

# **CHAPTER 3**

## **REPORTABLE DISEASES, ARIZONA, 2002-2012**

---

**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**

---

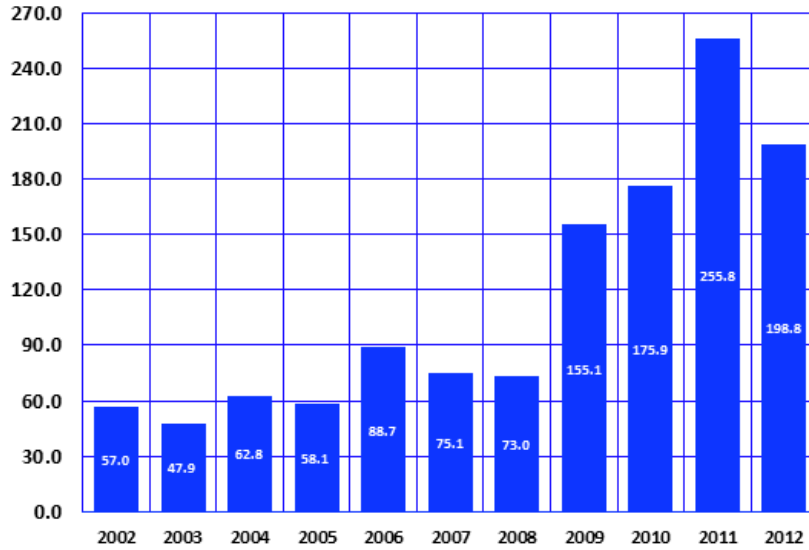
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable 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](http://www.azdhs.gov/phs/oids/data_reports.htm)

### 3A. NON-SEXUALLY TRANSMITTED DISEASES

**Figure 3A-1**  
Trends in the Incidence Rates<sup>a</sup> of Valley Fever (Coccidioidomycosis) by Year, Arizona, 2002-2012

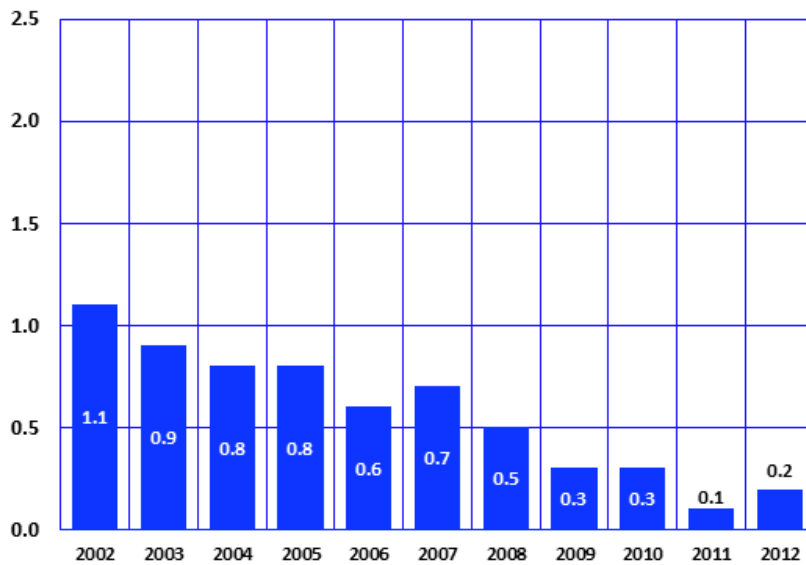


Note: <sup>a</sup> Number of cases per 100,000 population.

*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 2012. The reported incidence of Valley Fever decreased 21.6 percent from 2011 (n = 16,472) to 2012 (n = 12,920). The 2012 incidence rate of 198.8/100,000 (**Figure 3A-1, Table 5F-2**) was 3.5 times greater than the incidence rate of 57.0/100,000 in 2002.

**Figure 3A-2**  
Trends in Case Fatality Rates<sup>a</sup> for Valley Fever (Coccidioidomycosis) by Year, Arizona, 2002-2012



Note: <sup>a</sup> Number of deaths per 100 reported cases.

The annual mortality rates associated with *Coccidioidomycosis* have steadily declined over the last decade. Twenty-five of the 12,920 Arizonans who had *Valley Fever* in 2012 died from it (**Table 3A-2**) for a case fatality rate of 0.2 deaths per 100 cases (**Figure 3A-2**). The 2012 case mortality rate for *Coccidioidomycosis* was 5.5 times lower in 2012 than in 2002.

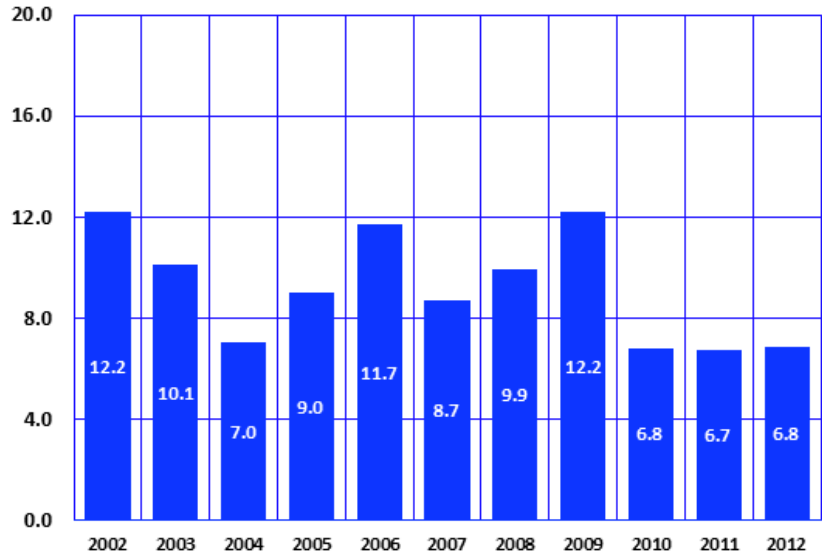
### 3A. NON-SEXUALLY TRANSMITTED DISEASES

**Figure 3A-3**  
Trends in the Incidence Rates<sup>a</sup> of Shigellosis by Year, Arizona, 2002-2012

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

From 2002 - 2012, *shigellosis* was the third most common enteric disease to afflict Arizonans after *campylobacteriosis* and *salmonellosis* (Table 3A-1).

The number of reported cases of *shigellosis* in 2012 was 444, similar to the number of cases observed in 2011 (n = 434). The incidence rate of *shigellosis* in 2012, 6.8 cases per 100,000, remained consistent with rates observed over the past two years (Figure 3A-3).



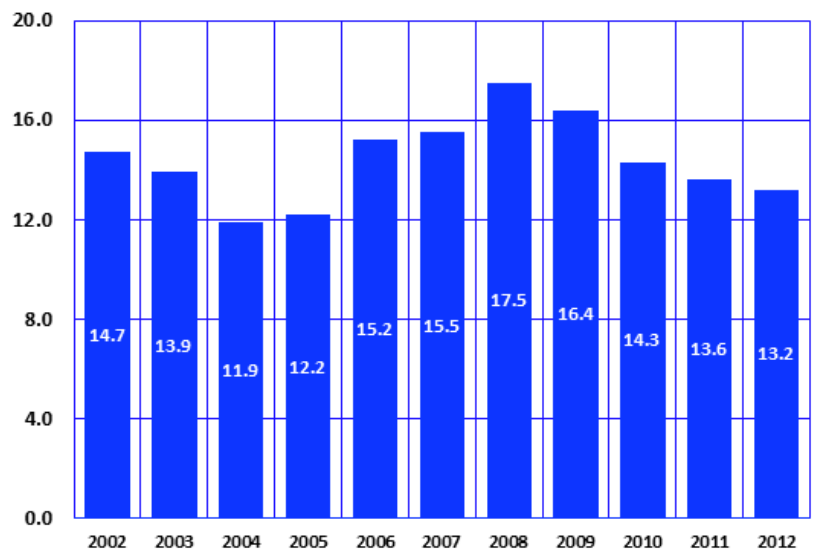
Note: <sup>a</sup> Number of reported cases per 100,000 population.

**Figure 3A-4**  
Trends in the Incidence Rates<sup>a</sup> of Salmonellosis<sup>b</sup> by Year, Arizona, 2002-2012

*Salmonellosis* is a bacterial infection. Most of those who are infected with *Salmonella* develop diarrhea, fever, and abdominal cramps.

The incidence rate of *salmonellosis* decreased from 17.5 cases per 100,000 population in 2008 to 13.2/100,000 in 2012 (Figure 3A-4). The risk of *salmonellosis* was substantially higher in Graham (32.2/100,000), Santa Cruz (30.8/100,000), and Navajo (26.9/100,000) counties (Table 5F-2).

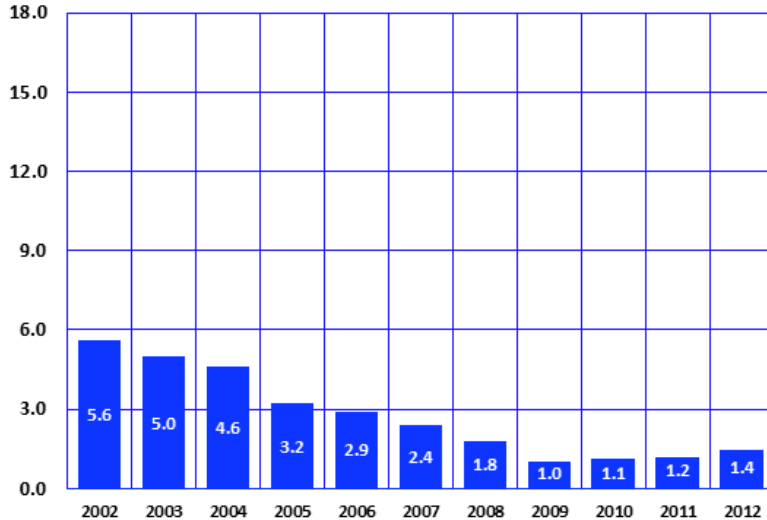
There were no Arizona residents who died from *salmonellosis* in 2012 (Table 3A-2).



Notes: <sup>a</sup> Number of reported cases per 100,000 population; <sup>b</sup> Excluding *S. Typhi* and *S. Paratyphi*.

### 3A. NON-SEXUALLY TRANSMITTED DISEASES

**Figure 3A-5**  
Trends in the Incidence Rates<sup>a</sup> of Hepatitis A by Year,  
Arizona, 2002-2012

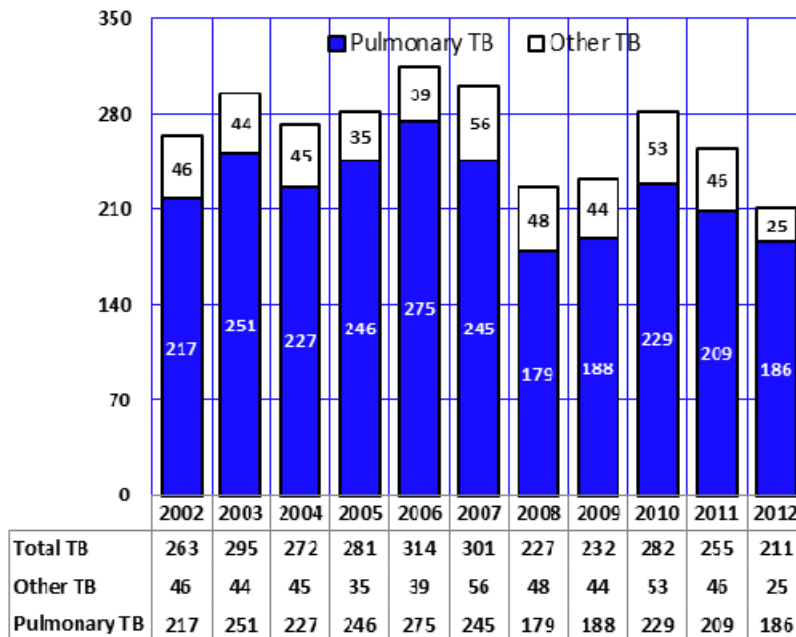


*Hepatitis A* is a liver disease caused by the *hepatitis A* virus. During 1995-1996, highly effective *hepatitis A* vaccines became available in the United States. Routine childhood vaccination for *hepatitis A* was recommended in 1999. The expansion of recommendations for routine *hepatitis A* vaccination 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 75.0 percent from 5.6/100,000 in 2002 to 1.4/100,000 in 2012 (**Figure 3A-5**).

Note: <sup>a</sup> Number of reported cases per 100,000 population.

**Figure 3A-6**  
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis<sup>a</sup> by Year,  
Arizona, 2002-2012



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 209 reported cases in 2011 to 186 reported cases in 2012. The number of reported cases of tuberculosis other than pulmonary decreased from 46 reported in 2011 to 25 in 2012 (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis decreased from 4.0/100,000 in 2011 to 3.2/100,000 in 2012 (**Table 5F-2**).

*Pulmonary tuberculosis* accounted for 88.2 percent of all tuberculosis infections in 2012 (**Table 3A-1**). Five Arizonans who had *tuberculosis* died from it in 2012 (**Table 3A-2**).

Note: <sup>a</sup> Number of reported cases by year.

**TABLE 3A-1  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2002-2012**

Disease	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Vaccine Preventable</b>											
Measles	0	*	0	*	0	*	18	0	*	*	*
Mumps	*	*	*	*	40	10	*	10	*	0	*
Pertussis	717	211	278	1,108	508	210	218	277	546	867	1,130
Pertussis confirmed cases	(280)	(128)	(149)	(486)	(36)	(15)	(23)	(79)	(95)	(160)	(575)
Rubella	0	0	0	0	0	0	*	0	*	0	0
Congenital Rubella Syndrome	0	0	0	0	0	0	0	0	0	0	0
<i>Haemophilus influenzae</i> type b (invasive, age < 5 years)	*	8	*	*	*	*	*	*	*	*	*
Chickenpox	606	1,620	920	1,537	974	930	778	534	512	660	535
<b>Central Nervous System</b>											
Aseptic Meningitis	271	1,516	734	832	720	632	688	516	733	400	453
Meningococcal Disease	32	34	15	36	16	13	9	15	14	16	6
Viral Encephalitis	14	28	32	26	18	14	8	*	6	6	*
<b>Enteritides</b>											
Amebiasis	28	43	14	20	16	13	11	7	13	21	17
Campylobacteriosis	733	850	795	867	803	962	1,006	877	956	939	940
Cholera	0	*	0	0	0	*	0	0	0	0	0
Cryptosporidiosis	19	6	17	11	29	53	89	34	40	46	47
<i>E. coli</i> O157:H7	40	41	28	35	105	106	69	68	100	126	141
Giardiasis	268	256	176	183	163	192	142	198	167	133	113
Salmonellosis (exl. <i>S. Typhi</i> & <i>S. Paratyphi</i> )	807	782	694	739	949	997	1,143	1,079	984	877	857
<i>Salmonella</i> Paratyphi A	*	*	*	*	*	*	*	*	7	*	0
<i>Salmonella</i> Paratyphi B	11	*	*	6	7	*	10	6	*	7	*
<i>Salmonella</i> Paratyphi C	*	0	0	0	0	*	0	0	0	0	0
Shigellosis	668	566	409	547	729	557	650	806	465	434	444
Typhoid Fever	0	*	*	*	7	7	*	*	6	*	7
<b>Mycosis</b>											
Coccidioidomycosis (Valley Fever)	3,118	2,695	3,665	3,515	5,535	4,832	4,768	10,233	11,888	16,472	12,920
<b>Hepatitides</b>											
Hepatitis A	305	280	267	195	179	152	118	68	62	77	93
Hepatitis B (acute)	253	283	289	375	373	180	163	193	150	185	104
Hepatitis C (acute)	6	7	*	0	0	0	0	0	0	NA	NA
Hepatitis D	0	0	0	*	*	*	0	0	*	0	0
Hepatitis E	0	0	0	0	*	*	0	0	*	0	0
Hepatitis non-A non-B	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA
<b>Tuberculosis</b>											
Pulmonary TB	217	251	227	246	275	245	179	188	229	209	211
Total TB	263	295	272	281	314	301	227	232	282	255	186

**TABLE 3A-1 (continued)  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2002-2012**

Disease	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Zoonoses/Vector-borne</b>											
Brucellosis	6	*	*	*	*	*	*	*	*	9	*
Colorado Tick Fever	0	0	0	0	0	0	0	0	0	*	0
Dengue	*	0	0	0	9	8	6	*	10	*	10
Ehrlichiosis	0	0	0	*	0	0	*	*	0	*	*
Hantavirus Pulmonary Syndrome	*	0	*	*	13	6	*	*	0	*	*
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	*	*	13	10	12	*	8	7	*	15	13
Malaria	17	17	16	21	23	12	17	10	28	21	19
Plague	0	0	0	0	0	*	*	*	0	0	0
Relapsing Fever, Tick-borne	0	0	0	0	0	0	0	0	*	0	*
Rocky Mountain Spotted Fever	0	0	*	25	11	10	17	23	17	77	50
St. Louis Encephalitis	NA	*	*	*	*	0	0	0	0	0	0
Tularemia	0	*	0	*	*	*	0	0	*	0	0
West Nile Virus	NA	12	391	111	148	98	114	21	166	69	135
<b>Other</b>											
Botulism	*	0	*	*	*	*	*	*	*	0	*
Legionellosis	15	21	23	26	38	40	26	49	65	46	44
Listeriosis	18	12	10	13	7	12	8	8	10	8	14
Methicillin Resistant <i>S. aureus</i> (invasive)	NA	NA	NA	1,432	1,336	1,305	1,417	1,171	1,166	1,196	1,089
Streptococcal-Group A (invasive)	314	260	247	303	351	208	204	161	190	206	199
Streptococcal-Group B (invasive, age <90 d)	27	42	47	44	54	59	57	52	45	39	57
<i>Streptococcus pneumoniae</i> (invasive)	789	718	670	726	971	923	1,077	907	823	767	661
Reyes Syndrome	0	0	0	0	0	0	0	0	0	0	0
Toxic Shock Syndrome	0	9	*	*	*	*	*	*	*	*	*
<i>Vibrio</i> spp. (except toxigenic <i>V.cholerae</i> )	9	19	8	16	25	11	14	19	18	26	29
Vancomycin resist. <i>Enterococcus</i> spp.(VRE)	1,031	1,013	1,404	1,956	2,683	2,494	NA	NA	N/A	NA	N/A
Yersiniosis (except <i>Y. pestis</i> )	6	7	6	*	11	8	*	7	*	6	10

Notes: \* Cell suppressed due to non-zero count less than 6; 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. Streptococcus pneumoniae was only reportable by laboratories until October 2004. Haemophilus influenzae type B includes all invasive H. influenzae B, not just meningitis, as of 1995. Meningococcal disease includes all invasive disease caused by Neisseria meningitidis, not just meningitis. 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. 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, 2002-2012**

ICD-9/ICD-10 codes	Disease	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>VACCINE PREVENTABLE</b>												
055/B05	Measles	0	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	*	0	0	*	*	0	0	0
056/B06	Rubella	0	0	0	0	0	0	0	0	0	0	0
052/B01	Chickenpox	0	*	*	0	0	0	0	*	*	*	*
<b>CENTRAL NERVOUS SYSTEM</b>												
047.9/G03.0	Aseptic meningitis	0	0	0	*	0	0	*	*	0	*	*
036/A39	Meningococcal infections	*	*	0	*	*	0	0	0	*	*	*
049.9/A86	Viral encephalitis	*	0	*	*	*	*	*	*	*	6	*
<b>ENTERITIDES (FOODBORNE)</b>												
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	*	*	0	*	*	*	0	*	*	0
004/A03	Shigellosis	0	0	0	*	0	0	0	*	*	0	0
002/A01	Typhoid	0	0	0	0	0	0	*	0	0	0	0
<b>MYCOSIS</b>												
114/B38	Coccidioidomycosis (Valley Fever)	34	24	28	28	33	36	24	35	39	22	25
<b>HEPATITIDES</b>												
070.0-070.1/B15	Hepatitis A	*	*	*	0	*	*	*	*	*	0	*
070.2-070.3/B16	Hepatitis B	14	12	10	12	21	13	6	*	10	9	12
070.4-070.5/B17-	Other viral hepatitis	90	137	125	151	189	131	176	233	207	209	274
070.6-070.9/B19	Unspecified	*	*	*	*	*	*	*	*	*	0	0
<b>TUBERCULOSIS</b>												
010-011/A15-A16	Respiratory TB	18	9	8	13	13	10	10	8	12	10	*
010-018/A15-A19	Total TB	22	12	11	17	20	12	13	8	15	12	*
<b>ZOOSES/VECTOR-BORNE</b>												
023.9/A23	Brucellosis	0	0	0	0	0	0	0	0	0	0	0
061/A90	Dengue	0	0	0	0	*	0	0	0	0	0	0
071/A82	Human Rabies	0	0	0	0	0	0	0	0	0	0	0
084/B50-B54	Malaria	0	0	0	0	*	0	0	0	0	0	0
020/A20	Plague	0	0	0	0	0	*	0	0	0	0	*
082/A77.0	Rocky Mountain Spotted Fever	0	*	0	*	0	0	*	*	*	*	0
021/A21	Tularemia	0	0	0	0	0	0	0	0	0	0	0
<b>OTHER</b>												
482.8/A48.1	Legionellosis	0	*	0	0	*	*	0	*	0	*	*
027.0/A32	Listeriosis	0	0	0	0	0	0	0	0	0	0	*
331.8/G93.7	Reyes Syndrome	*	0	0	0	0	0	0	0	0	0	0
995.0/A48.3	Toxic Shock Syndrome	*	*	*	*	*	0	0	0	0	0	0

Note: \* Cell suppressed due to non-zero count less than 6.





### 3B.

#### SEXUALLY TRANSMITTED DISEASES

---

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.

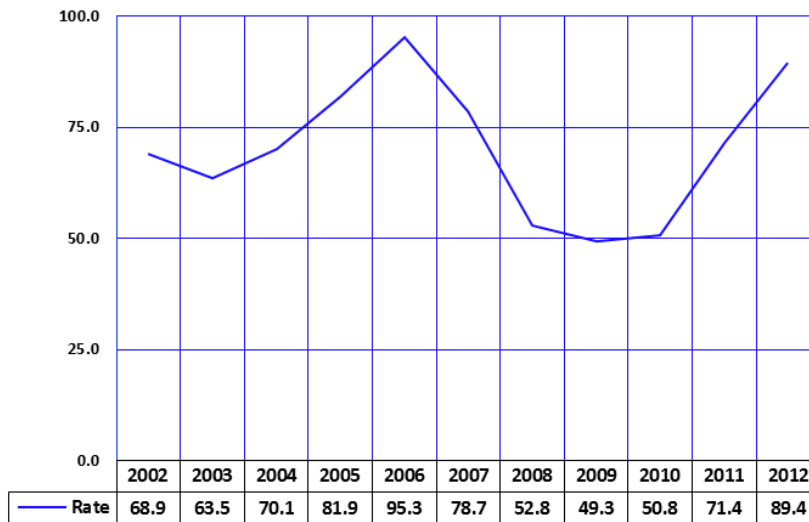
It is important to note that disease reporting is likely incomplete and completeness may vary depending on the disease. Moreover, changes in methods for public health surveillance, or implementation of new diagnostic tests can cause changes in disease reporting that are independent of the true incidence of disease.\* The four sexually transmitted diseases for which reporting is required by administrative rule in Arizona are *gonorrhea*, *syphilis*, *chlamydia*, and *genital herpes*.

In this section, rates for STDs were calculated using denominators based on 2012 estimates taken from the CDC.

\*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<sup>a</sup> of Gonorrhea by Year, Arizona, 2002-2012

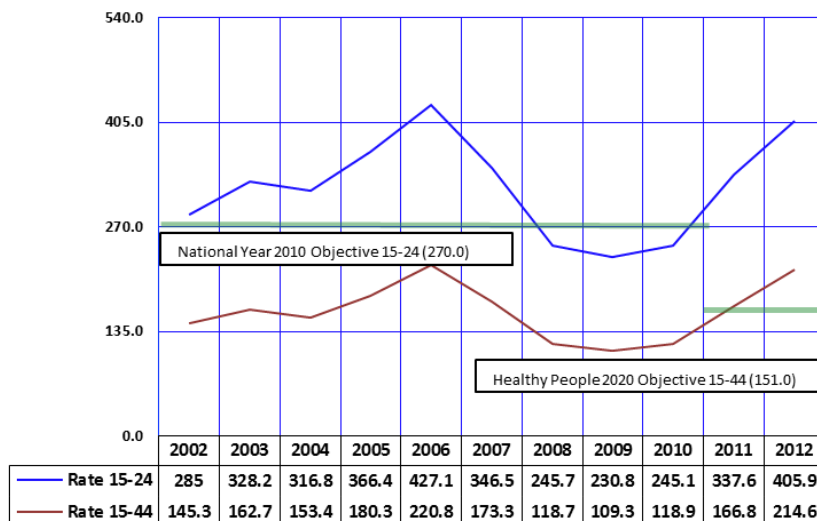


*Neisseria gonorrhoeae* infection is the second most commonly reported notifiable disease in the United States. (**Figure 3B-1**). The 81.3 percent increase in the incidence rate of gonorrhea from 49.3 cases per 100,000 population in 2009 to 89.4/100,000 in 2012 likely resulted from a combination of factors, such as changes in surveillance, increases in the number of tests performed, and actual increases in disease occurrence (**Figure 3B-1**).

The *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 and was specific to ages 15-24. However, the *Healthy People 2020* target is for ages 15-44 and is set at 151.0/100,000.

Note: <sup>a</sup> Number of reported cases per 100,000 population.

**Figure 3B-2**  
Trends in the Incidence Rates<sup>a</sup> of Gonorrhea among Females 15-24 and 15-44 Years, Arizona, 2002-2012



The 2012 incidence rate for gonorrhea was 214.6 per 100,000 for Arizona females age 15-44 years, meaning Arizona's incidence rate was higher than the *Healthy People 2020* objective, and increased 28.7 percent from 2011. Generally, the trend in gonorrhea incidence rates are similar for women age 15-24 and age 15-44, although the overall incidence rate is consistently higher for women age 15-24.

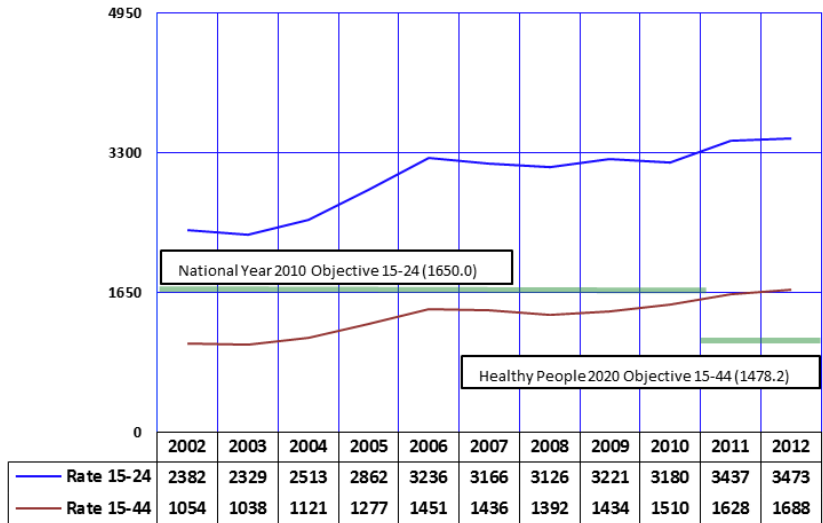
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range For Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

### 3B. SEXUALLY TRANSMITTED DISEASES

**Figure 3B-3**  
Trends in the Incidence Rates<sup>a</sup> of Chlamydia among Females 15-24 and 15-44 Years, Arizona, 2002-2012

*Chlamydia trachomatis* is the most prevalent bacterial sexually transmitted disease in the United States (1,412,791 cases in 2011), 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 incident rate of chlamydia was previously reported for females 15-24 years, however based on changes in *Healthy People 2020*, it would be reported for females 15-44 years. The *Healthy People 2020* goal for chlamydia is set at 1,478.2 per 100,000 females. The incidence rate for Arizona in 2012 was 1,688 per 100,000 for females age 15-44 years (**Table 6A-2**).



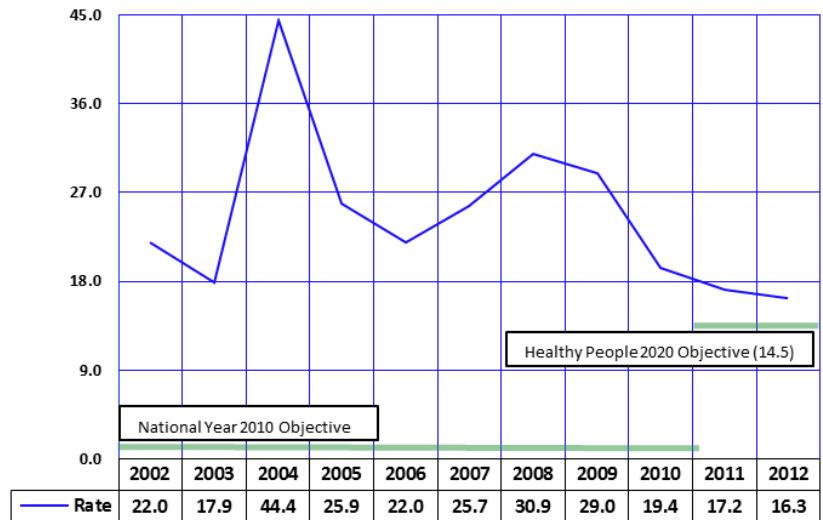
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

**Figure 3B-4**  
Trends in the Incidence Rates<sup>a</sup> of Congenital Syphilis by Year, Arizona, 2002-2012

*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.

The *Healthy People 2020* goal for congenital syphilis is 14.5/100,000. In Arizona, the incidence rate of CS decreased for a fourth consecutive year from 30.9/100,000 in 2008 to 16.3/100,000 in 2012 (**Figure 3B-4, Table 6A-2**).



Note: <sup>a</sup> Number of reported cases per 100,000 births.

**TABLE 3B-1  
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2002-2012**

Disease	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Genital Herpes</b>	1,148	910	1,196	1,189	1,740	2,003	1,855	775	1,853	2,155	1,722
<b>Gonorrhea</b>	3,772	3,576	4,088	4,951	5,949	5,062	3,449	3,250	3,249	4,564	5,856
<b>Gonococcal PID<sup>a</sup></b>	*	0	15	8	*	*	0	0	0	0	0
<b>Resistant Gonorrhea<sup>b</sup></b>	*	*	*	*	0	0	0	0	0	0	0
<b>Syphilis (P &amp; S)<sup>c</sup></b>	200	186	160	175	203	296	317	231	230	274	204
<b>Syphilis-Total<sup>d</sup></b>	1,077	1,094	998	789	931	1,242	1,396	1,085	904	907	795
<b>Chlamydia</b>	14,899	12,785	16,869	21,264	24,090	24,866	24,769	26,002	26,861	29,251	30,571

Notes: \* Cell suppressed due to non-zero count less than 6; <sup>a</sup> PID is pelvic inflammatory disease; <sup>b</sup> Includes PPNG, penicillase producing Neisseria gonorrhoea, a form of gonorrhoea which is resistant to penicillin; <sup>c</sup> Primary and secondary syphilis only; <sup>d</sup> Early, late, congenital and other; since 2005, the table includes all positive laboratory results for chlamydia and gonorrhoea 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, 2002-2012**

Disease	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
<b>Genital Herpes</b>	0	0	0	0	0	0	0	0	0	0	0
<b>Gonococcal infections</b>	0	0	0	0	0	0	0	0	0	0	0
<b>Syphilis-Total</b>	*	*	*	0	0	0	*	0	0	*	*

Notes: \* Cell suppressed due to non-zero count less than 6; 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, 2012**

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	0	*	0	0†	*	10	0	10†	0	0	0	0	*	*	0	10†
5-9	0	*	0	0†	*	0	0	0†	0	0	0	0	0	*	0	0†
10-14	6	21	0	27	27	197	0	224	0	0	0	0	*	*	0	0†
15-19	459	813	0	1,272	1,739	6,882	0	8,621	17	6	0	23	20	103	0	123
20-24	930	995	0	1,925	3,117	8,587	*	11,706	67	16	0	83	69	230	0	299
25-29	561	496	0	1,057	1,638	3,452	0	5,090	45	*	0	50†	88	227	0	315
30-34	415	246	0	661	805	1,543	0	2,348	49	*	0	50†	80	168	0	248
35-39	226	123	0	349	441	807	0	1,248	33	*	0	40†	57	131	*	189
40-44	167	77	*	245	293	358	*	652	27	*	0	30†	55	85	0	140
45-49	125	35	0	160	178	189	0	367	40	*	0	40†	42	86	0	128
50-54	60	16	0	76	82	75	0	157	16	0	0	16	48	57	0	105
55-59	35	13	0	48	37	43	0	80	14	*	0	20†	28	45	0	73
60-64	15	*	0	20†	16	15	0	31	*	0	0	10†	19	20	0	39
65-over	10	*	0	20†	14	18	0	32	*	0	0	0†	21	32	0	53
<b>Total</b>	<b>3,009</b>	<b>2,850†</b>	<b>0†</b>	<b>5,860†</b>	<b>8,390†</b>	<b>22,176</b>	<b>0†</b>	<b>30,570†</b>	<b>310†</b>	<b>40†</b>	<b>0</b>	<b>350†</b>	<b>530†</b>	<b>1,190†</b>	<b>0†</b>	<b>1,720†</b>

Notes: \* Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; 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  
RATES<sup>a</sup> OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, EARLY SYPHILIS, AND GENITAL HERPES  
BY AGE AND GENDER, ARIZONA, 2012**

Age group	GONORRHEA			CHLAMYDIA			EARLY SYPHILIS			GENITAL HERPES		
	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total
<b>0-4</b>	0.0	0.5	0.2	1.8	4.6	3.2	0.0	0.0	0.0	0.9	1.9	1.4
<b>5-9</b>	0.0	0.9	0.4	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.4	0.2
<b>10-14</b>	2.6	9.4	5.9	11.7	88.5	49.3	0.0	0.0	0.0	0.4	0.9	0.7
<b>15-19</b>	198.8	374.7	284.0	753.3	3171.8	1925.1	7.4	2.8	5.1	8.7	47.5	27.5
<b>20-24</b>	378.1	435.5	405.7	1267.3	3758.5	2467.4	27.2	7.0	17.5	28.1	100.7	63.0
<b>25-29</b>	244.2	231.6	238.1	712.9	1612.0	1146.7	19.6	1.9	11.0	38.3	106.0	71.0
<b>30-34</b>	187.5	115.7	152.3	363.6	726.0	541.1	22.1	1.4	12.0	36.1	79.0	57.2
<b>35-39</b>	110.2	61.4	86.1	215.0	402.7	307.8	16.1	1.0	8.6	27.8	65.4	46.6
<b>40-44</b>	78.7	36.9	58.2	138.1	171.7	155.0	12.7	1.9	7.4	25.9	40.8	33.3
<b>45-49</b>	60.8	17.0	38.8	86.5	91.6	89.1	19.4	1.5	10.4	20.4	41.7	31.1
<b>50-54</b>	28.7	7.3	17.8	39.2	34.4	36.8	7.6	0.0	3.7	22.9	26.2	24.6
<b>55-59</b>	18.5	6.3	12.1	19.5	20.7	20.2	7.4	0.5	3.8	14.8	21.7	18.4
<b>60-64</b>	8.6	1.5	4.9	9.2	7.7	8.4	2.9	0.0	1.4	10.9	10.3	10.6
<b>65-over</b>	2.2	1.0	1.5	3.1	3.4	3.3	0.2	0.0	0.1	4.7	6.1	5.5
<b>Total</b>	92.3	86.4	89.4	257.5	673.1	466.5	9.6	1.2	5.4	16.3	36.1	26.3

Notes: <sup>a</sup> Number of cases per 100,000 population; table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2012; 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 RACE/ETHNICITY, ARIZONA, 2012**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA			HERPES					
	Early			Late			Resistant			Total			Cases	%	Rate	Cases	%	Rate	Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate									
<b>White Non-Hispanic</b>	148	41.9	3.9	90	21.1	2.4	0	0.0	0.0	1,179	20.1	31.0	5,647	18.5	148.7	503	29.2	13.2			
<b>Black or African American</b>	35	9.9	12.2	44	10.3	15.3	0	0.0	0.0	1,091	18.6	380.6	2,535	8.3	884.3	147	8.5	51.3			
<b>Hispanic or Latino</b>	125	35.4	6.3	230	53.9	11.6	0	0.0	0.0	1,774	30.3	89.8	10,673	34.9	540.1	385	22.4	19.5			
<b>Asian or Pacific Islander</b>	7	2.0	3.2	6	1.4	2.8	0	0.0	0.0	54	0.9	25.1	230	0.8	106.8	14	0.8	6.5			
<b>American Indian or Alaska Native</b>	25	7.1	9.1	31	7.3	11.2	0	0.0	0.0	513	8.8	185.7	3,030	9.9	1096.9	129	7.5	46.7			
<b>Not Specified</b>	13	3.7	N/A	26	6.1	N/A	0	0.0	N/A	1,245	21.3	N/A	8,456	27.7	N/A	544	31.6	N/A			
<b>Total</b>	353	100.0	5.4	427	100.0	6.5	0	0.0	0.0	5,856	100.0	89.4	30,571	100.0	466.5	1,722	100.0	26.3			

Notes: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2012; rates per 100,000 population.

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





### 3C.

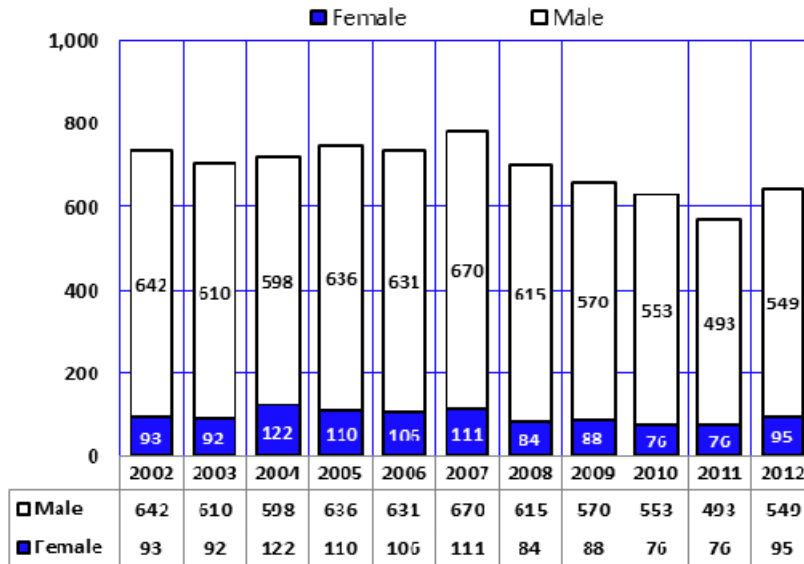
#### **HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)**

---

Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2012, 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 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/reporting/2011report.htm>).

### 3C. HIV DISEASE AND AIDS

**Figure 3C-1**  
Reported Cases of HIV/AIDS by Gender and Year of Diagnosis, Arizona, 2002-2012

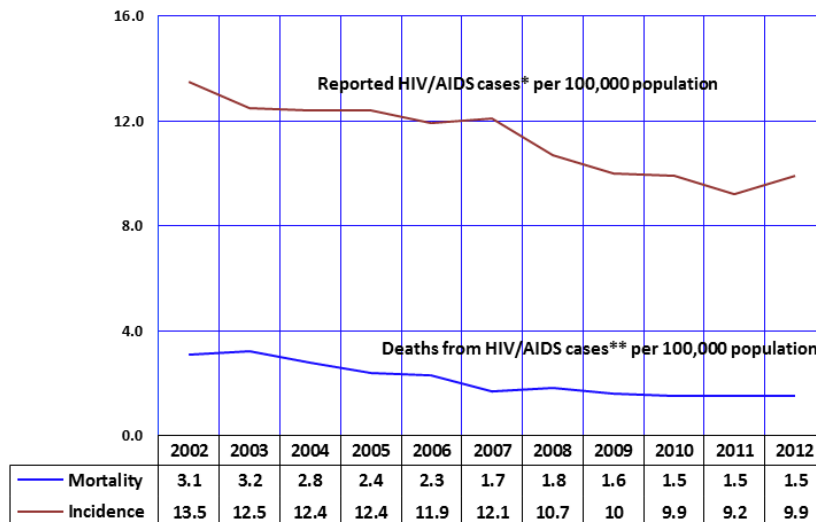


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 20,266 cases of HIV/AIDS had been diagnosed in the State by the end of 2012 and reported by June 10, 2013 (**Table 3C-1**).

In 2012, males accounted for 85.2 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2012 was 5.8:1 (549/95, **Figure 3C-1, Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of *HIV/AIDS* in 2012 remained similar to previous years. Of the 644 *HIV/AIDS* cases diagnosed in 2012, 3,374 (58.1 percent) were among men who reported sexual contact with other men (**Table 3C-4**). Another 94 (14.6 percent) reported heterosexual contact. An additional 55 (8.5 percent) reported only injecting drugs. Adults without an indicated risk accounted for 13.2 percent of *HIV/AIDS* cases diagnosed in 2012.

**Figure 3C-2**  
Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease by Year, Arizona, 2002-2012



The incidence rate measures the relative risk for *HIV/AIDS* in a population. The incidence rate of *HIV/AIDS* has fallen in Arizona by 26.7 percent from the recent peak of 13.5 cases per 100,000 population in 2002 to 9.9 /100,000 in 2012 (**Figure 3C-2**; the incidence rates for 2002 - 2012 have been re-computed based on the latest volume of the *HIV/AIDS* data as of 7/10/2013).

The rate of deaths from *HIV disease* remained unchanged at 1.5 deaths per 100,000 population from 2010 to 2012 (**Figure 3C-2**).

Of the 644 *HIV/AIDS* cases diagnosed in 2012, 256 (39.8 percent) were White non-Hispanic, 211 (32.8 percent) were Hispanic, 107 were Black (16.6 percent), 46 were American Indian (7.1 percent), and 16 were Asian or Pacific Islander (2.5 percent; based on data in **Table 3C-3**).

Notes: \*By year of diagnosis; \*\*By year of death.

**TABLE 3C-1  
FREQUENCY DISTRIBUTION OF HIV/AIDS BY AGE AT DIAGNOSIS,  
ARIZONA, 1981-2012**

<b>Age Group (years)</b>	<b>HIV/AIDS cases</b>
<b>Under 5</b>	114
<b>5-12</b>	53
<b>13-19</b>	395
<b>20-29</b>	5,864
<b>30-39</b>	7,558
<b>40-49</b>	4,299
<b>50 or above</b>	1,963
<b>Missing</b>	20
<b>Total</b>	20,266

**TABLE 3C-2  
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,  
ARIZONA, 1981-2001 and 2002-2012**

	<b>1981-2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b># Males</b>	11,185	642	610	598	636	631	670	615	570	553	493	549
<b># Females</b>	1,460	93	92	122	110	106	111	84	88	76	76	95
<b># Total</b>	12,645	735	702	720	746	737	781	699	658	629	569	644
<b># Presumed Living</b>	6,165	579	584	596	629	641	702	637	596	591	539	615
<b># Known dead</b>	6,480	156	118	124	117	96	79	62	62	39	30	29
<b>% Mortality</b>	<b>51.2</b>	<b>21.2</b>	<b>16.8</b>	<b>17.2</b>	<b>15.7</b>	<b>13.0</b>	<b>10.1</b>	<b>8.9</b>	<b>9.4</b>	<b>6.2</b>	<b>5.3</b>	<b>4.5</b>

Note: Due to reporting delays, all numbers are provisional (2012 volume as of 7/10/2013).

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, 1981-2001 AND 2002-2012**

Race/ethnicity	1981-2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
White non-Hispanic	8,343	378	360	340	367	324	364	344	283	314	227	256
Black or African American non-Hispanic	1,147	73	82	91	81	108	81	70	70	57	77	107
Hispanic or Latino all races	2,491	236	217	247	243	258	284	230	242	203	203	211
Asian or Pacific Islander non-Hispanic	62	7	*	9	8	10	15	14	12	11	16	16
American Indian or Alaska Native non-Hispanic	344	38	31	30	41	29	28	31	39	38	41	46
Two or more races/ other or unknown race	258	*	8	*	6	8	9	10	12	7	*	8
<b>Total</b>	<b>12,645</b>	<b>735</b>	<b>700†</b>	<b>720</b>	<b>746</b>	<b>737</b>	<b>781</b>	<b>699</b>	<b>658</b>	<b>630</b>	<b>569</b>	<b>644</b>

Notes: \* Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Due to reporting delays, all numbers are provisional (2012 volume as of 7/10/2013).

**TABLE 3C-4  
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,  
ARIZONA, 1981-2001 AND 2002-2012**

Transmission	1981-2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
MSM	7,301	465	436	438	483	472	435	404	349	393	331	374
IV Drug User (IDU)	1,747	96	93	95	93	88	51	66	55	43	54	55
MSM/IDU	1,415	73	71	43	46	43	41	37	34	44	32	28
Hemophiliac (Adult)	80	*	0	*	*	0	0	0	0	0	0	0
Heterosexual Contact	989	78	86	109	66	71	75	53	60	65	79	94
Transfusion/transplant (Adult)	123	*	0	0	*	*	0	0	0	0	0	0
No indicated risk (Adult)	879	13	11	29	43	56	173	136	157	83	72	85
Pediatric Hemophiliac	17	0	0	0	0	0	0	0	0	0	0	0
Pediatric transfusion/transplant	*	0	0	0	0	0	0	0	0	0	0	0
Mother HIV+	83	*	*	*	11	6	6	*	*	*	*	6
Pediatric (no indicated risk)	8	*	0	*	*	0	0	0	0	0	0	*
<b>Total</b>	<b>12,650†</b>	<b>740†</b>	<b>700†</b>	<b>720†</b>	<b>750†</b>	<b>740†</b>	<b>781</b>	<b>700†</b>	<b>660†</b>	<b>630†</b>	<b>570†</b>	<b>640†</b>

Notes: \* Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Due to reporting delays, all numbers are provisional (2012 volume as of 7/10/2013).

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