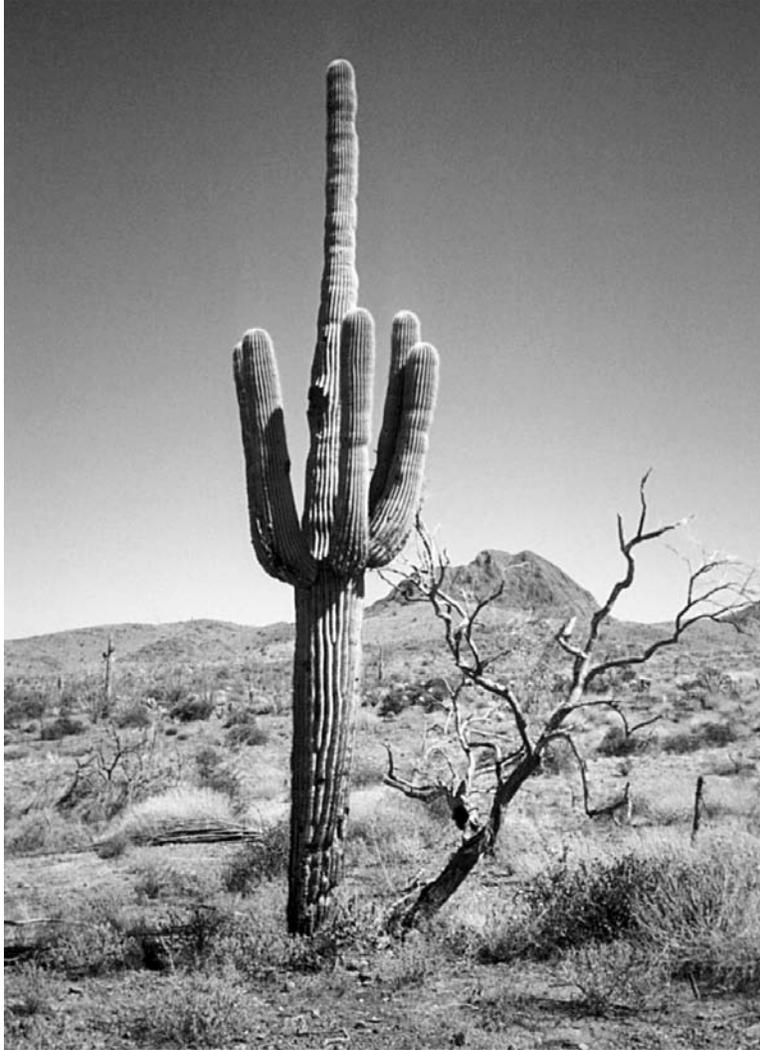


CHAPTER 3

REPORTABLE DISEASES, ARIZONA, 1999-2009

- 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

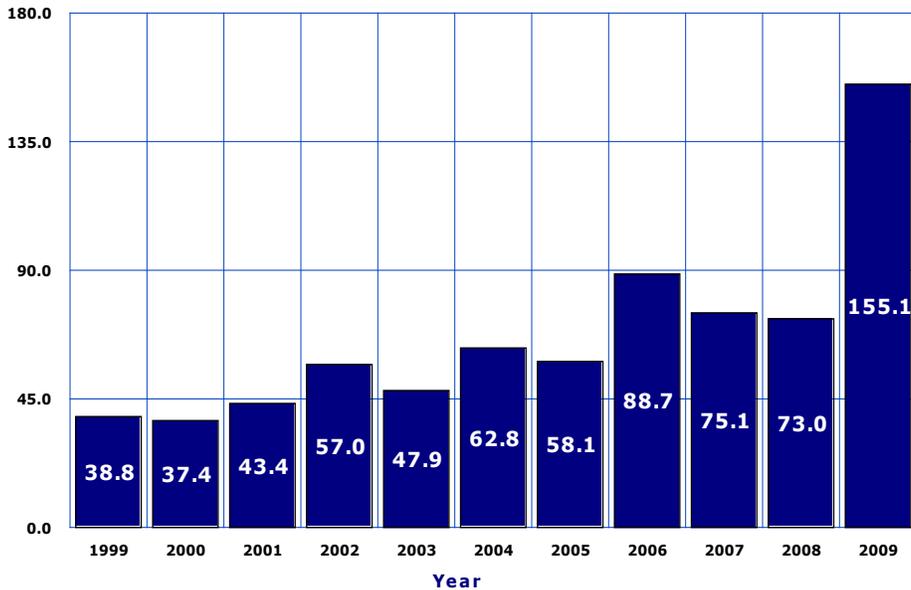
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable 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, 1999-2009

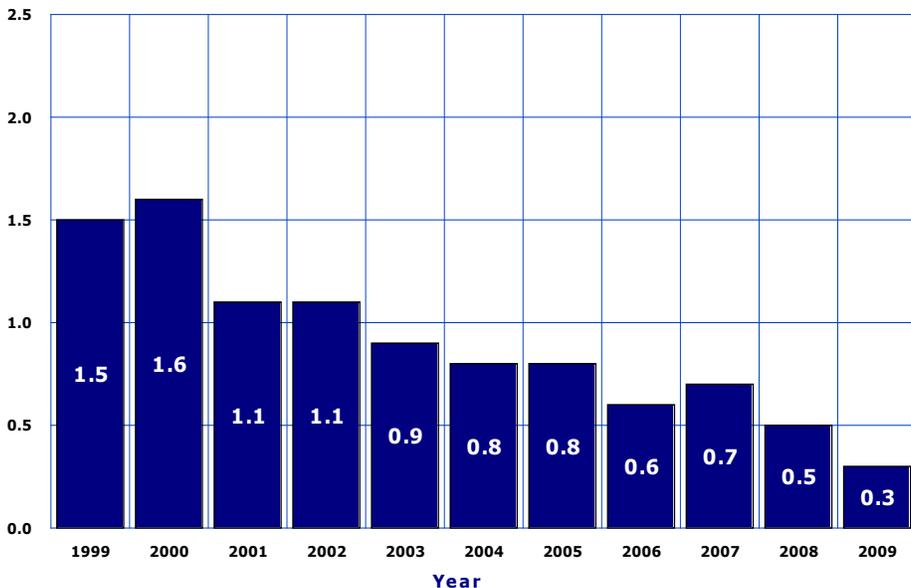


Number of cases per 100,000 population.

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. In 2008 (the latest available year), 63.4 percent of *coccidioidomycosis* in the United States occurred in Arizona.

Valley Fever imposed the greatest burden on morbidity among all non-sexually transmitted, notifiable diseases in Arizona in 2009. The reported incidence of Valley Fever increased sharply from 4,768 cases in 2008 to 10,233 cases in 2009 primarily because certain laboratories in the State adopted a less stringent case definition. The 2009 incidence rate of 155.1/100,000 (**Figure 3A-1, Table 5 F-2**) was 4.1 times greater than the incidence rate of 37.4/100,000 in 2000.

Figure 3A-2
Trends in Case Fatality Rates for Valley Fever (Coccidioidomycosis) by Year, Arizona, 1999-2009



Number of deaths per 100 reported cases

Despite the increase in the incidence rates, the annual mortality rates steadily declined. Thirty-five from among 10,223 Arizonans who had *Valley Fever* in 2009, died from it (**Table 3A-2**) for a case fatality rate of 0.3 deaths per 100 cases, a decrease from 0.7/100 in 2007 and 0.5 in 2008 (**Figure 3A-2**).

3A. NON-SEXUALLY TRANSMITTED DISEASES

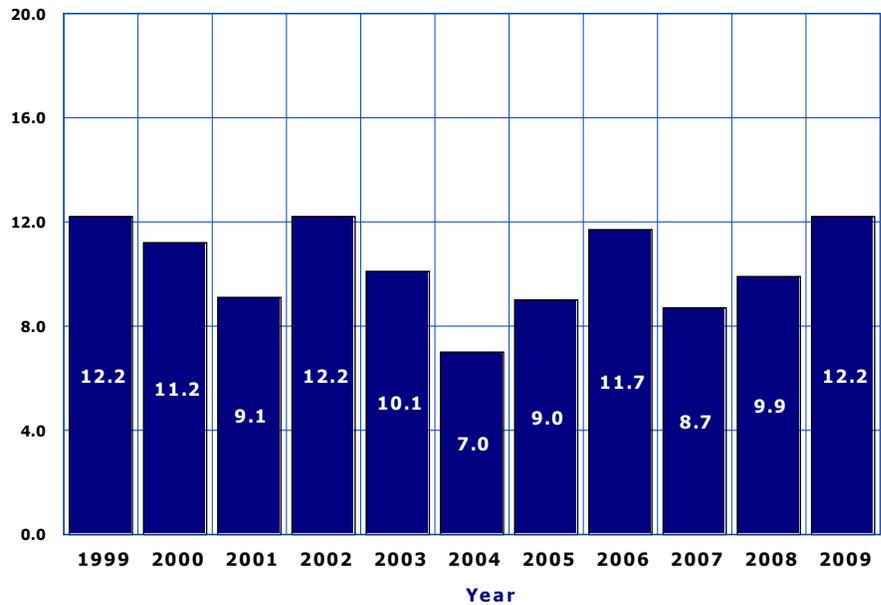
Figure 3A-3
Trends in the Incidence Rates of Shigellosis by Year, Arizona, 1999-2009

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 1999. In 2000 - 2009, *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 806 in 2009. The incidence rate of *shigellosis* increased to 12.2 cases per 100,000 in 2009 (Figure 3A-3). The risk of this disease was much higher in Navajo County (56.3/100,000; Table 5F-2).

One Arizona resident who had *shigellosis* in 2009, died from it (Table 3A-2).



Number of reported cases per 100,000 population.

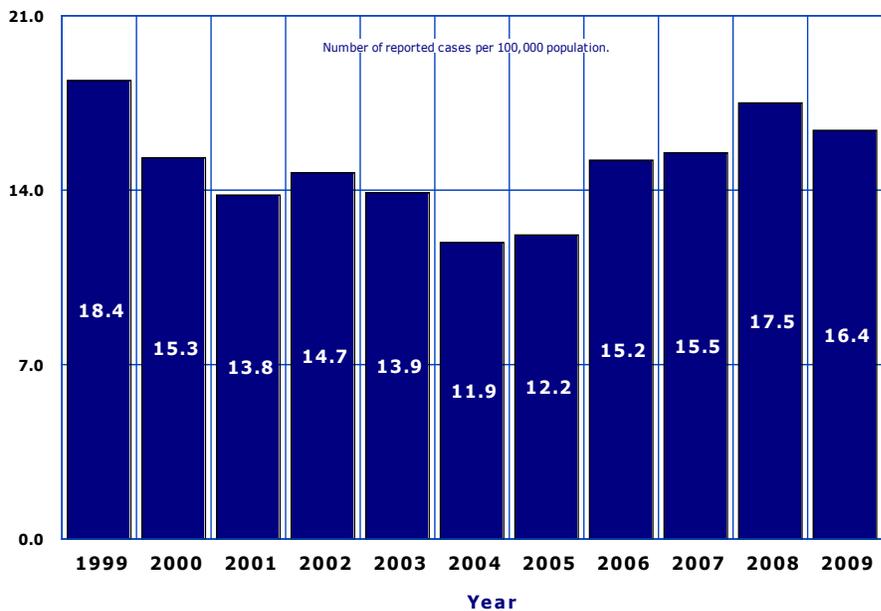
Figure 3A-4
Trends in the Incidence Rates of Salmonellosis* by Year, Arizona, 1999-2009

Salmonellosis is a bacterial infection. Most of those who are infected with *Salmonella* develop diarrhea, fever, and abdominal cramps. In 2008, more than 51,000 cases of *Salmonellosis* are reported in the United States.

From 1999 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 2006-2009, *salmonellosis* once again was the most common enteric disease in the State.

The incidence rate of *salmonellosis* decreased from 17.5 cases per 100,000 population in 2008, to 16.4/100,000 in 2009 (Figure 3 A-4). The risk of *salmonellosis* was substantially higher in Graham (55.3/100,000), and Greenlee (34.5/100,000) counties (Table 5F-2).

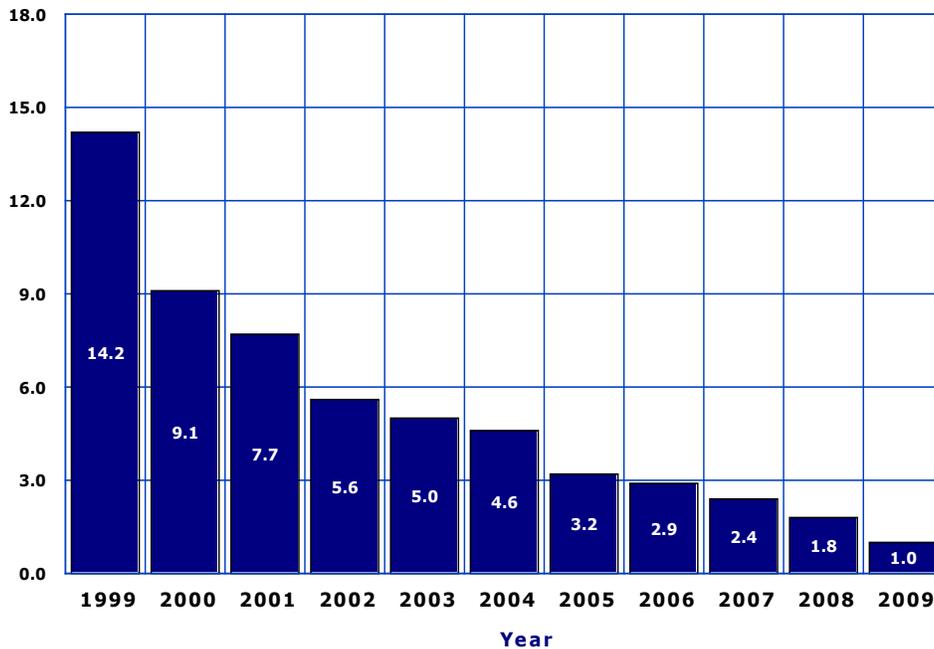
Unlike in 2008, no Arizonan resident who had *salmonellosis* died from it in 2009 (Table 3A-2).



*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, 1999-2009



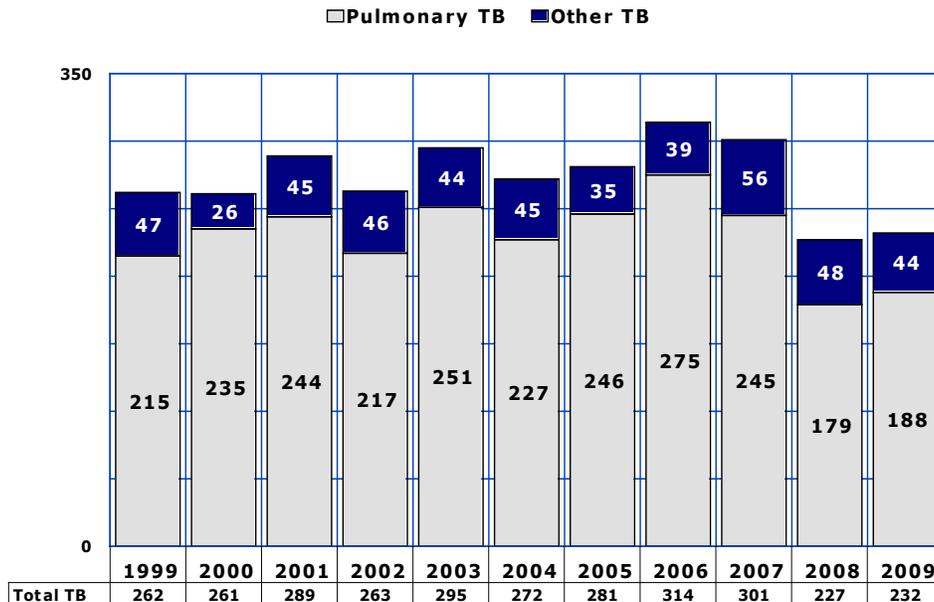
Number of reported cases per 100,000 population.

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. 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 93.0 percent from a recent high of 14.2/100,000 in 1999 to 1.0/100,000 in 2009 (**Figure 3A-5**).

In 2009, the incidence rate of 14.7 cases of hepatitis A per 100,000 residents of Santa Cruz County substantially exceeded the state rate (**Table 5F-2**).

Figure 3A-6
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis by Year,
Arizona, 1999-2009



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* slightly increased from 179 in 2008 to 188 in 2009. In contrast, the number of reported cases of tuberculosis other than pulmonary decreased from 56 reported in 2007 to 48 in 2008, and 44 in 2009 (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis remained unchanged at 3.5 cases per 100,000 population both in 2008 and 2009 (**Table 5F-2**). The risk of the disease was 2.9 times higher in La Paz County (10.3 cases per 100,000 population).

Pulmonary tuberculosis accounted for 81.0 percent of all tuberculosis infections in 2009 (**Table 3A-1**). Eight Arizonans who had *tuberculosis* died from it in 2009 (**Table 3A-2**).

**TABLE 3A-1
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 1999-2009**

Disease	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Vaccine Preventable											
Measles	1	0	1	0	1	0	1	0	1	18	0
Mumps	1	6	2	1	1	2	1	40	10	5	10
Pertussis	139	143	690	717	211	278	1,108	508	210	218	277
Pertussis confirmed cases	(75)	(108)	(382)	(280)	(128)	(149)	(486)	(36)	(15)	(23)	(79)
Rubella	13	1	0	0	0	0	0	0	0	1	0
Congenital Rubella Syndrome	2	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae type b (invasive, age < 5 years)	2	3	5	5	8	1	1	3	3	3	1
Chickenpox	960	1,522	951	606	1,620	920	1,537	974	930	778	534
Central Nervous System											
Aseptic Meningitis	155	163	206	271	1,516	734	832	720	632	688	516
Meningococcal Disease	44	33	21	32	34	15	36	16	13	9	15
Viral Encephalitis	8	3	17	14	28	32	26	18	14	8	2
Enteritides											
Amebiasis	23	38	29	28	43	14	20	16	13	11	7
Campylobacteriosis	594	619	635	733	850	795	867	803	962	1,006	877
Cholera	2	0	0	0	1	0	0	0	1	0	0
Cryptosporidiosis	16	10	11	19	6	17	11	29	53	89	34
E. coli O157:H7	35	56	30	40	41	28	35	105	106	69	68
Giardiasis	255	313	267	268	256	176	183	163	192	142	198
Salmonellosis (exl. S. Typhi & S. Paratyphi)	908	787	733	807	782	694	739	949	997	1,143	1,079
Salmonella Paratyphi A	1	4	2	3	3	3	1	2	1	1	1
Salmonella Paratyphi B	5	7	3	11	4	4	6	7	2	10	6
Salmonella Paratyphi C	0	0	0	4	0	0	0	0	1	0	0
Shigellosis	600	577	483	668	566	409	547	729	557	650	806
Typhoid Fever	2	4	2	0	2	2	4	7	7	3	2
Mycosis											
Coccidioidomycosis (Valley Fever)	1,812	1,917	2,301	3,118	2,695	3,665	3,515	5,535	4,832	4,768	10,233
Hepatitides											
Hepatitis A	700	467	409	305	280	267	195	179	152	118	68
Hepatitis B (acute)	138	215	164	253	283	289	375	373	180	163	193
Hepatitis C (acute)	49	21	9	6	7	1	0	0	0	0	0
Hepatitis D	21	19	5	0	0	0	2	1	3	0	0
Hepatitis E	0	0	0	0	0	0	0	1	1	0	0
Hepatitis non-A non-B	0	1	0	0	0	0	NA	NA	NA	NA	NA
Tuberculosis											
Pulmonary TB	215	235	244	217	251	227	246	275	245	179	188
Total TB	262	261	289	263	295	272	281	314	301	227	232

TABLE 3A-1 (continued)
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 1999-2009

Disease	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Zoonoses/Vector-borne											
Brucellosis	1	1	6	6	1	1	5	4	4	3	3
Colorado Tick Fever	0	0	0	0	0	0	0	0	0	0	0
Dengue	2	3	1	2	0	0	0	9	8	6	5
Erichiosis	0	1	1	0	0	0	1	0	0	2	1
Hantavirus Pulmonary Syndrome	3	4	1	3	0	2	5	13	6	1	1
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	3	2	3	4	4	13	10	12	3	8	7
Malaria	7	11	19	17	17	16	21	23	12	17	10
Plague	0	1	0	0	0	0	0	0	2	1	0
Relapsing Fever, Tick-borne	0	0	3	0	0	0	0	0	0	0	2
Rocky Mountain Spotted Fever	1	0	0	0	0	4	25	11	10	17	23
St. Louis Encephalitis	NA	NA	NA	NA	5	4	1	2	0	0	0
Tularemia	2	1	1	0	1	0	2	1	3	0	0
West Nile Virus	NA	NA	NA	NA	12	391	111	148	98	114	21
Other											
Legionellosis	7	11	21	15	21	23	26	38	40	26	49
Listeriosis	19	20	10	18	12	10	13	7	12	8	8
Methicillin Resistant S. aureus (invasive)	NA	NA	NA	NA	NA	NA	1,432	1,336	1,305	1,417	1,171
Streptococcal-Group A (invasive)	260	235	187	314	260	247	303	351	208	204	161
Streptococcal-Group B (invasive, age <90 d)	43	42	55	27	42	47	44	54	59	57	52
Streptococcus pneumoniae (invasive)	820	823	784	789	718	670	726	971	923	1,077	907
Reyes Syndrome	0	0	1	0	0	0	0	0	0	0	0
Toxic Shock Syndrome	0	0	0	0	9	2	1	2	5	1	1
Botulism	0	1	3	3	0	1	2	5	1	2	3
Vibrio spp. (except toxogenic V.cholerae)	5	3	6	9	19	8	16	25	11	14	19
Vancomycin resist. Enterococcus spp.(VRE)	1,024	1,084	877	1,031	1,013	1,404	1,956	2,683	2,494	NA	NA
Yersiniosis (except Y. pestis)	6	4	5	6	7	6	5	11	8	4	7

Note: Non-resident cases have been excluded. Only incident cases are reported. Cases are counted by date reported to public health. Case counts include both probable and confirmed cases unless otherwise indicated. E. coli has included both E. coli O157:H7 and Shiga-toxin positive E.colis since October 2004. 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 October 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.

Note: In mid-2009, a large laboratory changed its reporting practices for coccidioidomycosis. Reported coccidioidomycosis has been elevated since then.

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

**TABLE 3A-2
NUMBER OF DEATHS FROM SELECTED NOTIFIABLE DISEASES BY CATEGORY AND YEAR,
ARIZONA, 1999-2009**

ICD-9/ICD-10 codes	Disease	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
VACCINE PREVENTABLE												
055/B05	Measles	1	0	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)	0	1	2	1	1	0	1	0	0	1	2
056/B06	Rubella	0	0	0	0	0	0	0	0	0	0	0
052/B01	Chickenpox	1	1	0	0	1	2	0	0	0	0	2
CENTRAL NERVOUS SYSTEM												
047.9/G03.0	Aseptic meningitis	1	0	1	0	0	0	1	0	0	1	1
036/A39	Meningococcal infections	5	1	1	4	2	0	1	2	0	0	0
049.9/A86	Viral encephalitis	0	0	5	3	0	1	1	4	3	2	5
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)	0	1	0	0	2	2	0	1	1	2	0
004/A03	Shigellosis	0	0	0	0	0	0	1	0	0	0	1
002/A01	Typhoid	0	0	0	0	0	0	0	0	0	1	0
MYCOSIS												
114/B38	Coccidioidomycosis (Valley Fever)	28	30	25	34	24	28	28	33	36	24	35
HEPATITIDES												
070.0-070.1/B15	Hepatitis A	3	2	1	3	3	2	0	2	1	1	1
070.2-070.3/B16	Hepatitis B	9	18	9	14	12	10	12	21	13	6	4
070.4-070.5/B17-	Other viral hepatitis	81	68	96	90	137	125	151	189	131	176	233
070.6-070.9/B19	Unspecified	2	2	2	2	3	3	2	2	3	2	1
TUBERCULOSIS												
010-011/A15-A16	Respiratory TB	15	12	9	18	9	8	13	13	10	10	8
010-018/A15-A19	Total TB	20	14	11	22	12	11	17	20	12	13	8
ZOOSES/VECTOR-BORNE												
023.9/A23	Brucellosis	0	1	0	0	0	0	0	0	0	0	0
061/A90	Dengue	0	0	0	0	0	0	0	1	0	0	0
071/A82	Human Rabies	0	0	0	0	0	0	0	0	0	0	0
084/B50-B54	Malaria	0	0	1	0	0	0	0	2	0	0	0
020/A20	Plague	0	0	0	0	0	0	0	0	1	0	0
082/A77.0	Rocky Mountain Spotted Fever	0	0	0	0	1	0	1	0	0	1	1
021/A21	Tularemia	0	0	0	0	0	0	0	0	0	0	0
OTHER												
482.8/A48.1	Legionellosis	2	1	1	0	2	0	0	3	1	0	3
027.0/A32	Listeriosis	0	0	1	0	0	0	0	0	0	0	0
331.8/G93.7	Reyes Syndrome	0	0	0	1	0	0	0	0	0	0	0
995.0/A48.3	Toxic Shock Syndrome	0	0	0	1	2	2	3	2	0	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.

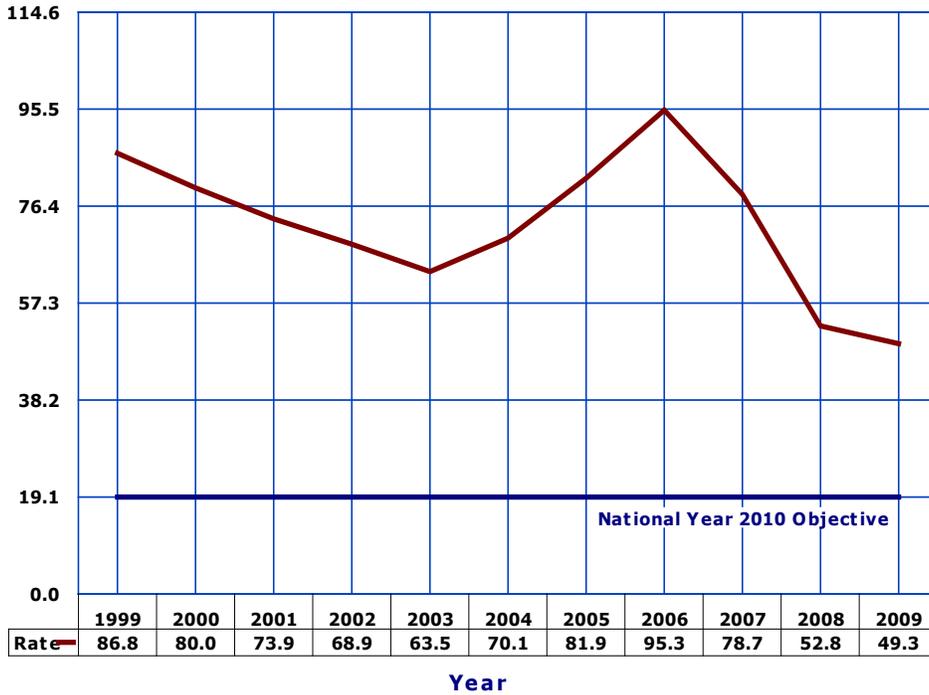
It is important to note, that disease reporting is likely incomplete, and completeness may vary depending on the disease. Moreover, changes in methods for public health surveillance, or implementation of new diagnostic tests can cause changes in disease reporting that are independent of the true incidence 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, 2008. Published June 25, 2010, for 2008; Vol. 57 (No. 54). Available online at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5754a1.htm>

3B. SEXUALLY TRANSMITTED DISEASES

Figure 3B-1
Trends in the Incidence Rates of Gonorrhea by Year, Arizona, 1999-2009



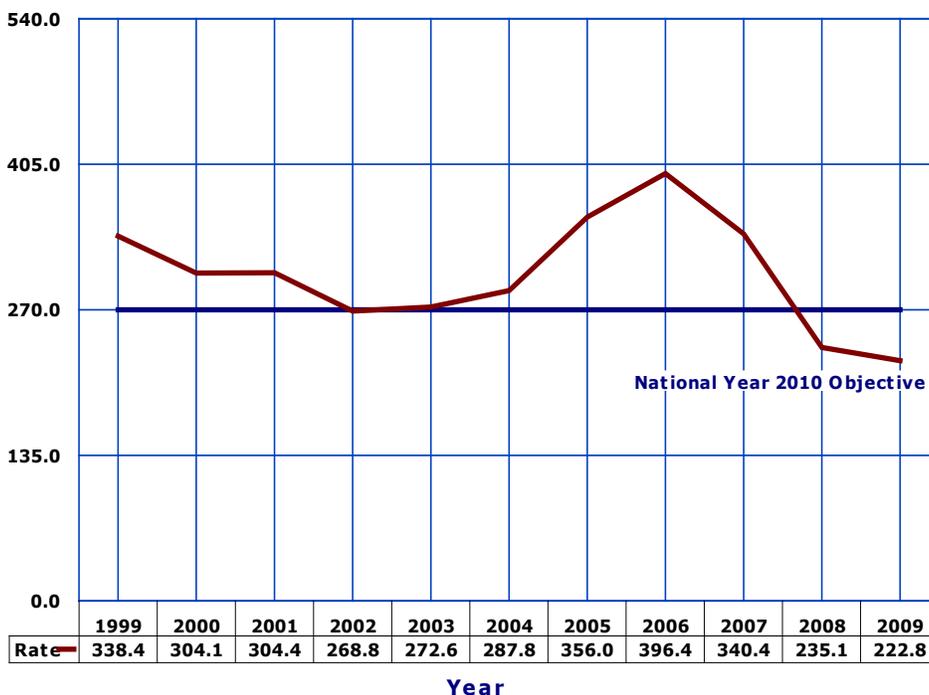
Number of reported cases per 100,000 population.

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 third consecutive year from 5,949 cases in 2006 to 3,250 cases in 2009.

The *Healthy People 2010* objectives 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 49.3/100,000 requires a 61.3 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, 1999-2009



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 43.8 percent decrease in the incidence rate from 396.4 cases per 100,000 females 15-24 years old in 2006, the 2009 rate of 222.8/100,000 was lower than the *Healthy People 2010* target rate (Figure 3B-2, Table 6A-2). Three 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, 1999-2009

Chlamydia trachomatis is the most prevalent bacterial sexually transmitted disease in the United States (1,210,523 cases in 2008), with the highest rates reported among adolescents and young adults (**Table 3 B-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 increased by 3.4 percent from 3,010 cases per 100,000 in 2008 to 3113/100,000 in 2009. This latest annual incidence rate exceeded by 88.7 percent the *Health People 2010* target rate of 1,650 cases of *chlamydia* per 100,000 females 15-24 years old (**Table 6A-2**).

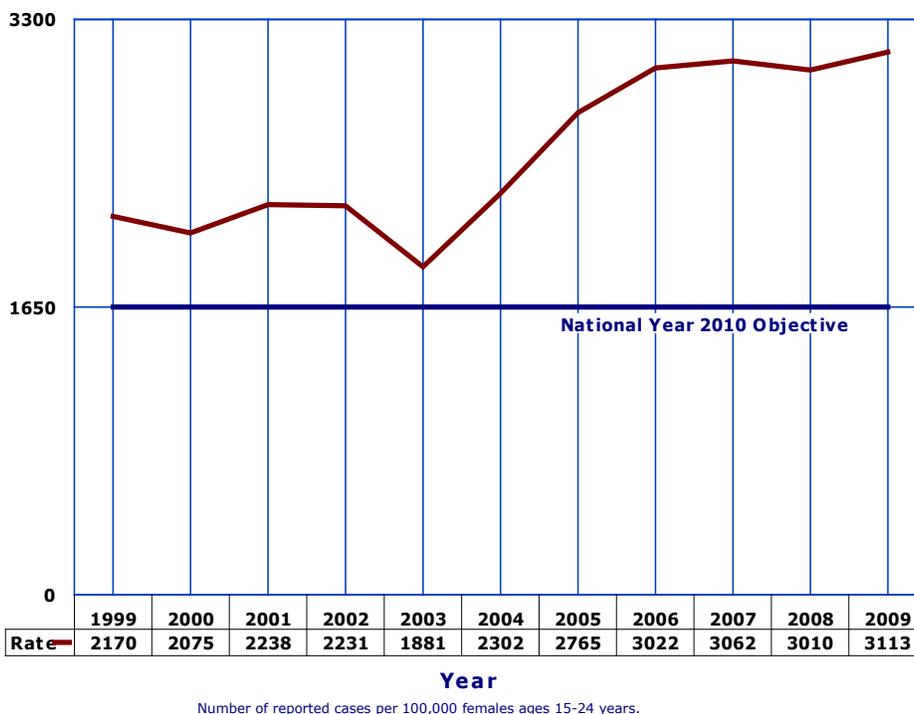


Figure 3B-4
Trends in the Incidence Rates of Congenital Syphilis by Year, Arizona, 1999-2009

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 2009 rate of 31.3/100,000 was slightly lower but it still was 31.3 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**).



**TABLE 3B-1
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 1999-2009**

Disease	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Genital Herpes	972	1,119	1,173	1,148	910	1,196	1,189	1,740	2,003	1,855	775
Gonorrhea	4,273	4,105	3,922	3,772	3,576	4,088	4,951	5,949	5,062	3,449	3,250
Gonococcal PID ¹	65	21	5	3	0	15	8	4	2	0	0
Resistant Gonorrhea ²	4	0	0	1	2	1	1	0	0	0	0
Syphilis (P & S) ³	212	189	180	200	186	160	175	203	296	317	231
Syphilis-Total ⁴	830	847	1,153	1,077	1,094	998	789	931	1,242	1,396	1,085
Chlamydia	12,061	12,515	14,352	14,899	12,785	16,869	21,264	24,090	24,866	24,769	26,002

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: Since 2005, the table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report.

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, 1999-2009**

Disease	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
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	3	0	3	1	1	1	0	0	0	1	0

Note: Number of deaths associated with Syphilis are still birth (congenital syphilis).

**TABLE 3B-3
FREQUENCY OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, EARLY SYPHILIS AND GENITAL HERPES
BY AGE AND GENDER, ARIZONA, 2009**

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	1	0	3	8	12	0	20	0	0	0	0	6	7	0	13
5-9	0	0	0	0	1	4	0	5	0	0	0	0	1	3	0	4
10-14	4	26	0	30	30	224	0	254	0	0	0	0	1	1	0	2
15-19	277	453	0	730	1,614	6,771	0	8,385	17	6	0	23	15	60	0	75
20-24	548	520	0	1,068	2,442	6,828	0	9,270	61	24	0	85	34	104	0	138
25-29	340	235	0	575	1,411	2,921	1	4,333	57	19	1	77	40	70	0	110
30-34	220	110	0	330	665	1,243	0	1,908	46	4	0	50	31	69	0	100
35-39	128	73	0	201	332	602	0	934	38	10	0	48	27	45	0	72
40-44	88	28	0	116	199	262	0	461	54	9	0	63	28	42	0	70
45-54	137	23	0	160	153	178	0	331	53	7	0	60	40	66	0	106
55-64	24	4	0	28	34	36	0	70	17	2	0	19	26	29	0	55
65-over	7	2	0	9	15	16	0	31	2	0	0	2	12	18	0	30
Total	1,775	1,475	0	3,250	6,904	19,097	1	26,002	345	81	1	427	261	514	0	775

Note: Since 2005, the table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report.

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, 2009

Age group	GONORRHEA			CHLAMYDIA			EARLY SYPHILIS			GENITAL HERPES		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
0-4	0.8	0.4	0.6	3.1	4.9	4.0	0.0	0.0	0.0	2.4	2.9	2.6
5-9	0.0	0.0	0.0	0.4	1.7	1.1	0.0	0.0	0.0	0.4	1.3	0.9
10-14	1.7	11.4	6.4	12.5	98.4	54.4	0.0	0.0	0.0	0.4	0.4	0.4
15-19	117.6	205.4	160.1	685.3	3070.0	1838.5	7.2	2.7	5.0	6.4	27.2	16.4
20-24	227.8	240.5	233.8	1015.0	3157.8	2029.3	25.4	11.1	18.6	14.1	48.1	30.2
25-29	129.2	98.4	114.6	536.3	1223.1	863.3	21.7	8.0	15.3	15.2	29.3	21.9
30-34	92.2	49.4	71.5	278.7	558.3	413.7	19.3	1.8	10.8	13.0	31.0	21.7
35-39	55.2	32.9	44.3	143.0	271.3	205.7	16.4	4.5	10.6	11.6	20.3	15.9
40-44	38.1	12.5	25.5	86.2	116.6	101.2	23.4	4.0	13.8	12.1	18.7	15.4
45-54	32.5	5.3	18.8	36.3	41.3	38.9	12.6	1.6	7.0	9.5	15.3	12.4
55-64	7.5	1.2	4.2	10.6	10.4	10.5	5.3	0.6	2.9	8.1	8.4	8.3
65-over	1.8	0.4	1.0	3.9	3.4	3.6	0.5	0.0	0.2	3.1	3.8	3.5
Total	53.8	44.8	49.3	209.1	579.7	394.2	10.4	2.5	6.5	7.9	15.6	11.7

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 2009.

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, 2009**

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	176	41.2	4.4	130	20.7	3.3	0	0.0	0.0	756	23.3	19.0	6,220	23.9	156.3	225	29.0	5.7			
Black or African American	29	6.8	11.1	48	7.6	18.4	0	0.0	0.0	823	25.3	316.0	2,414	9.3	926.9	34	4.4	13.1			
Hispanic or Latino	171	40.0	9.3	255	40.5	13.9	0	0.0	0.0	851	26.2	46.4	8,653	33.3	471.5	145	18.7	7.9			
Asian or Pacific Islander	3	0.7	1.7	7	1.1	4.0	0	0.0	0.0	20	0.6	11.5	262	1.0	150.6	5	0.6	2.9			
American Indian or Alaska Native	40	9.4	11.6	43	6.8	12.4	0	0.0	0.0	173	5.3	50.0	2,351	9.0	679.3	109	14.1	31.5			
Not Specified	8	1.9	N/A	146	23.2	N/A	0	0.0	NA	627	19.3	N/A	6,102	23.5	N/A	257	33.2	N/A			
Total	427	100.0	6.5	629	100.0	9.5	0	0.0	0.0	3,250	100.0	49.3	26,002	100.0	394.2	775	100.0	11.7			

Note: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2009.
 Note: Rates per 100,000 population.

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



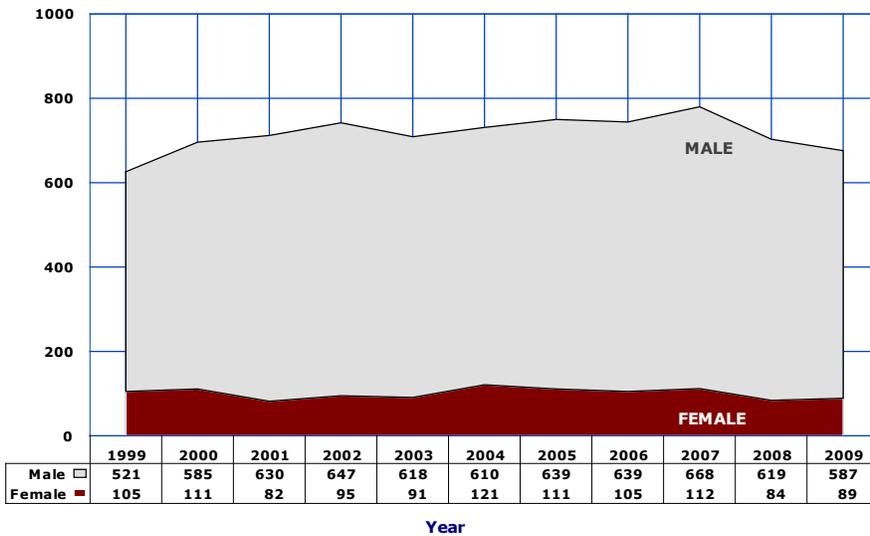
3C.

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 1981-2009, 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 1981-2009 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/2010annReport/2010%20EXECUTIVE%20SUMMARY.pdf>)

3C. HIV DISEASE AND AIDS

Figure 3C-1
Reported Cases of HIV/AIDS by Gender and Year of Diagnosis,
Arizona, 1999-2009

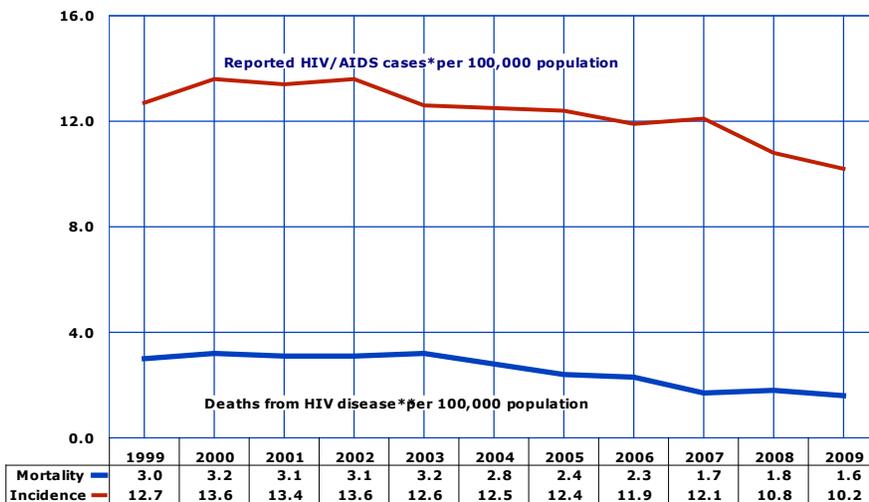


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 18,531 cases of HIV/AIDS had been diagnosed in the State by the end of 2009 and reported by July 1, 2010 (**Table 3C-1**).

In 2009, males accounted for 86.8 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2009 was 6.6:1 (587/89, **Figure 3C-1, Table 3 C-2**). However, this number has changed considerably since 1999 when the male to female ratio was 5:1 (**Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of HIV/AIDS in 2009 remained similar to previous years. Of the 676 *HIV/AIDS* cases diagnosed in 2009, 351 (51.9 percent) were among men who reported sexual contact with other men (**Table 3C-4**). Another 56 (8.3 percent) reported heterosexual contact. An additional 53 (7.8 percent) reported only injecting drugs. Adults without an indicated risk accounted for 27.1 percent of HIV/AIDS cases diagnosed in 2009.

Figure 3C-2
Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease
by Year, Arizona, 1999-2009



The incidence rate measures the relative risk for HIV/AIDS in a population. The incidence rate of HIV/AIDS has fallen in Arizona by 25.0 percent from the recent peak of 13.6 cases per 100,000 population in 2002 to 10.2/100,000 in 2009 (**Figure 3C-2**).

The rate of deaths from *HIV disease* slightly decreased from 1.8 deaths per 100,000 population in 2008 to 1.6/100,000 in 2009 (**Figure 3C-2**).

Of the 676 *HIV/AIDS* cases diagnosed in 2009, 293 (43.3 percent) were White non-Hispanic, 242 (35.8 percent) were Hispanic, 73 were Black (10.8 percent), 38 were American Indian (5.6 percent), and 10 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, 1981-2009**

Age Group (years)	HIV/AIDS cases
Under 5	92
5-12	45
13-19	343
20-29	5,292
30-39	7,129
40-49	3,947
50 or above	1,663
Missing	20
Total	18,531

**TABLE 3C-2
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,
ARIZONA, 1981-1998 and 1999-2009**

	1981-1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
# Males	9,492	521	585	630	647	618	610	639	639	668	619	587
# Females	1,170	105	111	82	95	91	121	111	105	112	84	89
# Total	10,662	626	696	712	742	709	731	750	744	780	703	676
# Presumed Living	5,135	478	556	586	620	614	631	671	673	724	665	650
# Known dead	5,527	148	140	126	122	95	100	79	71	56	38	26
% Mortality	51.8	23.6	20.1	17.7	16.4	13.4	13.7	10.5	9.5	7.2	5.4	3.8

Note: Due to reporting delays, all numbers are provisional (2009 volume as of 7/1/2010).

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, 1981-1998 AND 1999-2009**

Race/ethnicity	1981-1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
White non-Hispanic	7,310	313	377	391	384	365	349	370	336	360	352	293
Black or African American non-Hispanic	906	74	94	82	74	82	94	79	108	81	70	73
Hispanic or Latino all races	1,912	198	187	190	236	220	244	242	257	281	227	242
Asian or Pacific Islander non-Hispanic	50	1	7	5	6	5	9	9	9	14	11	10
American Indian or Alaska Native non-Hispanic	254	33	22	35	39	30	31	42	28	29	32	38
Two or more races/ other or unknown race	230	7	9	9	3	7	4	8	6	15	11	20
Total	10,662	626	696	712	742	709	731	750	744	780	703	676

**TABLE 3C-4
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,
ARIZONA, 1981-1998 AND 1999-2009**

Transmission	1981-1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
MSM	6,160	340	384	449	470	445	448	487	479	427	410	351
IV Drug User (IDU)	1,459	98	101	108	98	94	97	93	93	52	68	53
MSM/IDU	1,226	56	63	57	73	69	42	44	37	39	31	33
Hemophilic (Adult)	77	0	2	1	1	0	1	1	0	0	0	0
Heterosexual Contact	716	96	106	72	80	85	110	69	71	72	50	56
Transfusion/transplant (Adult)	119	0	3	1	3	0	0	2	1	0	0	0
No indicated risk (Adult)	819	31	28	16	13	12	29	44	59	187	144	183
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+	61	5	8	7	3	4	3	10	4	3	0	0
Pediatric (no indicated risk)	6	0	1	1	1	0	1	0	0	0	0	0
Total	10,662	626	696	712	742	709	731	750	744	780	703	676

Note: Due to reporting delays, all numbers are provisional (2009 volume as of 7/1/2010).

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