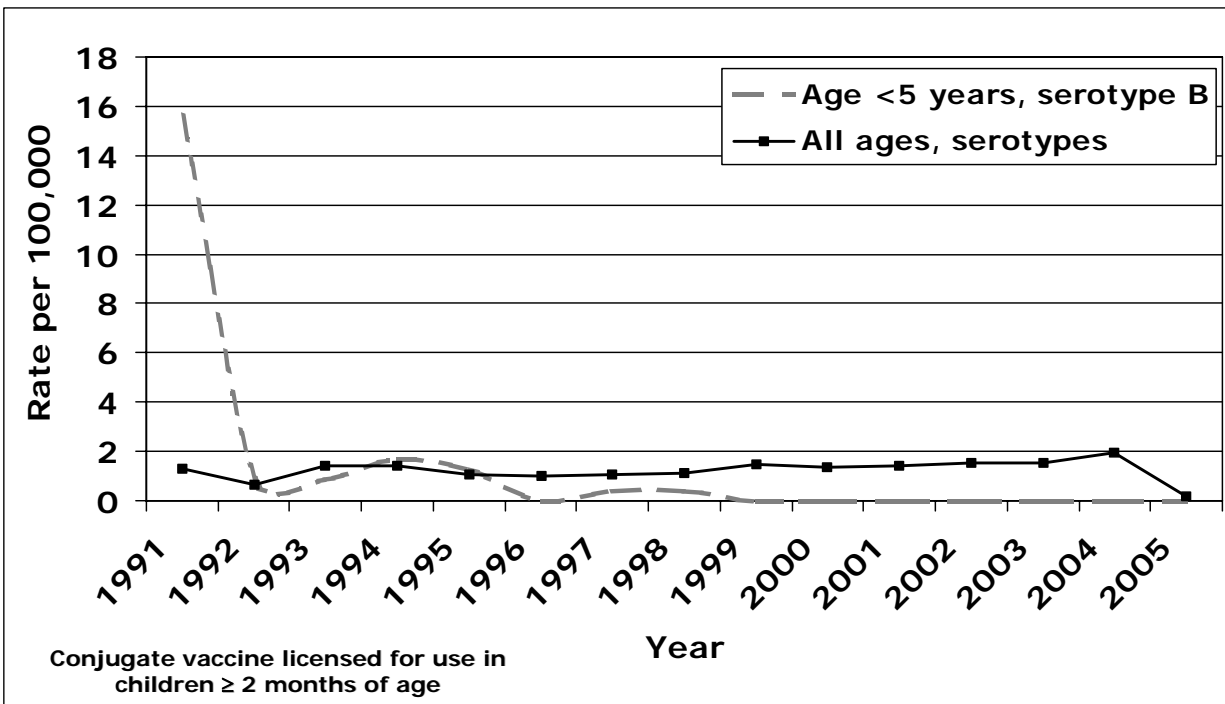


Meningitis / Septicemia

Rate of Reported *H. Influenzae* Cases, All Ages and Serotypes, and < 5 Years, Serotype B, Oklahoma, 1991 – 2005



Invasive *Haemophilus influenzae* Disease in Children Aged <5 Years

2005 Case Total 8
2004 Case Total 9

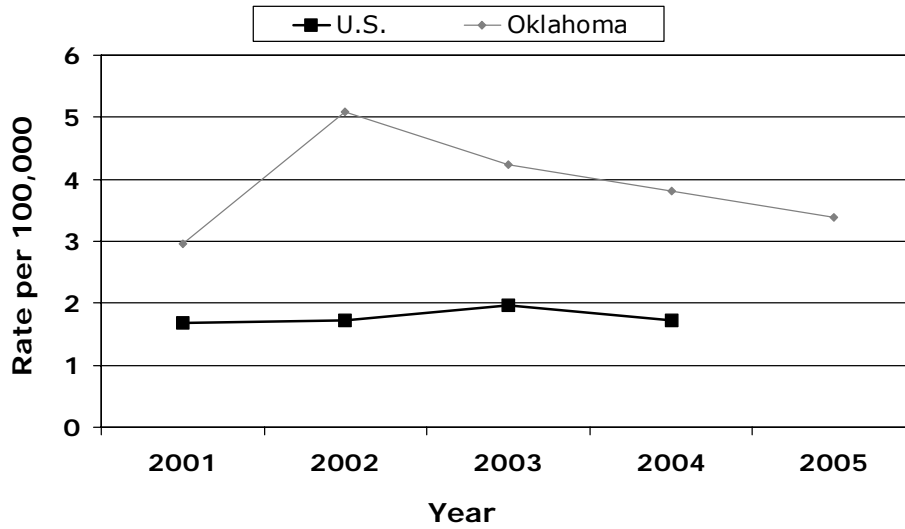
2005 Rate 3.38 per 100,000
2004 Rate 3.81 per 100,000

Eight cases of invasive *Haemophilus influenzae* disease in children aged <5 years were reported in 2005, an 11% decrease from 2004. Over the last ten years, the rate of invasive *Haemophilus influenzae* disease in children aged <5 years has fluctuated in Oklahoma. Since peaking in incidence in 2002 (see graph), rates of invasive *Haemophilus influenzae* disease in children aged <5 years in Oklahoma have been declining, but have still been higher than the national rates. National disease estimates for 2005 are not yet available.

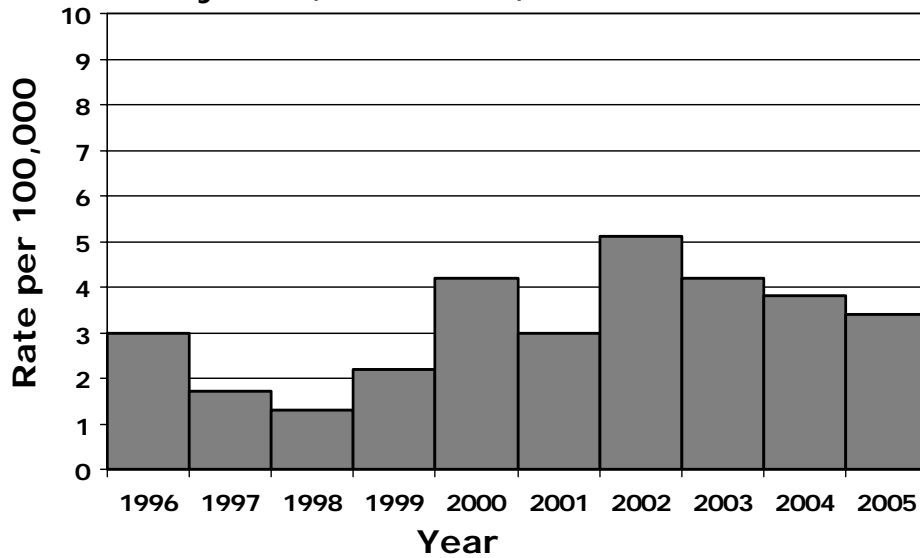
Seven cases (87.5%) of invasive *Haemophilus influenzae* disease in children aged <5 years occurred in females. Among racial groups, whites had the highest number of cases, at 6, followed by one case each in Asians and blacks. In 6 of 8 cases (75%), where Hispanic ethnicity was ascertained, none were Hispanic. Seven (87.5%) cases of invasive *Haemophilus influenzae* disease in children aged <5 years were hospitalized and no deaths were reported.

The occurrence of *H. influenzae* type b (Hib) in Oklahoma continues to remain low since the conjugated Hib vaccine became a required childhood immunization in Oklahoma in the late 1980s. The last case of Hib in a child less than five years of age was in 1998. Laboratories in Oklahoma are required to submit sterile-site isolates of *H. influenzae* to the OSDH-PHL for confirmation and serotyping. Isolates were submitted for all 8 cases of invasive *Haemophilus influenzae* disease from children aged <5 years in 2005; all 8 isolates (100%) were nontypeable.

***H. influenzae* Invasive Disease Cases in Children <5 Years of Age Incidence Rate by Year, Oklahoma and U.S., 2005**



Rate of Reported *H. influenzae* Invasive Disease Cases in Children <5 Years of Age by Year, Oklahoma, 1996-2005



Invasive Group A Streptococcus

2005 Case Total 132
2004 Case Total 73

2005 Rate 3.83 per 100,000
2004 Rate 2.12 per 100,000

Invasive Group A Streptococcus was added to the Oklahoma reportable disease list in June of 2000. One hundred thirty-two cases of invasive *S. pyogenes* (3.83 cases per 100,000) were reported in 2005, a 31% increase from the previous year. Since it became reportable four years ago, the average number of cases has been 69 cases per year. No outbreaks, geographic clusters, or other trends were identified.

Occurrence of reported cases by gender was fairly evenly distributed with 68 cases reported among females (51.6%) and 64 cases among males (48.5%). The ages of cases ranged from five months to 92 years, with a median age of 53 years. Sixteen cases (12.12%) occurred in children under 10 years of age, and 52 (39.4%) occurred in persons over age 60. The youngest and older age groups had the highest observed rates of Group A *Strep* invasive disease. The rate of disease among infants less than one year was 6.31 per 100,000 and the rate among persons 70 years old or older was 11.6 per 100,000.

The highest rate of disease occurred among persons that reported their racial background as black with a rate of 6.51 cases per 100,000 population (17 cases), followed closely by American Indians at 4.39 (12 cases) and whites at 3.50 per 100,000 (92 cases). Persons reporting their race as Asian resulted in a race-specific rate of 2.14 per 100,000 (1 case).

Cases were identified in 30 counties across the state with the greatest number of cases occurring in Tulsa (40 cases, 30.3%) and Oklahoma (30 cases, 22.7%) counties. One hundred thirty-one patients' hospitalization status was reported, and of those, 109 (82.21%) were confirmed to have been hospitalized. Of the 127 cases whose outcomes were confirmed, 20 (15.2%) died. Of those who died, 15 (75%) were age 60 or older.

Invasive group A streptococcal infections may manifest as several clinical syndromes, including: pneumonia, bacteremia in association with cutaneous infection (e.g., cellulitis, erysipelas, or infection of a surgical or nonsurgical wound), deep soft-tissue infection (e.g., myositis or necrotizing fasciitis), meningitis, peritonitis, osteomyelitis, septic arthritis, postpartum sepsis (i.e., puerperal fever), neonatal sepsis, and nonfocal bacteremia. The majority of cases were identified through blood cultures (125, 94.7%).

Ten cases of necrotizing fasciitis were identified during this year, and three of those cases expired. The age range of patients with necrotizing fasciitis was 31 to 88 years with a median of 43 years. Of those who died, one had a >10 year history of stroke with hemiplegia and resided in a nursing home (upper extremity site), one had a history of alcoholism with liver damage and refused treatment (lower extremity site) and the third was a patient with a history of alcoholism who did not seek medical attention and was found having expired (lower extremity site).

Invasive *Streptococcus pneumoniae*

2005 Case Total 700
2004 Case Total 573

2005 Rate 20.3 per 100,000
2004 Rate 16.6 per 100,000

Invasive *Streptococcus pneumoniae* was added to the reportable disease list in Oklahoma in June 2000. All *S. pneumoniae* isolates from a normally sterile site (e.g., blood, cerebrospinal fluid, or, less commonly, joint, pleural, or pericardial fluid) reported to the OSDH-CDD are included in this category. Seven hundred cases were reported in 2005 representing an 18% increase compared to the number of cases reported in 2004. The overall incidence rate in Oklahoma was 20.3 cases per 100,000 population. Six hundred and sixty three cases (94.7%) were confirmed by blood cultures, 22 (3.1%) were confirmed by cerebrospinal fluid cultures. Other cases were confirmed by cultures of pleural fluid, peritoneal fluid and joint aspirate. Cases occurred among residents of 63 counties (82%). Cases were most frequently reported among residents of Oklahoma (174 cases; 26.3 per 100,000), Tulsa (132 cases; 23.4 per 100,000), and Cleveland (37 cases; 17.8 per 100,000) counties.

The reported number of cases by month of symptom onset illustrated a seasonal trend where invasive *S. pneumoniae* cases increased during the winter months. In 2005, invasive *S. pneumoniae* reports peaked in December with 113 cases (16.1%). In 2005, cases ranged in age from 1 day to 98 years with a median age of 59 years. The highest age-specific incidence rates were observed among adults greater than or equal to 65 years (67.9 per 100,000) and in children <1 year (31.6 per 100,000). In children <5 years, the rate was 20.31 per 100,000. Incidence rates were similar between males and females (20.8 and 19.5 per 100,000 population, respectively). Age-specific rates revealed a higher incidence among males than females in all age groups except those persons 10-19 years of age.

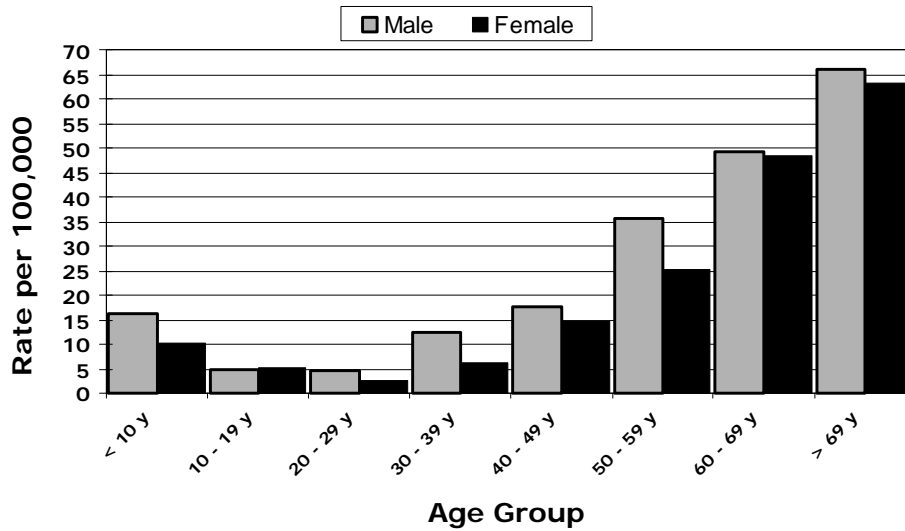
The highest number of cases occurred in whites (79.4%), but the highest rate of *S. pneumoniae* was reported among blacks at 22.6 cases per 100,000. The rate of reported *S. pneumoniae* cases were: white at 21.5 cases per 100,000, American Indians at 13.2 per 100,000, and Asian at 2.1 cases per 100,000. Five hundred and ninety seven cases (85%) were hospitalized; 76 cases died due to invasive *S. pneumoniae* resulting in a case fatality rate of 10.8%. Two hundred and sixty-nine cases (38.4%) and 40 deaths (53%) occurred among persons who were 65 years of age or older.

Two vaccines are available to prevent Pneumococcal disease. The ACIP recommends the pneumococcal polysaccharide vaccine for all adults who are ≥ 65 years and for persons ≥ 2 years at high risk for disease such as persons with chronic illness, asplenia, HIV infection, or other immunocompromising conditions (MMWR 1997;46 [No. RR-8]). The pneumococcal conjugate vaccine is indicated for infants and toddlers and recommended for all children aged 2-23 months and for children aged 24-59 months who are at increased risk for pneumococcal disease (MMWR 2000;49 [No. RR-9]).

Hospitalizations and Deaths of Reported Invasive *Streptococcus pneumoniae* Cases by Age Group, 2004-2005, Oklahoma

Age Group	Hospitalized				Died due to Invasive <i>Streptococcus pneumoniae</i>			
	2004		2005		2004		2005	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than 10 years	48/72	67	47/64	73	3/72	4	2/64	3
10 – 19 years	10/13	77	19/26	73	0/13	--	1/26	4
20 – 29 years	18/19	95	15/18	83	0/19	--	1/18	6
30 – 39 years	30/37	81	37/46	80	3/37	8	7/46	15
40 – 49 years	80/92	87	69/81	85	4/92	4	9/81	11
50 – 59 years	81/89	91	99/117	85	8/89	9	8/117	7
60 – 69 years	72/76	95	120/133	90	10/76	13	12/133	9
Greater than or equal to 70 years	163/170	96	189/213	89	21/170	12	36/213	17
Total	504/572	88	595/698	85	49/572	9	76/698	11

Rate of Reported Invasive *Streptococcus pneumoniae* Cases by Age Group and Gender, Oklahoma, 2005



Meningococcal Disease

2005 Case Total 20
2004 Case Total 10

2005 Rate 0.58 per 100,000
2004 Rate 0.29 per 100,000

Twenty cases of invasive meningococcal disease were reported in 2005, a 100% increase from 2004. Over the last ten years, the rate of meningococcal disease has fluctuated from year to year in Oklahoma. Except for a large drop in incidence in 1999 (see graph), rates in Oklahoma have been somewhat higher than the national average, while following a general downward trend. National disease estimates for 2004-2005 are not yet available.

Eight cases of meningococcal disease (40%) occurred in females and 12 (60%) occurred in males. Among racial groups, blacks had the highest rate of disease, at 1.15 per 100,000, a finding that has been observed consistently in previous years. Whites had the second highest rate of disease, followed by 0.61 per 100,000, followed by Native Americans, at 0.37 per 100,000. No Asians with meningococcal disease were reported to OSDH in 2005. Ascertainment of Hispanic ethnicity was achieved in 13 of 20 cases (65%). Hispanic ethnicity was ascertained for 13 cases and one case was Hispanic. The rate of disease in those with known Hispanic ethnicity is calculated at 0.56 per 100,000, although the true rate is unknown due to incomplete ascertainment of ethnicity among cases. The case fatality rate was 20% (n=4). Nationally, approximately 13% of cases of meningococcal disease are fatal; 97% or more of cases are sporadic, meaning they are not associated with any other cases.

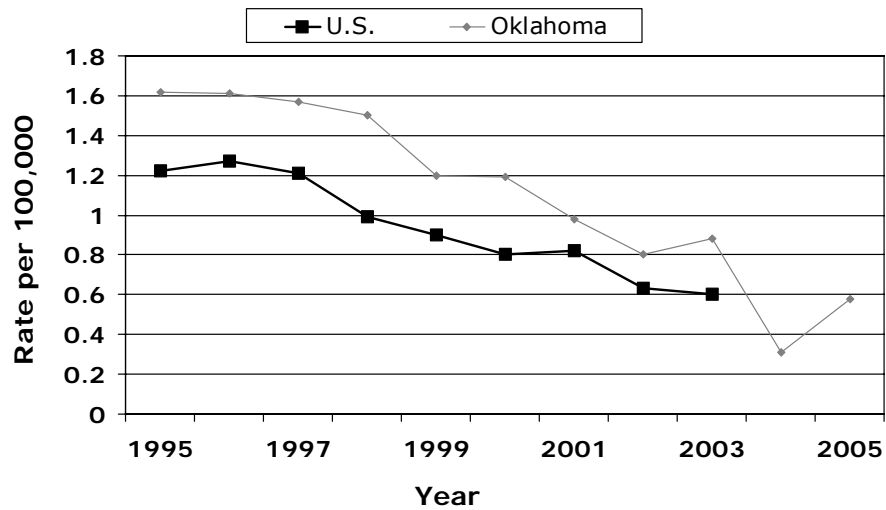
A public health investigation is conducted on each reported case by the county health department CDN. The CDN gathers information in risk factors for disease, locates contacts at risk and recommends prophylaxis. No secondary cases or clusters were noted among case contacts or by county of residence.

Meningococcal disease predominantly affects the very young. In 2005, age at onset ranged from 1 month to 74 years, with a median age of 3 years. Thirty percent of cases occurred in those under 1 year of age. The rate of disease in persons 0-4 years was 5.08 per 100,000, a rate nearly three times higher than that among persons 70-74 years (1.76 per 100,000), the next highest rate. This is in keeping with the historical trend, in which the incidence of meningococcal disease plotted by age follows a U-shaped curve.

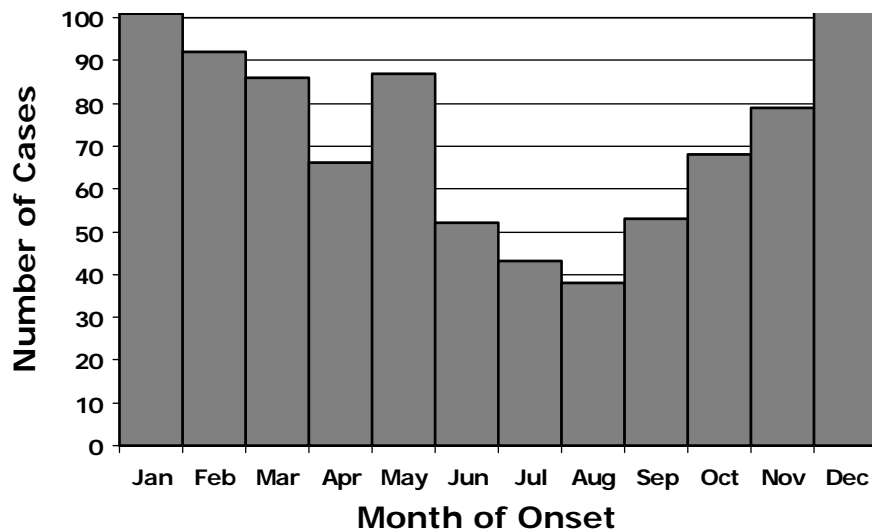
Cases of meningococcal disease occurred in 8 of 12 months in 2005. No pattern was noted in their distribution. When yearly historical data is aggregated for the month of onset of disease in Oklahoma, more cases are found to occur in the winter months. An analysis of the cumulative number of cases 1978-2005 (885 cases, see graph) reveals that the highest number of cases occurred in December with 120 cases, (13.6%), and the fewest in August with 38 cases, (4.4%). Reasons for the increased number of cases seen in May are not known.

Laboratories in Oklahoma are required to submit sterile-site isolates of *N. meningitidis* to the OSDH-PHL for confirmation and serogroup typing. Isolates were submitted for 16 of 20 cases in 2005 of which six isolates (33.3%) were not groupable, one was serogroup A, four were serogroup B, two were serogroup C, and three were serogroup Y.

Rate of Meningococcal Disease per 100,000, 1995-2005, U.S. and Oklahoma



Reported Number of Meningococcal Disease Cases by Month, Oklahoma, 1978-2005



Listeriosis

2005 Case Total 4
2004 Case Total 4

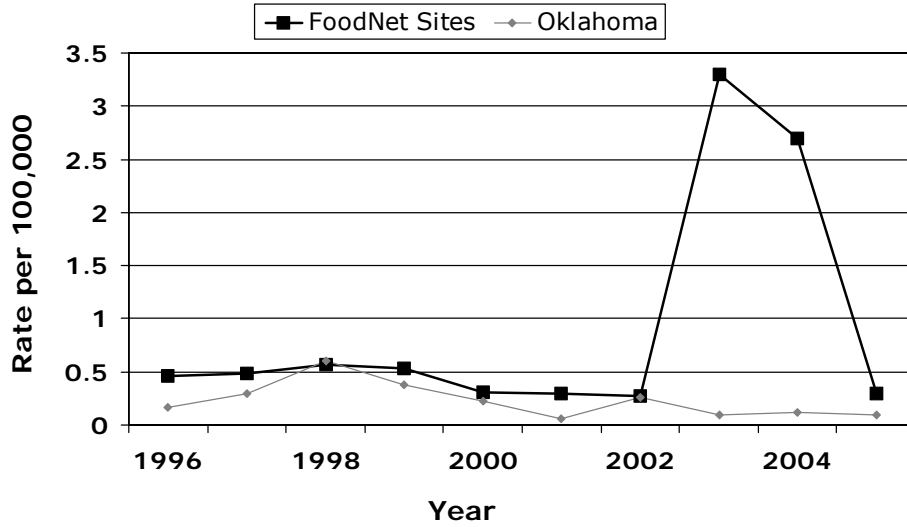
2005 Rate 0.12 per 100,000
2004 Rate 0.12 per 100,000

Listeriosis is an uncommon but serious infection caused by the bacteria *Listeria monocytogenes*. Although it only produces approximately 2,500 of the estimated 76 million foodborne illnesses each year in the U.S., the burden of invasive infections and deaths as a result of listeriosis are an important public health problem. Pregnant women are about 20 times more likely than healthy adults to get the disease. Approximately one-third of cases occur among this group. Listeriosis is a special concern for pregnant women, because the infection can be passed to the fetus and in some cases cause premature delivery, infection of the newborn, or stillbirth. Newborns, rather than the mothers, suffer the serious effects of infection during pregnancy; the case-fatality rate is 20% in infants born alive and the occurrence of abortion and stillbirth increases the overall mortality rate to more than 50%. Other specific groups at increased risk include persons infected with HIV, cancer, liver disease, diabetes, those who take glucocorticosteroid medications, and the elderly. Healthy adults and children rarely become seriously ill from listeriosis.

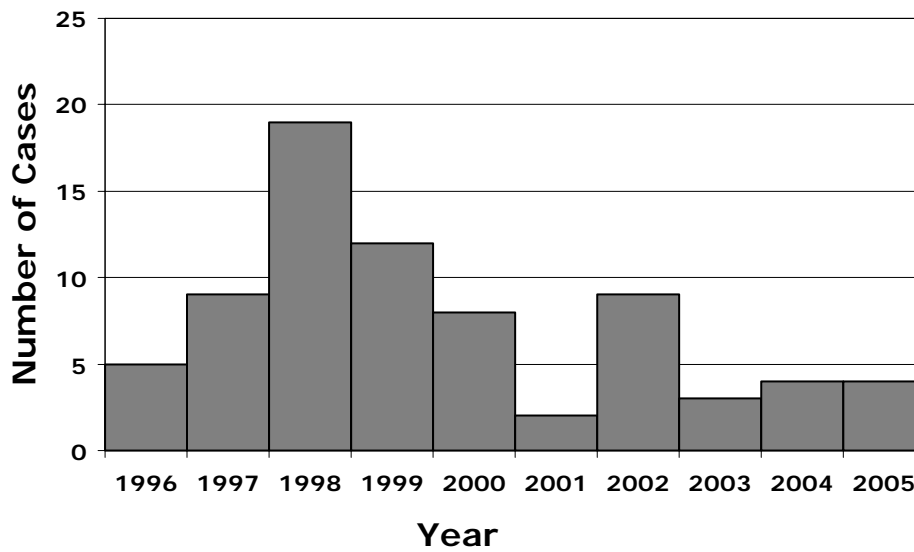
In Oklahoma, listeriosis became a reportable disease in 2000. Four cases were reported in 2005 resulting in an incidence rate of 0.12 per 100,000 population. The incidence rate of reported cases in 2005 is similar to the previous five-year (2000 – 2004) incidence rate of 0.15 per 100,000 population. Three cases reported their racial background as white (75%) and one reported their race as American Indian (25%). Three cases were female (75%). Cases ranged in age from 49 to 82 years with a median age of 55 years. No cases died due to listeriosis in 2005, however, three (60%) cases required hospitalization. *Listeria* was isolated from blood for three cases (75%) with the remaining identified by isolation of the organism from cerebrospinal fluid.

Most cases of listeriosis are sporadic, however, outbreaks due to consumption of contaminated food have occurred. Prompt reporting of cases can help in the early detection of an outbreak, identify the sources of infection, and prevent additional cases. The Communicable Disease Reporting Rules (OAC 310: Chapter 515) require that *Listeria* isolates grown from sterile sites (e.g. blood and cerebrospinal fluid) be sent to the OSDH-PHL for confirmation and identification.

Listeriosis Incidence Rate by Year, Oklahoma and FoodNet Sites, 1996 - 2005

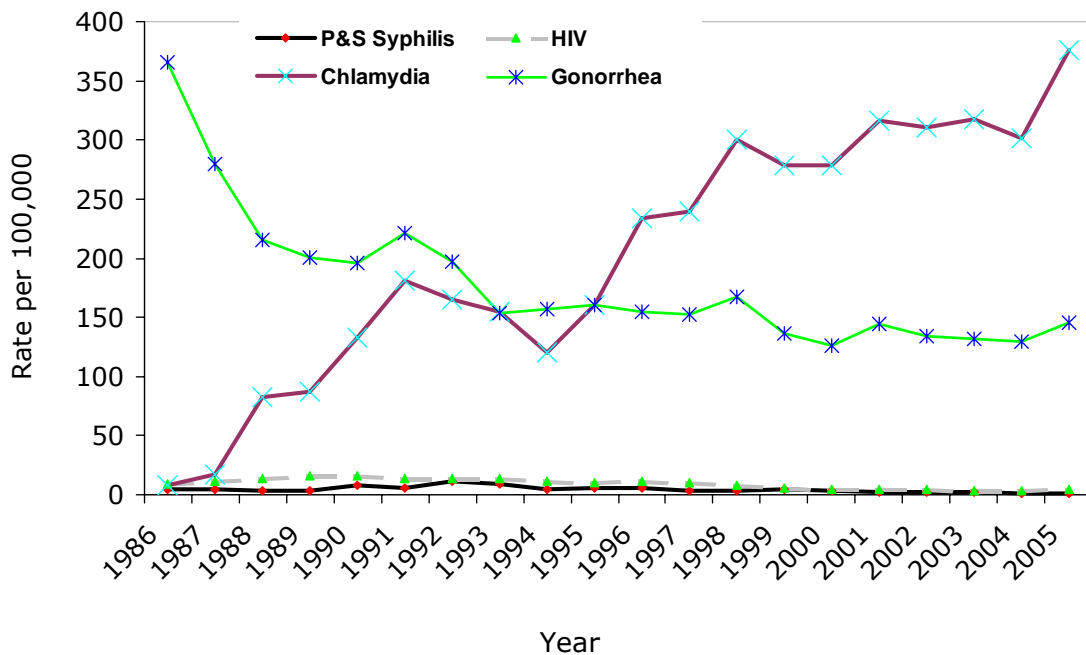


Reported Number of Listeriosis Cases by Year, Oklahoma, 1996-2005



Sexually Transmitted Infections

Rate of Reported Sexually Transmitted Diseases by Year, Oklahoma, 1986 - 2005



HIV/AIDS

2005 Case Total 306
2004 Case Total 223

2005 Rate 8.9 per 100,000
2004 Rate 6.5 per 100,000

AIDS was first reported in the U.S. in 1981. In Oklahoma, AIDS as a syndrome, became reportable in 1983 and HIV infection in 1988. The term AIDS applies to the most advanced stage of HIV infection. AIDS is defined as an HIV-infected person who has fewer than 200 CD₄ positive T-lymphocytes cells (abbreviated CD₄+ T cells) per cubic milliliter of blood, and/or any of 26 clinical conditions that affect people with compromised immune systems. An estimated 40,000 Americans become infected with HIV every year, and many of these are young persons under the age of 25. African American men and women are among the disproportionately affected populations in the U.S. Even though African Americans make up only approximately 13% of the U.S. population, one half of the estimated new numbers of HIV/AIDS diagnoses in the U.S. are African Americans in this country and more than a third of AIDS deaths to date. Women also remain a particularly vulnerable population, accounting for 29% of all HIV diagnoses in 2004.

At the end of 2004, an estimated 1,147,697 HIV or AIDS cases had been diagnosed in the U.S. and reported to the CDC. Approximately 40,000 AIDS cases have been diagnosed annually. The majority of AIDS cases continue to occur among males; however, the proportion of all AIDS cases increased from 15% (1981-1995) to 27% (2001-2004) for females. Among age groups, the proportion of all AIDS cases decreased from 1.4% (1981-1995) to 0.2% (2001-2004) for persons aged <13 years. In 2004, the estimated number of diagnoses of AIDS in the U.S. was 42,514. Adult and adolescent AIDS cases totaled 42,466 with 31,024 cases in males and 11,442 cases in females. Also in 2004, there were 48 AIDS cases estimated in children under age 13. An estimated one-quarter of people in the U.S. living with HIV do not know that they are infected.

Between 1983 and 1990, the yearly number of newly diagnosed HIV/AIDS cases increased from 2 to 529. From 1991, there was a decline in the number of reported cases. In 2004, there were 223 cases reported, however, in 2005, there was an increase of 37% (83) in the number of newly diagnosed HIV/AIDS cases in Oklahoma. While new cases of AIDS and case mortality rates have declined in Oklahoma and the U.S., the cumulative number of people living with HIV/AIDS has increased since 1999 due in part to Highly Active Antiretroviral Therapy (HAART). Of the 7,459 HIV/AIDS cases reported in Oklahoma between 1983 and 2005, 3,025 (41%) of these patients are known to be deceased. The case mortality rate has declined from 93% in 1983 to 4% in 2005. The national average for HIV cases ranked Oklahoma 26th in 2004 with a rate of 3.6 per 100,000.

As of December 2005, 5,051 (68%) infections have been diagnosed in whites, 1,492 (20%) infections have been diagnosed in blacks, 494 (7%) infections have been diagnosed in American Indian, and 349 (5%) infections have been diagnosed in Hispanic (non-black). MSM accounted for 4,000 cases (54%) and men that reported MSM and injection drug use accounted for 844 (11%). Twelve percent or

888 cases reported a history of injecting drugs as their only risk factor. There were 63 cases of pediatric transmission, of which 41 (65%) were from perinatal HIV exposures (mother with HIV infection).

Among the age groups, the 30-39 year olds accounted for 3,185 (43%) cases; 20-29 year olds accounted for 1,884 (25%) cases; and, 40-49 year olds accounted for 1,563 (21%) cases. Of the 306 HIV or AIDS cases reported in 2005, 260 (85%) were males and 46 (15%) were females. According to racial background and ethnicity, there were 164 (54%) cases among persons who reported their race as white with a rate of 6.2 per 100,000 population and 87 cases (28%) reported their racial background as black with a rate of 33.3 per 100,000 population.

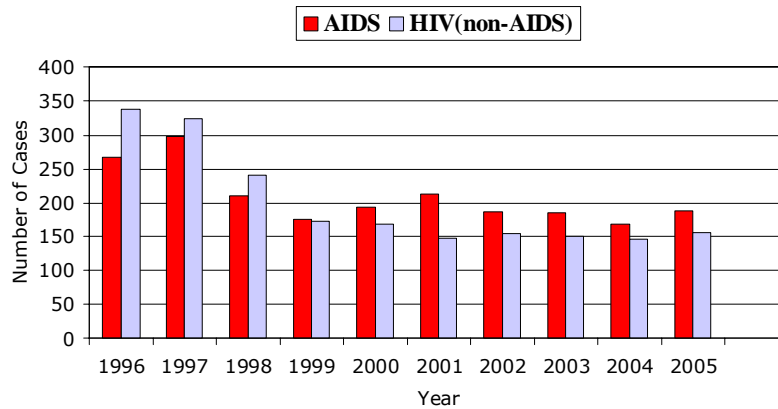
Within the age groups, 90 cases (29%) were reported among persons in the 20-29 year old group with an age-specific rate of 18.9 per 100,000 population. The second highest rate was observed in the 30-39 year old group with 90 cases and a rate of 18.7 per 100,000 population. There were 8 diagnosed cases in the 13-19 year old group at a rate of 2.2 per 100,000 population. The rate of infection was 15.3 per 100,000 population among males and 2.6 per 100,000 population among females. Among male infections, 141 (54%) of the 260 diagnosed cases were reported as MSM. Heterosexual contact was the major mode of exposure reported by females with 19 (41%) cases.

In late 2004, the CDC initiated the HIV incidence surveillance system to focus on new HIV infections. The goal is to provide national and regional HIV incidence estimations using a population-based serologic method to detect recent HIV-1 infection. The use of optimal surveillance methods will incorporate the serologic testing algorithm for recent HIV sero-conversion (STARHS) into routine HIV incidence surveillance activities. STARHS will be applied to diagnostic HIV serum specimens to identify individuals who have a reasonable probability of recent HIV infection (using a detuned assay) and by collecting HIV testing history data from individuals with newly diagnosed HIV infection. A statistical model will then be applied to the number of new infections in regional surveillance areas and nationally to provide HIV incidence data to assist local HIV prevention program planning and evaluation. Oklahoma implemented the HIV Incidence Surveillance system in 2005. National data will be available from CDC soon.

Of the 231 HIV/AIDS cases reported in 2004, 194 (84%) were males with a rate of 11.4 per 100,000 population and 37 (16%) were females with a rate of 2.1 per 100,000 population. According to racial background and ethnicity, there were 141 cases (61%) reported as white with a rate of 5.4 per 100,000 population, compared to 49 (21%) cases among blacks with a rate of 18.8 per 100,000 population. Among the age groups, 86 cases (42%) were reported in the 30 to 39 year old group with a rate of 17.9 per 100,000 population. Twenty-seven percent or 63 cases were reported in the 20-29 year old group with a rate of 13.2 per 100,000 population. There were 7 cases (3%) reported in the 13-19 year old category with a rate of 1.9 per 100,000 population. Fifty seven percent or 110 of the diagnosed cases in males (194 cases) were reported with risk of MSM. Heterosexual contact

with an at-risk partner was the main exposure risk for females with 13 (35%) of the cases (37 cases) reporting this exposure category.

Diagnosed Number of HIV/AIDS Cases by Year, Oklahoma, 1996 - 2005



Rate of Reported HIV/AIDS* Cases by Age Group, 2004 - 2005, Oklahoma

Age Group	2004, Rate per 100,000	2005, Rate per 100,000
Under 5 Years	0.4	0.4
5-12 Years	0.0	0.0
13-19 Years	2.2	2.2
20-29 Years	12.6	18.7
30-39 Years	16.8	18.5
40-49 Years	9.7	17.0
Over 49 Years	2.4	3.4

*HIV/AIDS include HIV or AIDS diagnosis; not both

Diagnosed Number of HIV Infections and AIDS Cases by Mode of Transmission, Oklahoma, 1982-2005

Adult/Adolescent Exposure	Oklahoma HIV						Oklahoma AIDS					
	Jan 05 - Dec 05		Jan 04 - Dec 04		Cumulative Total		Jan 05 - Dec 05		Jan 04 - Dec 04		Cumulative Total	
	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)	Number	(%)
Men who have Sex with Men (MSM)	85	45	63	50	1,230	48	61	39	67	44	2,520	57
Injection Drug Use (IDU)	16	9	15	12	318	13	18	11	17	11	511	12
MSM & IDU	11	6	11	9	236	9	16	10	13	9	537	12
Hemophilia/Clotting Disorder	0	0	0	0	10	0	0	0	0	0	41	1
Heterosexual Contact	20	11	14	11	276	11	19	12	25	17	353	8
Receipt of Blood Transfusion, Component, or Tissue	0	0	0	0	27	1	1	1	2	1	70	2
Risk Not Identified/Other	55	29	22	18	446	18	42	27	27	18	360	8
Adult/Adolescent Subtotal	187	100	125	100	2,543	100	157	100	151	100	4,392	100
Pediatric (<13 Years) Exposure												
Hemophilia/Clotting Disorder	0	0	0	0	4	14	0	0	0	0	12	39
Mother With/At Risk for HIV Infection	1	100	1	100	22	76	0	0	0	0	17	55
Receipt of Blood Transfusion, Component, or Tissue	0	0	0	0	0	0	0	0	0	0	1	3
Risk Not Identified	0	0	0	0	3	10	0	0	0	0	1	3
Pediatric Subtotal	1	100	1	100	29	100	0	0	0	0	31	100
Total	188	100	126	100	2,572	100	157	100	151	100	4,423	100

Chlamydia

2005 Case Total 12,957

2004 Case Total 10,371

2005 Rate 375.5 per 100,000

2004 Rate 300.6 per 100,000

Chlamydia is a common STD caused by the bacterium *Chlamydia trachomatis*. It is the most prevalent STD in Oklahoma. Although symptoms of Chlamydia are usually mild or absent, serious complications that cause irreversible damage can develop "silently" before a patient ever recognizes a problem. In women, chlamydia can cause pelvic inflammatory disease, ectopic pregnancy, chronic pain, and/or infertility. However, up to 70% of women with chlamydia are asymptomatic. In addition, a pregnant woman infected with chlamydia can transmit the infection to her baby's eyes during a vaginal birth. The resulting ophthalmic infection can ultimately result in the infant's blindness. Men infected with chlamydia may have penile discharge while about 1%-25% of men infected are asymptomatic. Possible complications of male infections include epididymitis, infertility, and Reiter syndrome (reactive arthritis). In men, receptive anorectal intercourse may result in chlamydial proctitis.

Oklahoma mandated chlamydia reporting in 1988, when 2,714 cases were reported. The number of cases reported to the OSDH in 2005 increased by 24.9% from the previous year - from 10,371 in 2004 to 12,957 in 2005. About 10,195 (79%) of the reported cases were in females and 2,762 (21%) of cases were in males, for a female-to-male ratio of 4:1. The larger infected female population is largely a direct reflection of screening priorities. Due to funding restrictions, the screening program has been mostly directed toward females. The infected male population consists of clients of county health department STD clinics, partners of positive females identified through Family Planning and Maternity Clinics, and males tested by private health care providers.

Of the chlamydia cases reported in 2005, 4,308 (33%) patients reported their race as African-American with a rate of 1,650.8 per 100,000 population. Among these, 71% were females with a rate of 2,321.4 per 100,000, while 29% were males with a rate of 964.1 per 100,000. By comparison, 1,360 cases were reported in Native Americans at a rate of 497.8 per 100,000, and 6,087 cases among Caucasians at a rate of 231.6 per 100,000.

Of the cases reported in 2005 and 2004, 76.7% and 81% were reported in persons between the ages of 15 and 24 years old, respectively. In 2005, female young adults (20-24 years) were the greatest at risk of infection with 4,057 cases at a rate of 2,107.5 per 100,000 followed by female adolescents (15-19 years) with 4,062 cases at a rate of 1,756.7 per 100,000. There is a pronounced racial disparity among 15-19 year-old females. The incident rate in this age group was 13,984 per 100,000 among African-American females, compared to 2,206.5 per 100,000 among Caucasian females.

Comanche County reported the highest rates in 2004 and 2005 at 669.6 and 673.9 per 100,000, respectively. Other high morbidity counties are Cherokee, Harmon,

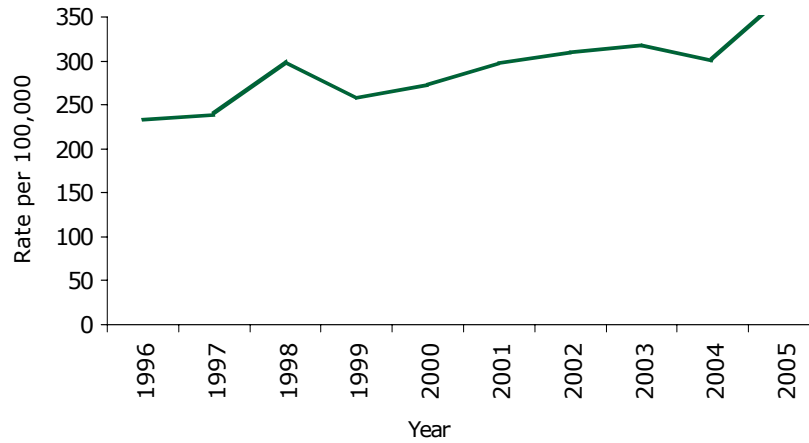
Muskogee, and Oklahoma counties. In 2005, about 51 of the 77 counties had infection rates greater than 200.0 per 100,000.

Three activities initiated in 1994 dramatically increased the number of identified and reported cases of chlamydia:

1. In 1994, the CDC increased federal funding for chlamydia screening in selected county health department STD, Family Planning and Maternity Clinics. As a result, 3,784 cases were reported in 1994. As additional funding became available in late 1996, all 69 county health departments in Oklahoma initiated active screening programs.
2. In 1994, the OSDH-PHL began using amplified testing instead of the benchmark culture test. The greater sensitivity of the test permitted the use of specimens other than endocervical swabs for women and urethral swabs for men. The amplified test is the only assay with urine specimen sensitivity equivalent to swab specimen.
3. In 1994, the HIV/STD Service initiated active surveillance for Chlamydia.

In 2002, the HIV/STD Service began providing chlamydia kits to juvenile detection centers in an effort to provide counseling and treatment to infected juveniles and reduce infertility outcomes among them. There was a dramatic increase in the number of cases detected among juveniles due to this additional screening. As a result of these activities, the number of cases reported to the OSDH increased from 3,784 diagnosed cases in 1994 to 12,957 cases in 2005. In 2004, Oklahoma ranked 29th nationally with an infection rate of 295.2 per 100,000, below the national average of 319.6 per 100,000.

**Rate of Reported Chlamydia Cases by Year,
Oklahoma, 1996 - 2005**



**Rate per 100,000 of Reported Chlamydia
Cases by Age Group, 2004 – 2005,
Oklahoma**

Age Group	2004, Rate per 100,000	2005, Rate per 100,000
Less than 10 Years	1.7	3.5
10-14 Years	61.1	76.2
15-19 Years	1459.7	1756.7
20-24 Years	1706.1	2109.5
25-29 Years	569.8	771.1
30-34 Years	190.5	281.6
35-39 Years	67.1	52.1
40-44 Years	31.8	34.8
45-49 Years	19.5	23.7
Greater than 49 Years	2.6	4.1

Gonorrhea

2005 Case Total 5,031
2004 Case Total 4,543

2005 Rate 145.8 per 100,000
2004 Rate 129.1 per 100,000

Gonorrhea is the second most prevalent sexually transmitted disease reported in Oklahoma after Chlamydia. Gonorrhea is caused by *Neisseria gonorrhoeae*, a bacterium that can grow and multiply in warm, moist areas of the reproductive tract, mouth, throat, eyes, and anus. In women, gonorrhea can result in pelvic inflammatory disease, ectopic pregnancy, cervicitis, and eventual infertility. In addition, pregnant women infected with gonorrhea can also infect their unborn babies through the amniotic fluid or during birth. In men, this infection most often result in purulent urethral discharge, dysuria and can cause infertility.

Four thousand seven hundred fifteen cases of gonorrhea were reported in Oklahoma in 1943. Reports increased until 1982 with 14,529 cases. Since then, the number of cases reported has steadily declined to 4,454 in 2004. However, recently in 2005, the number of cases reported was increased by 13% to 5,031 cases. Of the 5,031 infections of gonorrhea diagnosed in 2005, 3,009 cases (60%) were black, 465 cases (29%) were white. According to gender, a rate of 1,157.2 per 100,000 population was reported among black males compared to 35.5 per 100,000 among white males.

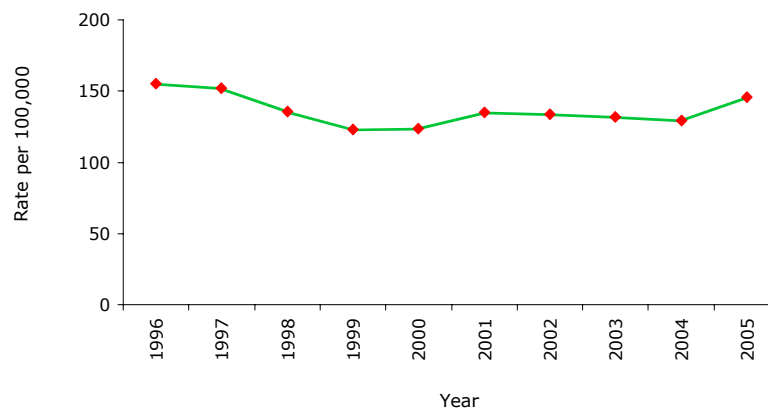
The trend of higher morbidity in blacks has continued since testing began in 1943. A breakdown of gender by race showed that 69.5% of the 2,148 infections among males occurred among black males with a rate of 1,157.2 cases per 100,000. Comparatively, 52.6% of the 2,883 infections among females occurred among black females with a rate of 1,149.0 cases per 100,000. In 2005, the age-specific prevalence rate of gonorrhea in the 15-19 year old black population was 338.4 per 100,000, compared to 16.2 per 100,000 in the 15-19 year old white population. Among this age group in 2005, the racial impact was more evident by analysis of race and gender where the data showed a black to white male infection rate ratio of 32:1 in the 15-19 year old age group. Among the females in this same age group, the infection rate ratio of black to white was 12:1. The distribution of infection among the 20-24 year old age group followed the same trend but at a lower rate ratio.

Comanche, Oklahoma, and Tulsa counties reported the highest rates of gonorrhea at 346.1, 325.7, and 195.8 per 100,000, respectively. For the state as a whole, the prevalence rate increased by 12.9% from 129.1 per 100,000 in 2004 to 145.8 per 100,000 in 2005.

In 1994, an increase in federal funding allowed for routine gonorrhea screening in various county health department STD, Family Planning, and Maternity Clinics. This funding was also made available to contracted community-based organizations. That same year, the OSDH Infertility Prevention Screening Project reported 2,624 cases of gonorrhea. All 69 county health departments began to screen for gonorrhea in late 1996, when additional funding became available. In 2005, the

OSDH Infertility Prevention project screened 65,535 clients for gonorrhea, an increase of 7.8% from the previous year. The number of positive tests also increased by 16.5%, bringing the total number of infections to 5,031, from 4,454 in 2004. The total number screened increased by 4,756 (7.8%), and the number of persons who tested positive increased by 349 (16.5%). In 2004, Oklahoma ranked 15th nationally with a rate of 126.8 cases per 100,000, below the national average of 113.5 per 100,000.

Rate of Reported Gonorrhea Cases by Year, Oklahoma, 1996 - 2005



Rate per 100,000 Population of Reported Gonorrhea Cases by Age Group, 2004-2005 Oklahoma

Age Group	2004, Rate per 100,000	2005, Rate per 100,000
Less than 10 Years	0.6	0.4
10-14 Years	19.8	24.2
15-19 Years	468.9	538.3
20-24 Years	646.1	690.2
25-29 Years	312.6	379.4
30-34 Years	158.6	183.3
35-39 Years	73.3	78.0
40-44 Years	56.4	53.3
45-49 Years	26.2	41.1
Greater than 49 Years	7.1	9.4