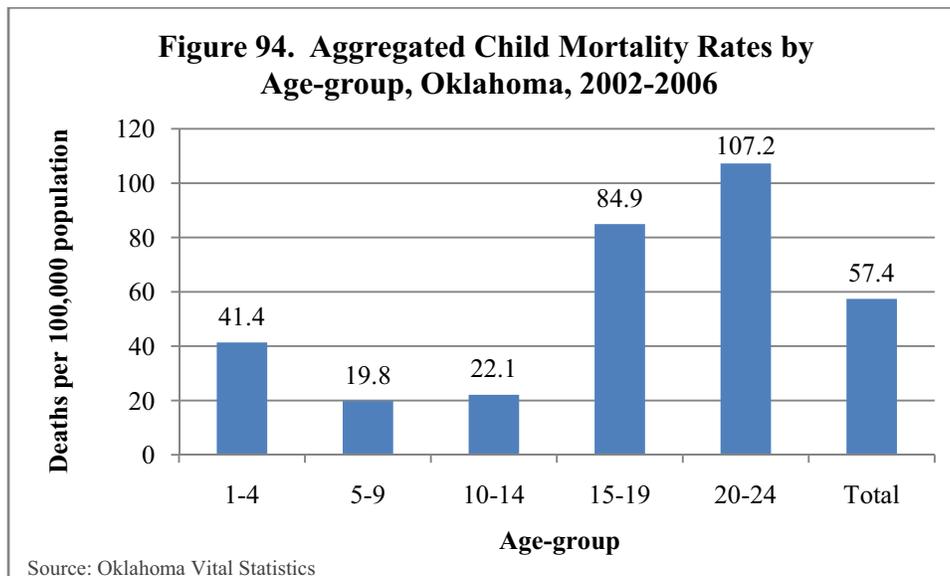
## Mortality

- **Child and Adolescent Mortality**

Over the last 15 years, the child and adolescent mortality rate (ages 1- 24) has increased slightly from 58.3 deaths per 100,000 population in 1992 to 59.7 in 2006, a 2.4% increase (Figure 93). Age-specific mortality rates have had essentially no change for most age-groups; however, 20-24 year olds increased 11.5% from 100.6 deaths per 100,000 population to 112.2 in 2006. Adolescents aged 15-19 experienced a decrease of 10.7% from 95.1 deaths per 100,000 population in 1992 to 84.9 in 2006.



Due to variability from year to year, data from 2002-2006 were aggregated to present a more stable mortality rate (Figure 94). The lowest mortality rate was for five to nine year olds at 19.8 deaths per 100,000 population, followed by 10-14 year olds at 22.1, 1-4 year olds at 41.4, 15-19 year olds at 84.9, and 20-24 year olds at 107.2.



When the 2006 Oklahoma mortality rates are compared to the Healthy People 2010 objectives for the age ranges of 10-14, 15-19, and 20-24, Oklahoma falls short of the objectives (Figure 95). Oklahoma mortality rates for all age ranges, which are the number of deaths per 100,000 age-specific population, exceeded the Healthy People 2010 objectives. The Oklahoma mortality rates were higher than the Healthy People 2010 objectives by 48.3% for 10-14 year-olds, 113.4% for 15-19 year-olds, and 129.0% for 20-24 year-olds.

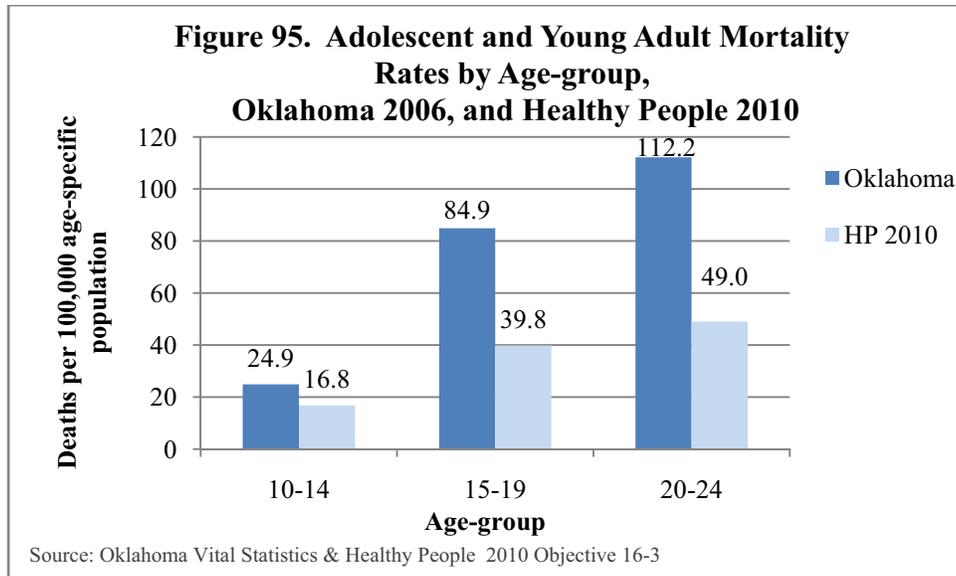


Table 45 displays the leading causes of death for Oklahoma’s children, adolescents, and young adults. The number one cause of death for all age-groups is unintentional injury, which includes motor vehicle accidents, falls, drowning, poisoning, among others. Except for ages 1-9, homicide and suicide make up the second and third leading causes of death for children, adolescents, and young adults in Oklahoma (Centers for Disease Control and Prevention, 2009).

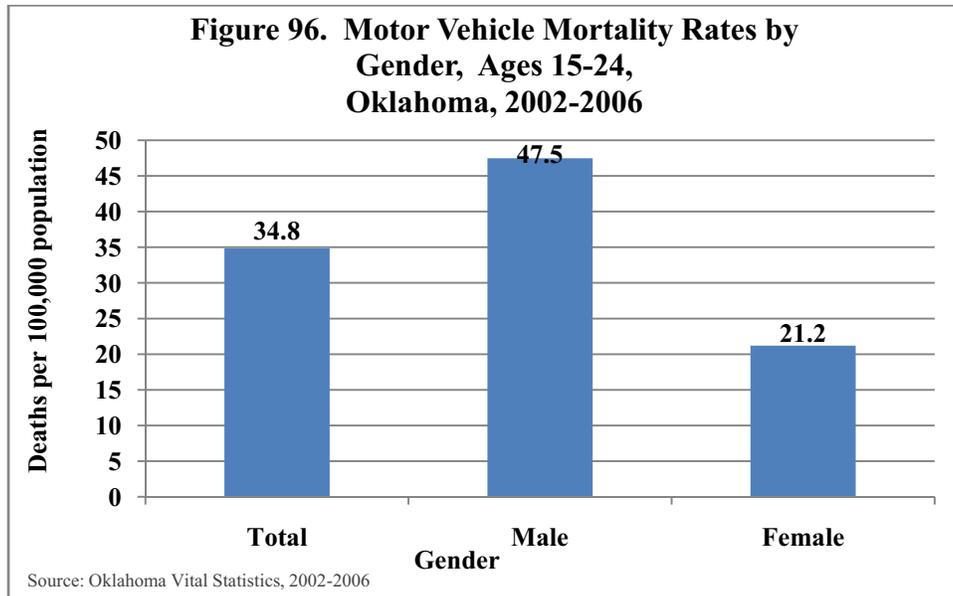
**Table 45. Leading Causes of Death by Age-group, Oklahoma, 2004-2006**

Rank	Age-group				
	1-4	5-9	10-14	15-19	20-24
1	Unintentional injury				
2	Congenital anomalies	Malignant neoplasms	Homicide	Suicide	Suicide
3	Homicide	Homicide	Suicide	Homicide	Homicide
4	Malignant neoplasms	Congenital anomalies	Malignant neoplasms	Malignant neoplasms	Malignant neoplasms
5	Heart disease	Benign neoplasms	Congenital anomalies	Heart disease	Heart disease
6	Influenza and pneumonia	Cerebrovascular diseases	Chronic lower respiratory disease	Congenital anomalies	Complicated pregnancy
7	Septicemia	Chronic lower respiratory disease	Heart disease	Influenza and pneumonia	Congenital anomalies
8	Benign neoplasms	Influenza and pneumonia	Influenza and pneumonia	Chronic lower respiratory disease	Diabetes mellitus
9	Cerebrovascular diseases	Five tied	Four tied	Complicated pregnancy	Cerebrovascular diseases
10	Chronic lower respiratory disease	Five tied	Four tied	Benign neoplasms	Chronic lower respiratory disease

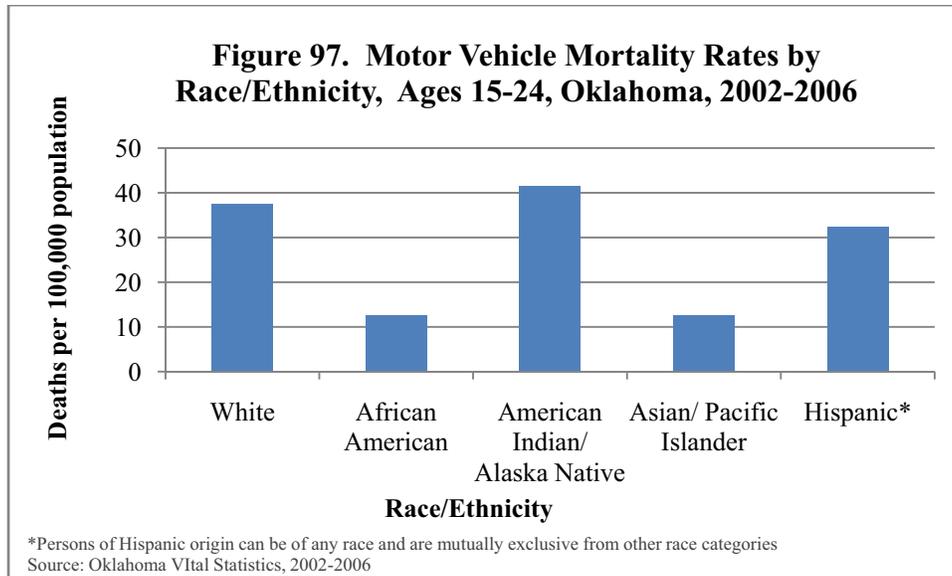
Source: CDC Wonder On-line Database

- **Motor Vehicle Mortality**

Unintentional injury, specifically injury due to motor vehicle crashes, is the leading cause of death among children and adolescents aged 1-24 in Oklahoma, accounting for two-thirds of all unintentional injury deaths and one-third of all deaths for that age-group. The motor vehicle mortality rate of 34.8 deaths per 100,000 population aged 15-24 from 2002-2006 was significantly higher than the Healthy People 2010 objective of 26.4 deaths per 100,000 population aged 15-24 (Figure 96). Males aged 15-24 were more than twice as likely as females aged 15-24 to die from motor vehicle crashes with motor vehicle mortality rates 47.5 and 21.2 deaths per 100,000 population, respectively.

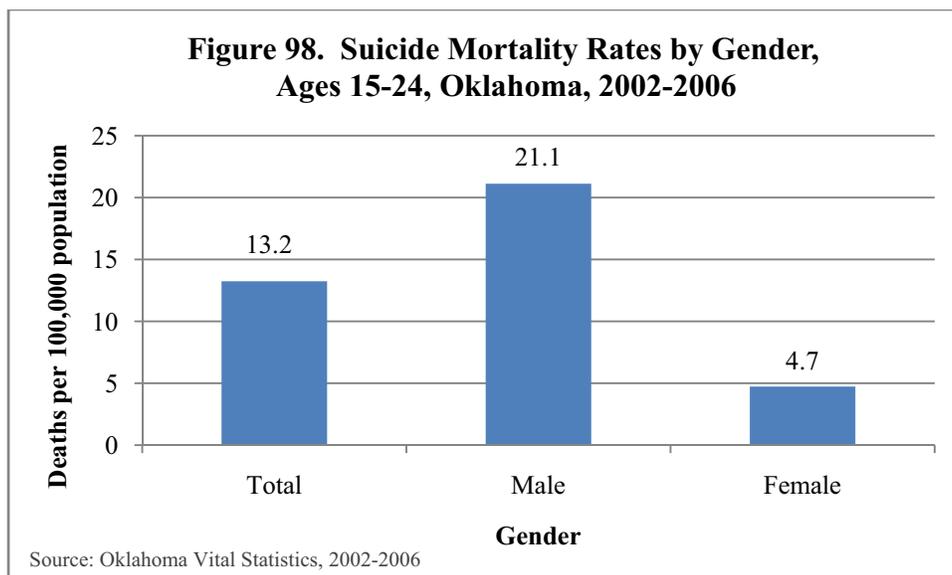


Significant differences were also observed among racial/ethnic groups (Figure 97). American Indian/Alaska Natives aged 15-24 had the highest motor vehicle mortality rate at 41.5 deaths per 100,000 population, followed by whites, Hispanics, African American/Blacks, and Asian/Pacific Islanders at 37.6, 32.3, 12.5, and 12.5 deaths per 100,000 population aged 15-24, respectively.

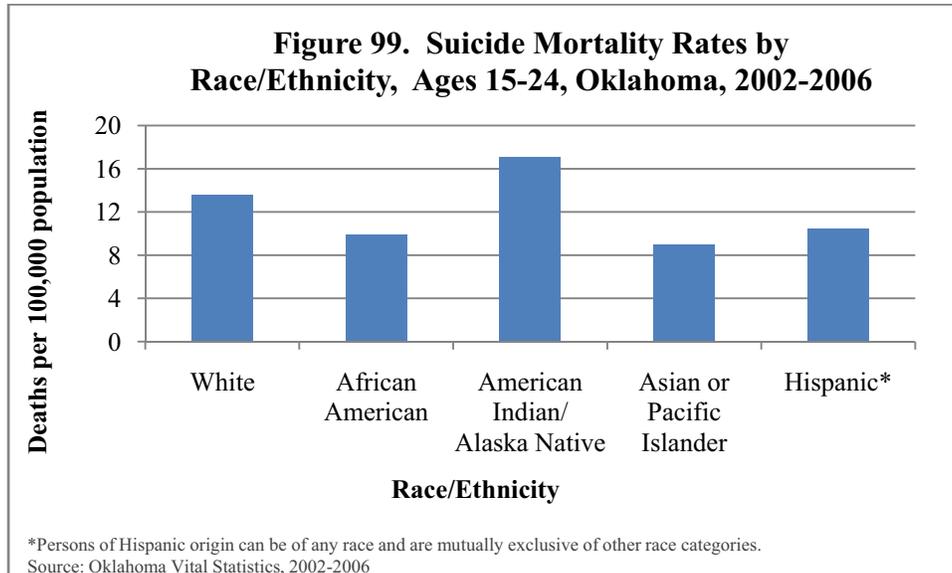


- **Suicide Mortality**

Data from the YRBS indicated that females had higher rates of suicide attempts, yet the mortality data show that males have higher completion rates. The Oklahoma Vital Statistics demonstrate suicide mortality rate for males aged 15-24 was more than four times that of females at 21.1 and 4.7 deaths per 100,000 population, respectively (Figure 98). Examining suicide methods used by gender, data indicate that 61% of suicide deaths to males were by discharge of firearms compared to 38% of females. This is only part of the explanation as there were still a high number of attempts by females but using a less effective method that does not result in a fatality. Looking at national non-fatal injury data from CDC WISQARS, the number two cause of non-fatal injury for females was self harm/poisoning whereas this method was the 4<sup>th</sup> leading cause of non-fatal injury for males [less than half the number of attempts (Centers for Disease Control and Prevention, 2010)].



Racial/ethnic disparities exist for suicide mortality rates as the American Indian/Alaska Native rate of 17.1 deaths per 100,000 population was 25% higher than the next closest rate of 13.6 for whites. While Asian/Pacific Islanders have the lowest suicide mortality rate, this rate should be interpreted with caution as it is based on small numbers (Figure 99).



### C. Children with Special Health Care Needs

In accordance with the MCHB definition of CSHCN, the OKDHS defines CSHCN as children who currently present or are more likely to present challenges due to physical, emotional, developmental, or behavioral needs.

Due to the inclusive nature of the definition of CSHCN, a wide range of children can be classified as CSHCN, making exact estimates of the numbers of CSHCN in Oklahoma difficult to attain. However, population estimates from multiple sources can help in presenting a portrait of CSHCN that best reflects reality. The 2005-2006 National Survey of Children with Special Health Care Needs (NS-CSHCN) estimates that approximately 13.9% of children below the age of 18 in the U.S. have special health care needs. In Oklahoma, a larger percentage of children are estimated to be CSHCN, 16.5% (The Child and Adolescent Health Measurement Initiative (CAHMI), 2005-2006). Based on the state population distribution and the estimated numbers of CSHCN, Sooner SUCCESS developed the following map to illustrate the possible distribution of CSHCN within Oklahoma. Greater numbers of CSHCN are expected to reside in counties with larger populations, e.g., Oklahoma County estimated at 29,769 and Tulsa County estimated at 25,169 (Figure 100).