

CHAPTER 3

REPORTABLE DISEASES, ARIZONA, 1998-2008

- 3A. NON-SEXUALLY TRANSMITTED DISEASES**
- 3B. SEXUALLY TRANSMITTED DISEASES**
- 3C. HUMAN IMMUNODEFICIENCY VIRUS (HIV)
DISEASE AND ACQUIRED IMMUNODEFICIENCY
SYNDROME (AIDS)**



3A.

NON-SEXUALLY TRANSMITTED DISEASES

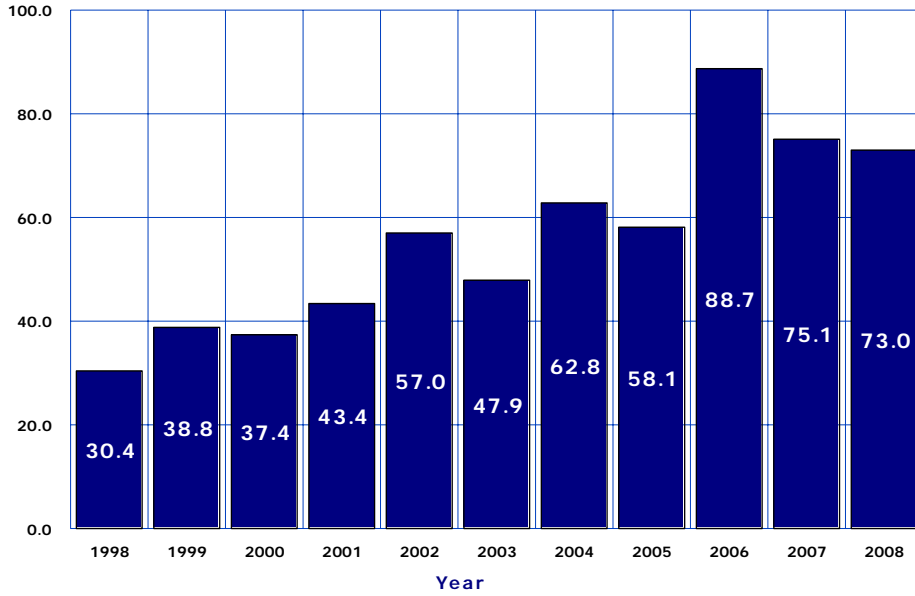
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable diseases (i.e., cholera or plague) in compliance with the World Health Organization's International Health Regulations.

Data on morbidity, levels of disease and disability in the Arizona population, are obtained for certain infectious diseases that must be reported by law. The Bureau of Epidemiology and Disease Control Services conducts surveillance and monitoring of these reportable diseases and it provided data for the respective sections of this chapter and sections 5F, 6A and 6B.

This section provides some illustrative findings from the tabulated data. It is not intended to be an exhaustive analysis of the incidence of infectious diseases in the State. There is more information available online on the website of the Office of Infectious Disease Services at http://www.azdhs.gov/phs/oids/data_reports.htm

3A. NON-SEXUALLY TRANSMITTED DISEASES

Figure 3A-1
Trends in the Incidence Rates of Valley Fever (Coccidioidomycosis) by Year, Arizona, 1998-2008

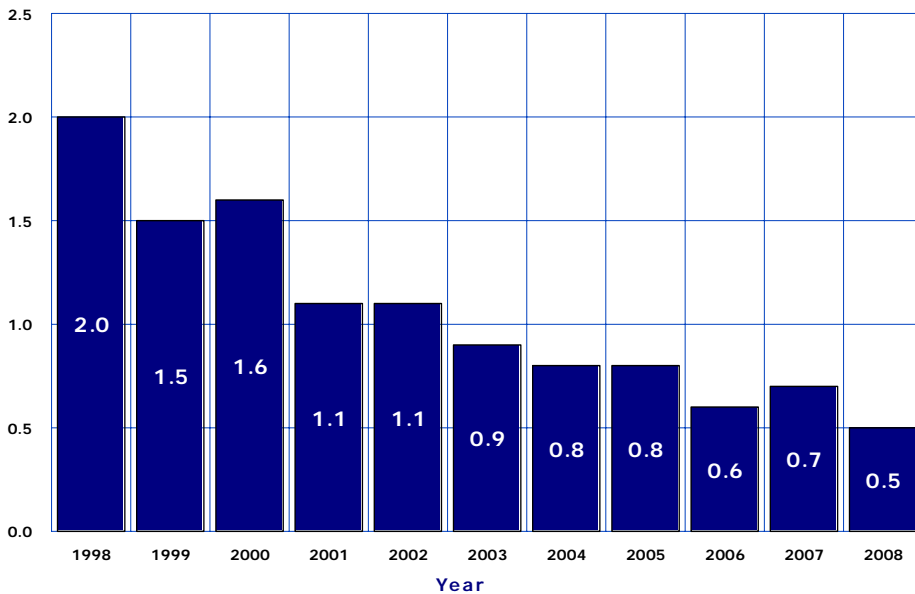


Number of cases per 100,000 population.

Coccidioidomycosis or *Valley Fever* is a fungal infection caused by inhalation of airborne spores that are present in the soil of southwestern United States, California and parts of Central and South America. Most infections are asymptomatic or self-limited in patients with healthy immune systems. In rare instances, severe lung disease or disseminated infection can develop in patients.

Valley Fever imposed the greatest burden on morbidity among all non-sexually transmitted, notifiable diseases in Arizona in 2008. The incidence rate of Valley Fever decreased for the second consecutive year from 88.7 cases per 100,000 population in 2006 to 73.0/100,000 in 2008 (**Figure 3A-1**, **Table 5F-2**). This incidence rate was 2.4 times greater than the incidence rate of 30.4/100,000 in 1998.

Figure 3A-2
Trends in Case Fatality Rates for Valley Fever (Coccidioidomycosis) by Year, Arizona, 1998-2008



Number of deaths per 100 reported cases

Despite the increase in the incidence rates after 1997, the annual mortality rates steadily declined. Twenty-four from among 4,768 Arizonans who had *Valley Fever* in 2008, died from it (**Table 3A-2**) for a case fatality rate of 0.5 deaths per 100 cases, a decrease from 0.7/100 in 2007 (**Figure 3A-2**).

3A. NON-SEXUALLY TRANSMITTED DISEASES

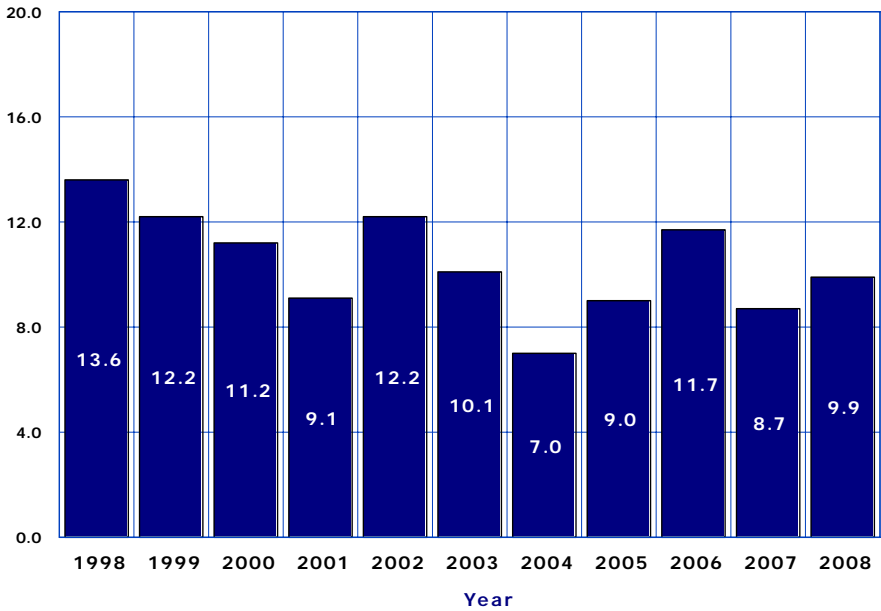
Shigellosis is an infectious disease caused by a group of bacteria called *Shigella* that can cause diarrhea in humans. In addition to spread from one person to another, *Shigellae* can be transmitted through contaminated foods, sexual contact, and water used for drinking or recreational purposes.

Shigellosis was the second most common enteric disease to afflict Arizonans in 1998 and 1999. In 2000 - 2008, *shigellosis* was the third most common enteric disease to afflict Arizonans after *salmonellosis* and *campylobacteriosis* (Table 3A-1).

The number of reported cases of *shigellosis* increased from 557 in 2007 to 650 in 2008. The incidence rate of *shigellosis* increased to 9.9 cases per 100,000 in 2008 (Figure 3A-3). The risk of this disease was much higher in Santa Cruz County (31.7/100,000; Table 5F-2).

Since 2005, no Arizona resident died from *shigellosis* (Table 3A-2).

Figure 3A-3
Trends in the Incidence Rates of Shigellosis by Year, Arizona, 1998-2008



Number of reported cases per 100,000 population.

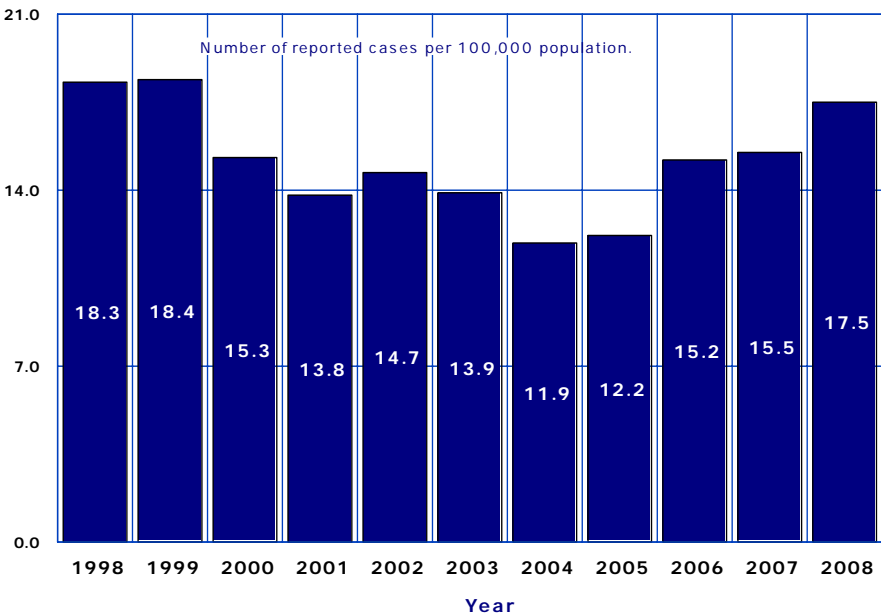
Salmonellosis is a bacterial infection. Most of those who are infected with *Salmonella* develop diarrhea, fever and abdominal cramps. Every year, approximately 40,000 cases of *Salmonellosis* are reported in the United States.

From 1998 to 2002, *salmonellosis* (excluding *S. Typhi* and *S. Paratyphi*) was the most common enteric disease in Arizona. In 2003 - 2005, *campylobacteriosis* was the most common, followed by *salmonellosis* (Table 3A-1). In 2006-2008, *salmonellosis* once again was the most common enteric disease in the State.

The incidence rate of *salmonellosis* increased for the 4th consecutive year from 11.9 cases per 100,000 population in 2004, to 17.5/100,000 in 2008 (Figure 3A-4). The risk of *salmonellosis* was substantially higher in Apache (52.5/100,000), Graham (49.2/100,000), and Santa Cruz (40.2/100,000) counties (Table 5F-2).

Two Arizonans who had *salmonellosis* died from it in 2008 (Table 3A-2).

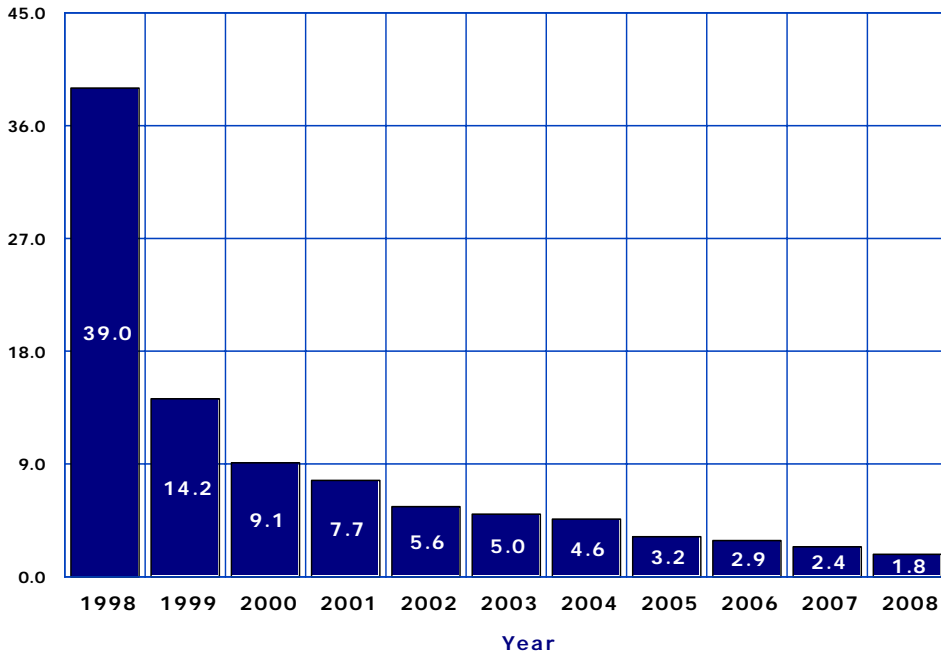
Figure 3A-4
Trends in the Incidence Rates of Salmonellosis* by Year, Arizona, 1998-2008



*Excluding *S. Typhi* and *S. Paratyphi*.

3A. NON-SEXUALLY TRANSMITTED DISEASES

Figure 3A-5
Trends in the Incidence Rates of Hepatitis A by Year, Arizona, 1998-2008



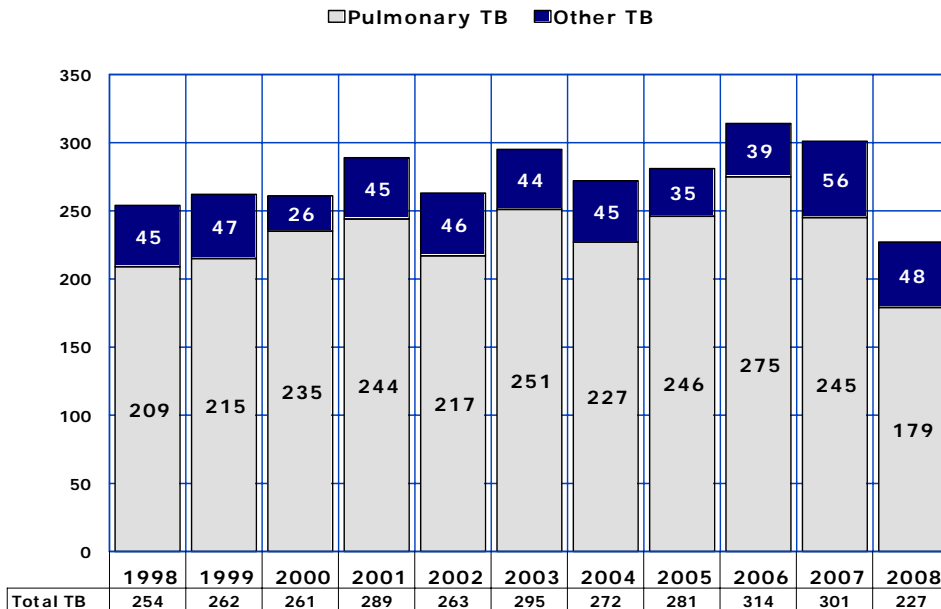
Number of reported cases per 100,000 population.

Hepatitis A is a liver disease caused by the *hepatitis A* virus. During 1995-1996, highly effective *hepatitis A* vaccines became available in the United States. Routine childhood vaccination for *hepatitis A* was recommended in 1999. In 2006, the expansion of recommendations for routine *hepatitis A* vaccination to include all children in the United States aged 12-23 months is likely to reduce hepatitis rates further.

In Arizona, the incidence rate of *hepatitis A* decreased by 95.4 percent from a recent high of 39.0/100,000 in 1998 to 1.8/100,000 in 2008 (**Figure 3A-5**).

In 2008, the incidence rate of 9.3 cases of hepatitis A per 100,000 residents of La Paz County was 5.2 times greater than the state rate (**Table 5F-2**).

Figure 3A-6
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis by Year, Arizona, 1998-2008



Number of reported cases by year.

Tuberculosis (TB) is an infectious disease that usually attacks the lungs, but can attack almost any part of the body. Tuberculosis is spread from person to person through the air.

The number of reported cases of *pulmonary tuberculosis* decreased from 275 in 2006 to 245 in 2007, and 179 in 2008. The number of reported cases of tuberculosis other than pulmonary decreased by 14.3 percent from 56 reported in 2007 to 48 in 2008 (**Figure 3A-6, Table 3A-1**). The incidence rate of *total tuberculosis* decreased for the second consecutive year from 5 cases per 100,000 population in 2006 to a rate of 3.5/100,000 in 2008 (**Table 5F-2**). The risk of the disease was 4.3 times higher in La Paz County (15.2 cases per 100,000 population).

Pulmonary tuberculosis accounted for 78.9 percent of all tuberculosis infections in 2008 (**Table 3A-1**). Thirteen Arizonans who had *tuberculosis* died from it in 2008 (**Table 3A-2**).

**TABLE 3A-1
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 1998-2008**

Disease	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Vaccine Preventable											
Measles	11	1	0	1	0	1	0	1	0	1	18
Mumps	6	1	6	2	1	1	2	1	40	10	5
Pertussis	719	139	143	690	717	211	278	1,108	508	210	218
Pertussis confirmed cases	(245)	(75)	(108)	(382)	(280)	(128)	(149)	(486)	(36)	(15)	(23)
Rubella	2	13	1	0	0	0	0	0	0	0	1
Congenital Rubella Syndrome	0	2	0	0	0	0	0	0	0	0	0
Haemophilus influenzae type b (invasive, age < 5 years)	7	2	3	5	5	8	1	1	3	3	3
Chickenpox	1,673	960	1,522	951	606	1,620	920	1,537	974	930	778
Central Nervous System											
Aseptic Meningitis	199	155	163	206	271	1,516	734	832	720	632	688
Meningococcal Disease	48	44	33	21	32	34	15	36	16	13	9
Viral Encephalitis	2	8	3	17	14	28	32	26	18	14	8
Enteritides											
Amebiasis	19	23	38	29	28	43	14	20	16	13	11
Campylobacteriosis	419	594	619	635	733	850	795	867	803	962	1,006
Cholera	0	2	0	0	0	1	0	0	0	1	0
Cryptosporidiosis	19	16	10	11	19	6	17	11	29	53	89
E. coli O157:H7	46	35	56	30	40	41	28	35	105	106	69
Giardiasis	250	255	313	267	268	256	176	183	163	192	142
Salmonellosis (exl. S. Typhi & S. Paratyphi)	880	908	787	733	807	782	694	739	949	997	1,143
Salmonella Paratyphi A	0	1	4	2	3	3	3	1	2	1	1
Salmonella Paratyphi B	6	5	7	3	11	4	4	6	7	2	10
Salmonella Paratyphi C	1	0	0	0	4	0	0	0	0	1	0
Shigellosis	642	600	577	483	668	566	409	547	729	557	650
Typhoid Fever	5	2	4	2	0	2	2	4	7	7	3
Mycosis											
Coccidioidomycosis (Valley Fever)	1,474	1,812	1,917	2,301	3,118	2,695	3,665	3,515	5,535	4,832	4,768
Hepatitides											
Hepatitis A	1,841	700	467	409	305	280	267	195	179	152	118
Hepatitis B (acute)	185	138	215	164	253	283	289	375	373	180	163
Hepatitis C (acute)	17	49	21	9	6	7	1	0	0	0	0
Hepatitis D	21	21	19	5	0	0	0	2	1	3	0
Hepatitis E	1	0	0	0	0	0	0	0	1	1	0
Hepatitis non-A non-B	1	0	1	0	0	0	0	NA	NA	NA	NA
Tuberculosis											
Pulmonary TB	209	215	235	244	217	251	227	246	275	245	179
Total TB	254	262	261	289	263	295	272	281	314	301	227

TABLE 3A-1 (continued)
 NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 1998-2008

Disease	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Zoonoses/Vector-borne											
Brucellosis	1	1	1	6	6	1	1	5	4	4	3
Colorado Tick Fever	0	0	0	0	0	0	0	0	0	0	0
Dengue	1	2	3	1	2	0	0	0	9	8	6
Ehrlichiosis	0	0	1	1	0	0	0	1	0	0	2
Hantavirus Pulmonary Syndrome	3	3	4	1	3	0	2	5	13	6	1
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	1	3	2	3	4	4	13	10	12	3	8
Malaria	15	7	11	19	17	17	16	21	23	12	17
Plague	1	0	1	0	0	0	0	0	0	2	1
Relapsing Fever, Tick-borne	0	0	0	3	0	0	0	0	0	0	0
Rocky Mountain Spotted Fever	0	1	0	0	0	0	4	25	11	10	17
St. Louis Encephalitis	NA	NA	NA	NA	NA	5	4	1	2	0	0
Tularemia	0	2	1	1	0	1	0	2	1	3	0
West Nile Virus	NA	NA	NA	NA	NA	12	391	111	148	98	114
Other											
Legionellosis	21	7	11	21	15	21	23	26	38	40	26
Listeriosis	23	19	20	10	18	12	10	13	7	12	8
Methicillin Resistant S. aureus (invasive)	NA	NA	NA	NA	NA	NA	NA	1,432	1,336	1,305	1,417
Streptococcal-Group A (invasive)	199	260	235	187	314	260	247	303	351	208	204
Streptococcal-Group B (invasive, age < 90 d)	31	43	42	55	27	42	47	44	54	59	57
Streptococcus pneumoniae (invasive)	757	820	823	784	789	718	670	726	971	923	1,077
Reyes Syndrome	0	0	0	1	0	0	0	0	0	0	0
Toxic Shock Syndrome	1	0	0	0	0	9	2	1	2	5	1
Botulism	0	0	1	3	3	0	1	2	5	1	2
Vibrio spp. (except toxogenic V.cholerae)	8	5	3	6	9	19	8	16	25	11	14
Vancomycin resist. Enterococcus spp.(VRE)	822	1,024	1,084	877	1,031	1,013	1,404	1,956	2,683	2,494	NA
Yersiniosis (except Y. pestis)	7	6	4	5	6	7	6	5	11	8	4

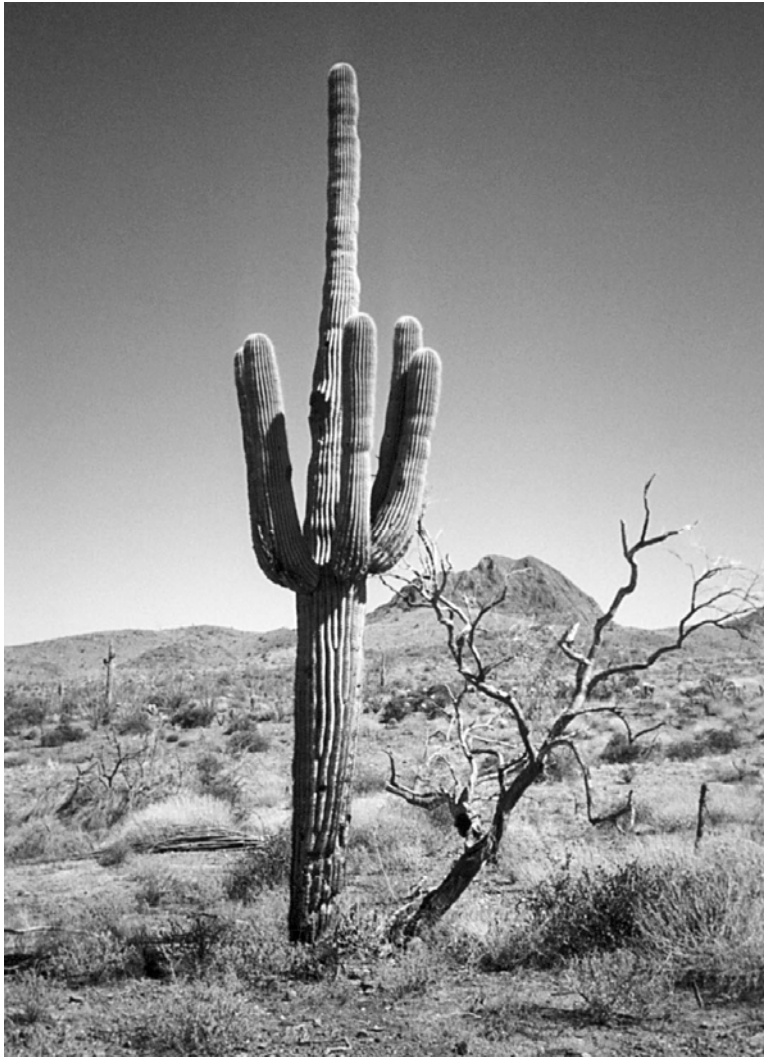
Note: Non-resident cases have been excluded. Only incident cases are reported. Cases are counted by date reported to public health. E. coli O157:H7, Streptococcus-Group B (invasive disease in infants <90 days old), Streptococcus pneumoniae, Vibrio spp., VRE and Yersiniosis became reportable in 1997. Streptococcus pneumoniae was only reportable by laboratories until Oct. 2004. Haemophilus influenzae b includes all invasive H. influenzae b, not just meningitis, as of 1995. Meningococcal includes all invasive disease caused by Neisseria meningitidis, not just meningitis. Salmonella paratyphi A, Salmonella paratyphi B, and Salmonella paratyphi C have been reported separately from other Salmonella spp. beginning in 1997. Animal Rabies cases are not included. Hepatitis D has been reported separately from Hepatitis non-A non-B since 1997. Hepatitis E has been reported separately from Hepatitis non-A non-B beginning in 1998. VRE ceased being reportable beginning in April 2008. West Nile Virus cases are counted by patient onset date.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services, Infectious Disease Epidemiology Section.

**TABLE 3A-2
NUMBER OF DEATHS FROM SELECTED NOTIFIABLE DISEASES BY CATEGORY AND YEAR,
ARIZONA, 1998-2008**

ICD-9/ICD-10 codes	Disease	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
VACCINE PREVENTABLE												
055/B05	Measles	0	1	0	0	0	0	0	0	0	0	0
072/B26	Mumps	0	0	0	0	0	0	0	0	0	0	0
033/A37	Whooping cough (pertussis)	2	0	1	2	1	1	0	1	0	0	1
056/B06	Rubella	0	0	0	0	0	0	0	0	0	0	0
052/B01	Chickenpox	0	1	1	0	0	1	2	0	0	0	0
CENTRAL NERVOUS SYSTEM												
047.9/G03.0	Aseptic meningitis	2	1	0	1	0	0	0	1	0	0	1
036/A39	Meningococcal infections	4	5	1	1	4	2	0	1	2	0	0
049.9/A86	Viral encephalitis	0	0	0	5	3	0	1	1	4	3	2
ENTERITIDES (FOODBORNE)												
006/A06	Amebiasis	0	0	0	0	0	0	0	0	0	0	0
007.1/A07.1	Giardiasis	0	0	0	0	0	0	0	0	0	0	0
003/A02	Salmonellosis (except typhoid)	3	0	1	0	0	2	2	0	1	1	2
004/A03	Shigellosis	0	0	0	0	0	0	0	1	0	0	0
002/A01	Typhoid	0	0	0	0	0	0	0	0	0	0	1
MYCOSIS												
114/B38	Coccidioidomycosis (Valley Fever)	29	28	30	25	34	24	28	28	33	36	24
HEPATITIDES												
070.0-070.1/B15	Hepatitis A	4	3	2	1	3	3	2	0	2	1	1
070.2-070.3/B16	Hepatitis B	25	9	18	9	14	12	10	12	21	13	6
070.4-070.5/B17-	Other viral hepatitis	65	81	68	96	90	137	125	151	189	131	176
070.6-070.9/B19	Unspecified	3	2	2	2	2	3	3	2	2	3	2
TUBERCULOSIS												
010-011/A15-A16	Respiratory TB	16	15	12	9	18	9	8	13	13	10	10
010-018/A15-A19	Total TB	21	20	14	11	22	12	11	17	20	12	13
ZOOSES/VECTOR-BORNE												
023.9/A23	Brucellosis	1	0	1	0	0	0	0	0	0	0	0
061/A90	Dengue	0	0	0	0	0	0	0	0	1	0	0
071/A82	Human Rabies	0	0	0	0	0	0	0	0	0	0	0
084/B50-B54	Malaria	0	0	0	1	0	0	0	0	2	0	0
020/A20	Plague	0	0	0	0	0	0	0	0	0	1	0
082/A77.0	Rocky Mountain Spotted Fever	0	0	0	0	0	1	0	1	0	0	1
021/A21	Tularemia	0	0	0	0	0	0	0	0	0	0	0
OTHER												
482.8/A48.1	Legionellosis	4	2	1	1	0	2	0	0	3	1	0
027.0/A32	Listeriosis	0	0	0	1	0	0	0	0	0	0	0
331.8/G93.7	Reyes Syndrome	0	0	0	0	1	0	0	0	0	0	0
995.0/A48.3	Toxic Shock Syndrome	0	0	0	0	1	2	2	3	2	0	0

Note: Beginning in 2000, the causes of death are classified by the Tenth Revision of the International Classification of Diseases (ICD-10), replacing the Ninth Revision (ICD-9) used during 1979-1999.



3B.

SEXUALLY TRANSMITTED DISEASES

Every state requires physicians to report cases of, and/or laboratories to report test results indicative of specific diseases. The legal authority for deciding which conditions (and which accompanying case data) are reportable in a given jurisdiction can vary by state, but is usually the state and/or local health department. All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

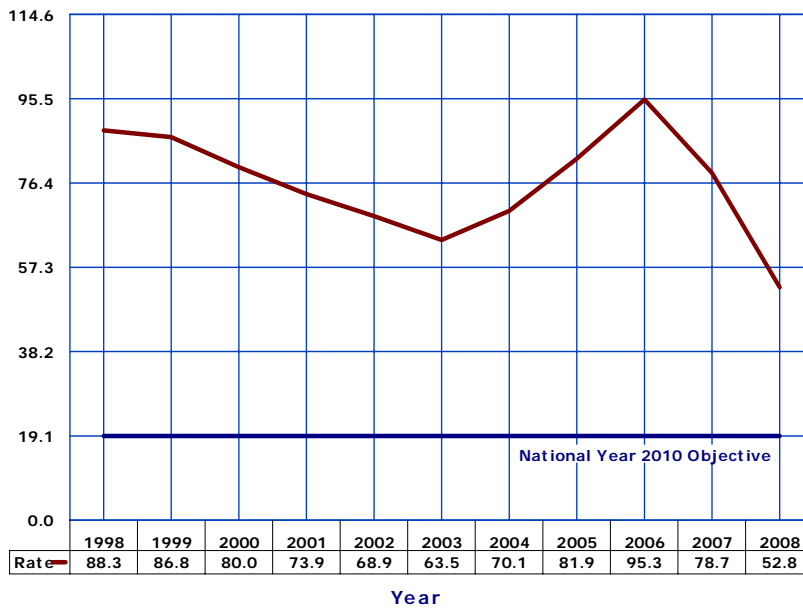
It is important to note, that disease reporting is likely incomplete, and completeness may vary depending on the disease. Moreover, changes in methods for public health surveillance, or implementation of new diagnostic tests can cause changes in disease reporting that are independent of the true incidence of disease.*

The four sexually transmitted diseases for which reporting is required by administrative rule in Arizona are *gonorrhea*, *syphilis*, *chlamydia*, and *genital herpes*.

*Centers for Disease Control and Prevention. Summary of notifiable diseases – United States, 2007. Published July 9, 2009, for 2007; Vol. 56 (No. 53). Available online at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5653a1.htm>

3B. SEXUALLY TRANSMITTED DISEASES

Figure 3B-1
Trends in the Incidence Rates of Gonorrhea by Year, Arizona, 1998-2008



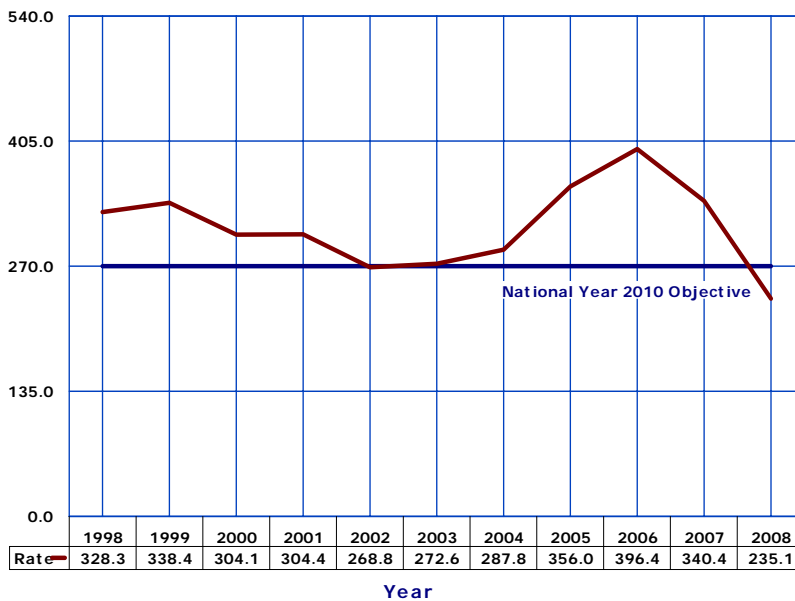
Number of reported cases per 100,000 population.

Neisseria gonorrhoeae infection is the second most commonly reported notifiable disease in the United States. In Arizona, the incidence rates of gonorrhea steadily declined each year after 1998 up to and including 2003 (Figure 3B-1). The 50.1 percent increase in the incidence rate of gonorrhea from 63.5 cases per 100,000 population in 2003 to 95.3/100,000 in 2006 likely resulted from a combination of factors, such as changes in surveillance, increases in the number of tests performed, and actual increases in disease occurrence. (Figure 3B-1).

The number of reported cases of gonorrhea decreased for the second consecutive year from 5,949 cases in 2006 to 3,449 cases in 2008.

The *Healthy People 2010* objective 25-2 defines the target rate for gonorrhea as equal to or lower than 19.1 cases per 100,000 population. The Arizona latest incidence rate of 52.8/100,000 requires a 63.8 percent reduction by the year 2010 to meet this health objective (Table 6A-2).

Figure 3B-2
Trends in the Incidence Rates of Gonorrhea among Females 15-24 Years, Arizona, 1998-2008



Number of reported cases per 100,000 females ages 15-24 years.

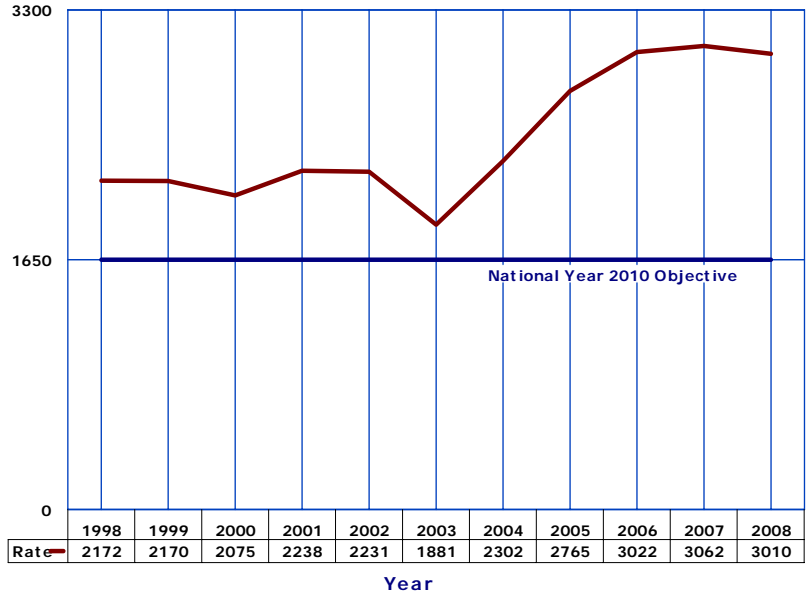
Another *Healthy People 2010* objective is focused on reducing gonorrhea infections to 270 cases per 100,000 females aged 15 to 24 years. In Arizona, following a 30.9 percent decrease in the incidence rate from 340.4 cases per 100,000 females 15-24 years old in 2007, the 2008 rate of 235.1/100,000 was lower than the *Healthy People 2010* target rate (Figure 3B-2, Table 6A-2). Two years earlier, in 2006, the incidence rate of 396.4/100,000, exceeded the *Healthy People 2010* target rate by 46.8 percent.

3B. SEXUALLY TRANSMITTED DISEASES

Figure 3B-3
Trends in the Incidence Rates of Chlamydia among Females 15-24 Years, Arizona, 1998-2008

Chlamydia trachomatis is the most prevalent bacterial sexually transmitted disease in the United States, with the highest rates reported among adolescents and young adults (Table 3B-4). Recent availability of sensitive tests for *chlamydia* using DNA amplification technology undoubtedly contributed to the increase in the number of reported cases in Arizona (Figure 3B-3, Table 3B-1).

The incidence rate of *chlamydia* among Arizona females aged 15 to 24 years decreased by 1.7 percent from 3,062 cases per 100,000 in 2007 to 3010/100,000 in 2008. This latest annual incidence rate exceeded by 82.4 percent the *Health People 2010* target rate of 1,650 cases of *chlamydia* per 100,000 females 15-25 years old (Table 6A-2).



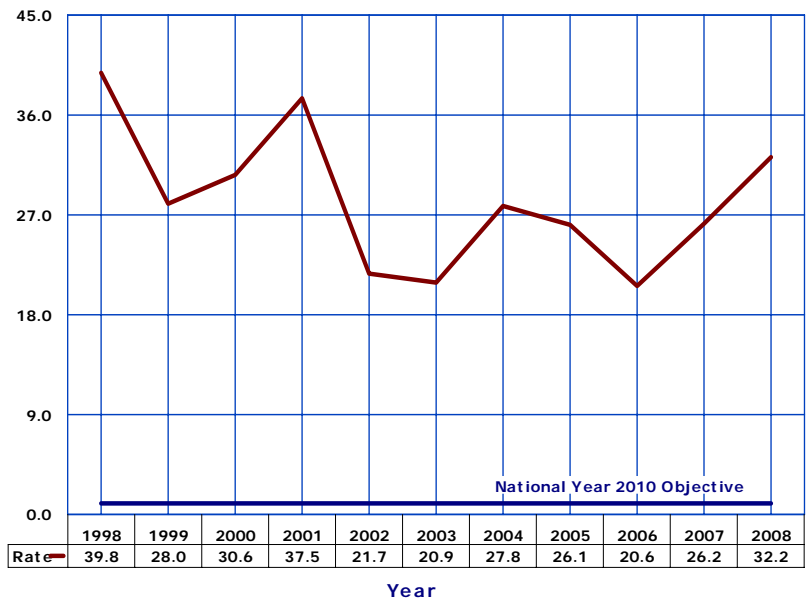
Number of reported cases per 100,000 females ages 15-24 years.

Figure 3B-4
Trends in the Incidence Rates of Congenital Syphilis by Year, Arizona, 1998-2008

Congenital syphilis (CS) is an infection caused by the spirochete *Treponema pallidum*, which can be passed from the mother to child during fetal development or birth. Not all infants born to infected women will be infected.

In 1988, CDC implemented a new CS case definition. It no longer relies on documentation of infection in the infant; rather, it presumes that an infant is infected if it cannot be proven that an infected mother was adequately treated for syphilis before or during pregnancy.

In Arizona, the incidence rate of CS increased by 56.3 percent from 20.6 cases per 100,000 births in 2006 to 32.2/100,000 in 2008. The 2008 rate was 32.2 times greater than the (quite unrealistic) *Healthy People 2010* target rate of 1 (one) case of *congenital syphilis* per 100,000 births (Table 6A-2).



Number of reported cases per 100,000 births.

**TABLE 3B-1
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 1998-2008**

Disease	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Genital Herpes	1,058	972	1,119	1,173	1,148	910	1,196	1,189	1,740	2,003	1,855
Gonorrhea	4,193	4,273	4,105	3,922	3,772	3,576	4,088	4,951	5,949	5,062	3,449
Gonococcal PID¹	71	65	21	5	3	0	15	8	4	2	0
Resistant Gonorrhea²	3	4	0	0	1	2	1	1	0	0	0
Syphilis (P & S)³	185	212	189	180	200	186	160	175	203	296	317
Syphilis-Total⁴	700	830	847	1,153	1,077	1,094	998	789	931	1,242	1,396
Chlamydia	11,381	12,061	12,515	14,352	14,899	12,785	16,869	21,264	24,090	24,866	24,769

¹PID is pelvic inflammatory disease.

²Includes PPNG, penicillase producing Neisseria gonorrhea, a form of gonorrhea which is resistant to penicillin

³Primary and secondary syphilis only.

⁴Early, late, congenital and other.

Note: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2008.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV / STD.

**TABLE 3B-2
NUMBER OF DEATHS ASSOCIATED WITH SPECIFIED SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR,
ARIZONA, 1998-2008**

Disease	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Genital Herpes	0	0	0	0	0	0	0	0	0	0	0
Gonococcal infections	0	0	0	0	0	0	0	0	0	0	0
Syphilis-Total	5	3	0	3	1	1	1	0	0	0	1

**TABLE 3B-3
FREQUENCY OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, EARLY SYPHILIS AND GENITAL HERPES
BY AGE AND GENDER, ARIZONA, 2008**

Age group	GONORRHEA				CHLAMYDIA				EARLY SYPHILIS				GENITAL HERPES			
	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total
0-4	2	4	0	6	12	22	0	34	0	0	0	0	9	13	0	22
5-9	0	1	0	1	6	12	0	18	0	0	0	0	4	4	0	8
10-14	7	19	0	26	45	249	0	294	0	1	0	1	0	11	0	11
15-19	288	468	0	756	1,578	6,595	5	8,178	14	8	0	22	31	148	0	179
20-24	523	548	0	1,071	2,234	6,413	2	8,649	43	35	1	79	109	244	0	353
25-29	402	260	2	664	1,263	2,853	2	4,118	77	30	0	107	133	224	0	357
30-34	205	111	1	317	578	1,178	1	1,757	63	25	0	88	69	155	2	226
35-39	186	84	0	270	325	584	0	909	62	15	0	77	71	139	1	211
40-44	102	40	0	142	182	237	0	419	67	16	1	84	56	101	0	157
45-54	114	35	0	149	138	163	0	301	89	11	0	100	64	122	0	186
55-64	29	3	0	32	26	34	0	60	12	3	0	15	44	55	1	100
65-over	11	4	0	15	13	19	0	32	2	0	0	2	16	29	0	45
Total	1,869	1,577	3	3,449	6,400	18,359	10	24,769	429	144	2	575	606	1,245	4	1,855

Note: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2008.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.

TABLE 3B-4
RATES¹ OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, EARLY SYPHILIS AND GENITAL HERPES
BY AGE AND GENDER, ARIZONA, 2008

Age group	GONORRHEA			CHLAMYDIA			EARLY SYPHILIS			GENITAL HERPES		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
0-4	0.8	1.6	1.2	4.7	9.0	6.8	0.0	0.0	0.0	3.5	5.3	4.4
5-9	0.0	0.4	0.2	2.5	5.3	3.9	0.0	0.0	0.0	1.7	1.8	1.7
10-14	3.0	8.4	5.6	19.0	110.3	63.5	0.0	0.4	0.2	0.0	4.9	2.4
15-19	123.4	214.1	167.3	676.2	3017.7	1809.7	6.0	3.7	4.9	13.3	67.7	39.6
20-24	219.5	256.5	237.0	937.6	3002.1	1914.0	18.0	16.4	17.5	45.7	114.2	78.1
25-29	154.8	110.5	134.1	486.4	1212.0	831.8	29.7	12.7	21.6	51.2	95.2	72.1
30-34	87.1	50.6	69.7	245.6	537.2	386.4	26.8	11.4	19.4	29.3	70.7	49.7
35-39	80.9	38.7	60.4	141.3	269.0	203.3	27.0	6.9	17.2	30.9	64.0	47.2
40-44	44.6	18.0	31.5	79.6	106.5	92.8	29.3	7.2	18.6	24.5	45.4	34.8
45-54	27.3	8.2	17.7	33.1	38.2	35.7	21.3	2.6	11.8	15.3	28.6	22.0
55-64	9.1	0.9	4.9	8.2	9.9	9.1	3.8	0.9	2.3	13.9	16.1	15.2
65-over	2.9	0.9	1.8	3.4	4.1	3.8	0.5	0.0	0.2	4.2	6.2	5.3
Total	57.1	48.3	52.8	195.5	562.8	379.0	13.1	4.4	8.8	18.5	38.2	28.4

¹Number of cases per 100,000 population.

Note: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2008.

Note: Denominators for unknown or transgender category are not available.

Rates per 100,000 population.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.

**TABLE 3B-5
 FREQUENCY OF REPORTED CASES, PERCENT DISTRIBUTION AND RATES OF EARLY AND LATE SYPHILIS,
 GONORRHEA, CHLAMYDIA AND HERPES BY ETHNICITY, ARIZONA, 2008**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA			HERPES					
	Early			Late			Resistant			Total			Cases	%	Rate	Cases	%	Rate	Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate									
White Non-Hispanic	229	39.8	5.8	163	20.7	4.1	0	0.0	0.0	827	24.0	21.0	5,158	20.8	130.9	611	32.9	15.5			
Black or African American	51	8.9	19.8	52	6.6	20.2	0	0.0	0.0	661	19.2	256.8	2,004	8.1	778.6	106	5.7	41.2			
Hispanic or Latino	202	35.1	11.1	354	44.9	19.4	0	0.0	0.0	903	26.2	49.5	7,537	30.4	413.3	363	19.6	19.9			
Asian or Pacific Islander	7	1.2	4.1	2	0.3	1.2	0	0.0	0.0	17	0.5	9.9	173	0.7	100.3	7	0.4	4.1			
American Indian or Alaska Native	55	9.6	16.1	50	6.3	14.6	0	0.0	0.0	251	7.3	73.3	2,533	10.2	739.8	182	9.8	53.2			
Not Specified	31	5.4	NA	168	21.3	NA	0	0.0	NA	790	22.9	NA	7,364	29.7	NA	586	31.6	NA			
Total	575	100.0	8.8	789	100.0	12.1	0	0.0	0.0	3,449	100.0	52.8	24,769	100.0	379.0	1,855	100.0	28.4			

Note: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2008.

Note: Rates per 100,000 population.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.



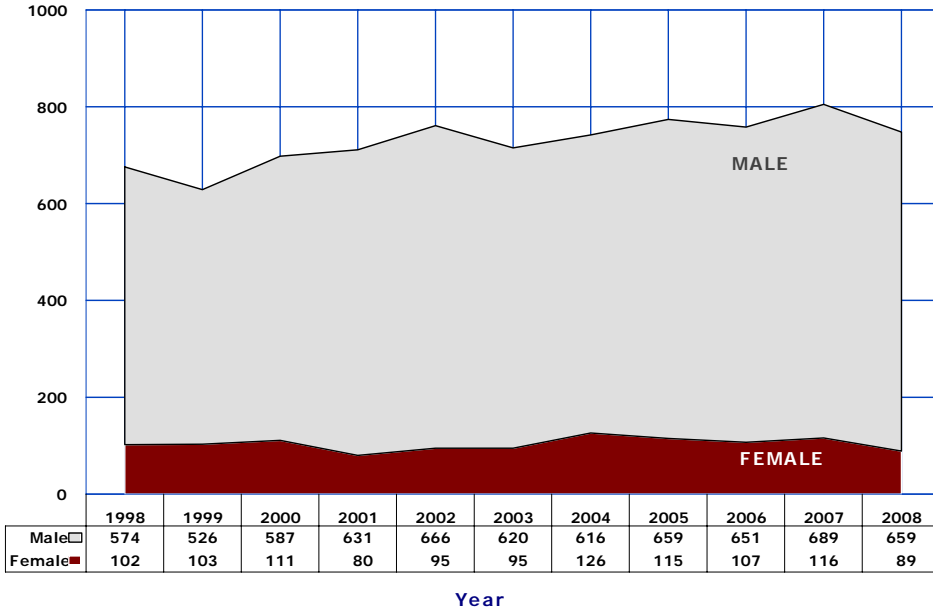
3C.

HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2008, as provided by the Office of HIV, STD, and Hepatitis Services, are available in Tables 3C-1, 3C-2, 3C-3, 3C-4, 3C-5 and 5F-3 of this report. In the past, the cases of persons previously reported as HIV positive and subsequently diagnosed as AIDS were not properly counted since these were not new cases, only a new diagnosis reflecting a progression of the disease. The data for 1981-2008 presented in this report are based on a revised approach adopted by the Office of HIV/AIDS Services. The estimated incidence of HIV/AIDS includes the sum of new HIV cases and new AIDS cases, which were not diagnosed as HIV positive in any prior calendar year. The cases of persons who were diagnosed with both HIV and AIDS in the same calendar year are counted only as AIDS to avoid double counting (see the Executive Summary of the HIV/AIDS annual report at <http://www.azdhs.gov/phs/hiv/pdf/2009annRep/2009%20EXECUTIVE%20SUMMARY.pdf>)

3C. HIV DISEASE AND AIDS

Figure 3C-1
Reported Cases of HIV/AIDS by Gender and Year of Diagnosis,
Arizona, 1998-2008

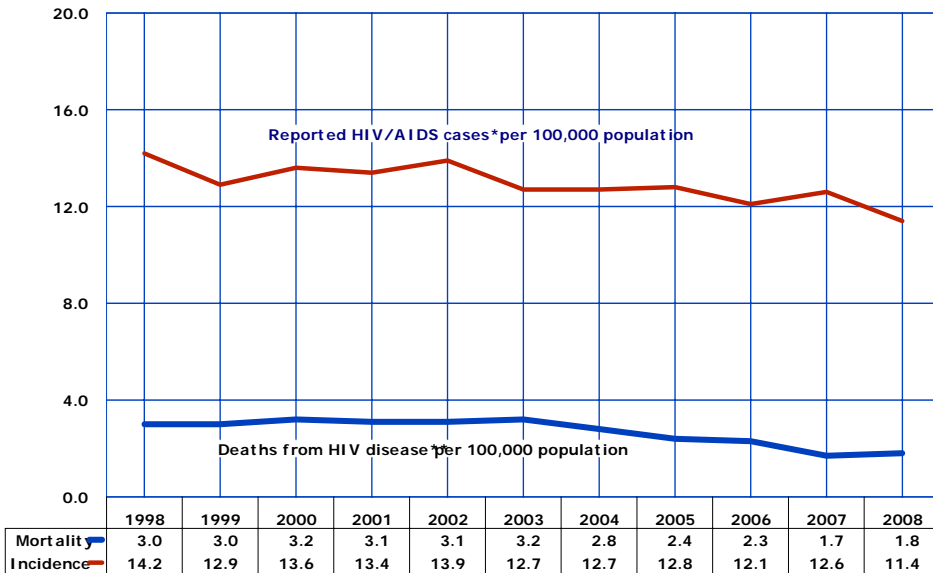


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 18,030 cases of HIV/AIDS had been diagnosed in the State by the end of 2008 and reported by May 26, 2009 (**Table 3C-1**).

In 2008, males accounted for 88.1 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2008 was 7.4:1 (659/89, **Figure 3C-1**, **Table 3C-2**). However, this number has changed considerably since 1999 when the male to female ratio was 5.1:1 (**Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of *HIV/AIDS* in 2008 remained similar to previous years. Of the 748 *HIV/AIDS* cases diagnosed in 2008, 428 (57.2 percent) were among men who reported sexual contact with other men (**Table 3C-4**). An additional 34 (4.3 percent) were men who reported both sexual contacts with other men and injecting drugs. Another 75 (10.0 percent) reported only injecting drugs. Adults without an indicated risk accounted for 20.9 percent of *HIV/AIDS* cases diagnosed in 2008.

Figure 3C-2
Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease
by Year, Arizona, 1998-2008



The incidence rate measures the relative risk for *HIV/AIDS* in a population. The incidence rate of *HIV/AIDS* has fallen in Arizona by 19.7 percent from 14.2 cases per 100,000 population in 1998 to 11.4/100,000 in 2008 (**Figure 3C-2**).

The rate of deaths from *HIV disease* slightly increased from 1.7 deaths per 100,000 population in 2007 to 1.8/100,000 in 2008 (**Figure 3C-2**).

Of the 748 *HIV/AIDS* cases diagnosed in 2008, 377 (50.4 percent) were White non-Hispanic, 235 (31.4 percent) were Hispanic, 00 were Black (10.7 percent), 35 were American Indian (4.7 percent), and 11 were Asian or Pacific Islander (1.5 percent; based on data in **Table 3C-3**).

*By year of diagnosis.
 **By year of death.

**TABLE 3C-1
FREQUENCY DISTRIBUTION OF HIV/AIDS BY AGE AT DIAGNOSIS,
ARIZONA, 1981-2008**

Age Group (years)	HIV/AIDS cases
Under 5	111
5-12	45
13-19	319
20-29	5,130
30-39	7,008
40-49	3,834
50 or above	1,583
Total	18,030

**TABLE 3C-2
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,
ARIZONA, 1981-1997 and 1998-2008**

	1981-1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
# Males	8,947	574	526	587	631	666	620	616	659	651	689	659
# Females	1,066	102	103	111	80	95	95	126	115	107	116	89
# Total	10,013	676	629	698	711	761	715	742	774	758	805	748
# Presumed Living	4,737	508	488	569	593	644	627	645	703	693	754	722
# Known dead	5,276	168	141	129	118	117	88	97	71	65	51	23
% Mortality	53.0	25.0	22.0	18.0	17.0	15.0	12.0	13.0	9.0	9.0	6.0	3.0

Note: Due to reporting delays, all numbers are provisional (2008 volume as of 5/26/2009).

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.

**TABLE 3C-3
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND RACE/ETHNICITY,
ARIZONA, 1981-1997 AND 1998-2008**

Race/ethnicity	1981-1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
White non-Hispanic	6,945	399	320	379	391	396	368	359	391	352	374	377
Black or African American non-Hispanic	852	62	74	95	81	76	88	94	81	105	86	80
Hispanic or Latino all races	1,727	174	195	186	190	238	216	244	243	257	287	235
Asian or Pacific Islander non-Hispanic	46	4	1	7	5	8	6	11	10	9	13	11
American Indian or Alaska Native non-Hispanic	228	26	32	22	35	39	32	31	42	29	29	35
Two or more races/ other or unknown race	215	11	7	9	9	4	5	3	7	6	16	10
Total	10,013	676	629	698	711	761	715	742	774	758	805	748

**TABLE 3C-4
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,
ARIZONA, 1981-1997 AND 1998-2008**

Transmission	1981-1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
MSM	5,803	373	344	388	453	487	451	453	504	487	440	428
IV Drug User (IDU)	1,365	100	97	102	107	103	96	98	97	94	55	75
MSM/IDU	1,155	66	58	61	57	68	63	44	43	37	36	34
Hemophilic (Adult)	77	0	0	2	1	1	0	1	1	0	0	0
Heterosexual Contact	639	78	94	105	71	81	89	112	67	75	71	55
Transfusion/transplant (Adult)	116	3	0	3	1	3	0	0	2	1	0	0
No indicated risk (Adult)	778	51	31	28	13	14	12	30	50	60	200	156
Pediatric Hemophilic	16	0	0	0	0	0	0	0	0	0	0	0
Pediatric transfusion/transplant	3	0	0	0	0	0	0	0	0	0	0	0
Mother HIV +	55	5	5	8	7	3	4	3	10	4	3	0
Pediatric (no indicated risk)	6	0	0	1	1	1	0	1	0	0	0	0
Total	10,013	676	629	698	711	761	715	742	774	758	805	748

Note: Due to reporting delays, all numbers are provisional (2008 volume as of 5/26/2009).

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.