

# **CHAPTER 3**

## **REPORTABLE DISEASES, ARIZONA, 2004-2014**

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**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**

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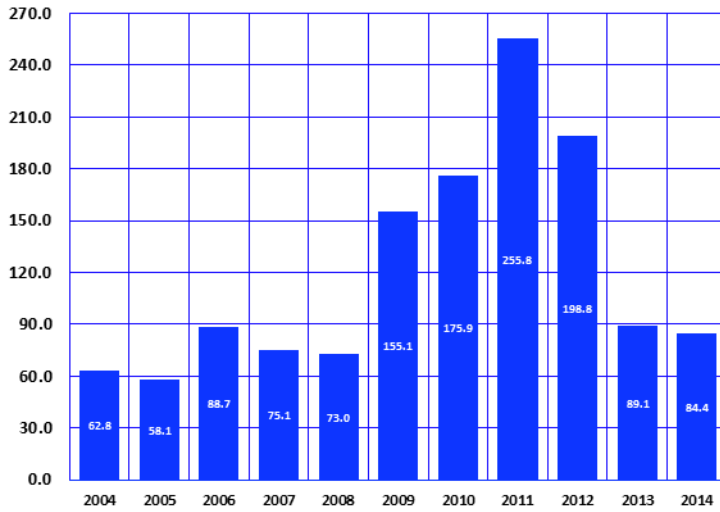
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable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

### 3A. NON-SEXUALLY TRANSMITTED DISEASES

**Figure 3A-1**  
Trends in the Incidence Rates<sup>a</sup> of Valley Fever (Coccidioidomycosis) by Year, Arizona, 2004-2014

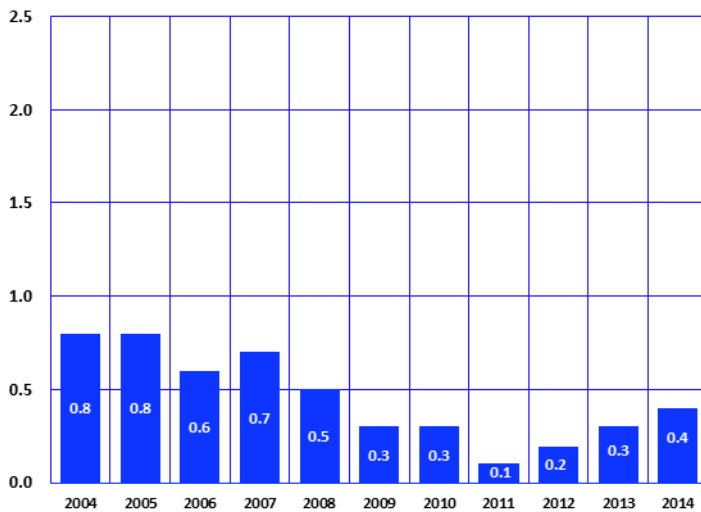


Note: <sup>a</sup> Number of cases per 100,000 population.

*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 2014. The reported incidence of Valley Fever decreased 4.0 percent from 2013 (n = 5,861) to 2014 (n=5,624). The 2014 incidence rate of 84.4/100,000 (**Figure 3A-1, Table 5F-2**) was 34.5 percent greater than the incidence rate of 62.8/100,000 in 2004, but was 67.0 percent lower than the incidence rate of 255.8/100,000 in 2011.

**Figure 3A-2**  
Trends in Case Fatality Rates<sup>a</sup> for Valley Fever (Coccidioidomycosis) by Year, Arizona, 2004-2014



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

Twenty five of the 5,624 Arizonans who had *Valley Fever* in 2014 died from it (**Table 3A-2**) for a case fatality rate of 0.4 deaths per 100 cases (**Figure 3A-2**). The 2014 case mortality rate for *Coccidioidomycosis* was 50.0 percent lower in 2014 than in 2004.

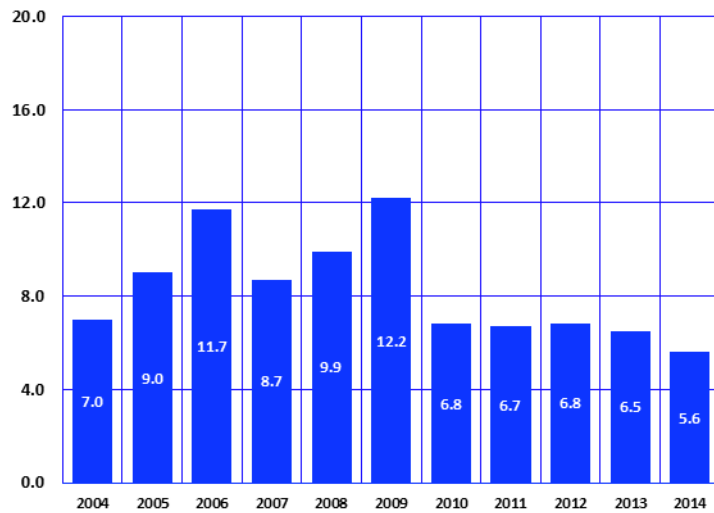
### 3A. NON-SEXUALLY TRANSMITTED DISEASES

*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 2004 – 2014, *shigellosis* was the third most common enteric disease to afflict Arizonans after *campylobacteriosis* and *salmonellosis* (**Table 3A-1**).

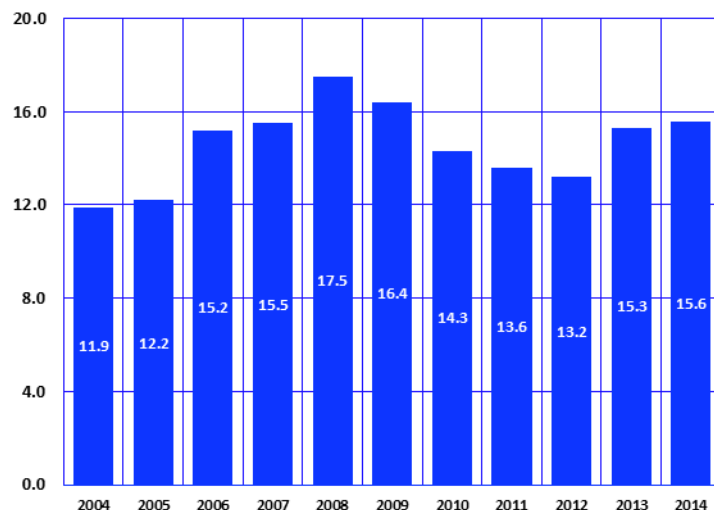
The number of reported cases of *shigellosis* in 2014 was 376, a slight decrease from the number of cases observed in 2013 (n = 428). The incidence rate of *shigellosis* in 2014, 5.6 cases per 100,000, was the lowest incidence rate recorded in the past decade. (**Figure 3A-3**).

**Figure 3A-3**  
Trends in the Incidence Rates<sup>a</sup> of Shigellosis by Year, Arizona, 2004-2014



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, 2004-2014



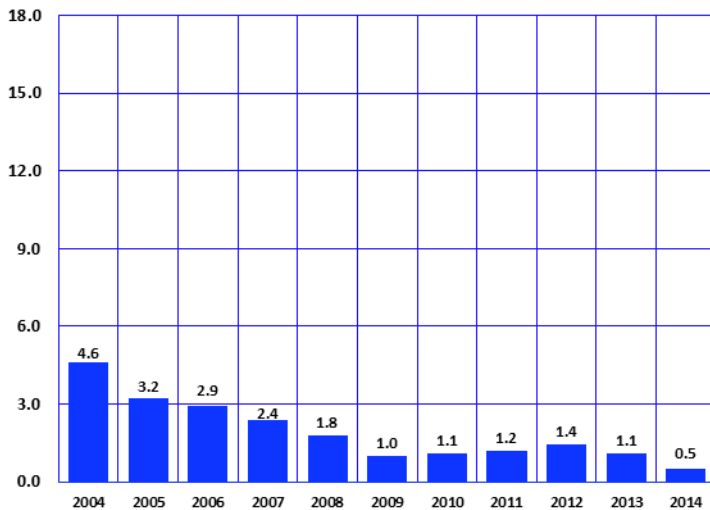
Notes: <sup>a</sup> Number of reported cases per 100,000 population; <sup>b</sup> Excluding *S. Typhi* and *S. Paratyphi*.

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

The incidence rate of *salmonellosis* increased 2.0 percent from 15.3/100,000 in 2013 to 15.6/100,000 in 2014 (**Figure 3A-4**). The risk of *salmonellosis* was substantially higher in Graham (36.5/100,000), Santa Cruz (34.3/100,000), and Navajo (33.9/100,000) counties (**Table 5F-2**).

### 3A. NON-SEXUALLY TRANSMITTED DISEASES

**Figure 3A-5**  
Trends in the Incidence Rates<sup>a</sup> of Hepatitis A by Year,  
Arizona, 2004-2014

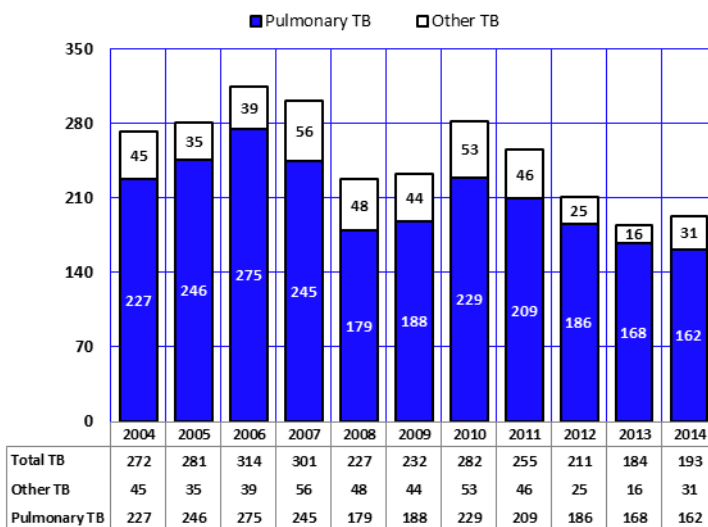


Note: <sup>a</sup> Number of reported cases per 100,000 population.

*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 89.1 percent from 4.6/100,000 in 2004 to 0.5/100,000 in 2014 (**Figure 3A-5**).

**Figure 3A-6**  
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis<sup>a</sup> by Year,  
Arizona, 2004-2014



Note: <sup>a</sup> 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 168 reported cases in 2013 to 162 cases in 2014. The number of reported cases of tuberculosis other than pulmonary increased from 16 in 2013 to 31 in 2014 (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis increased 2.8/100,000 in 2013 to 2.9/100,000 in 2014 (**Table 5F-2**).

*Pulmonary tuberculosis* accounted for 83.9 percent of all tuberculosis infections in 2014 (**Table 3A-1**). Eight Arizonans who had *tuberculosis* died from it in 2014 (**Table 3A-2**).

**TABLE 3A-1  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2004-2014**

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Vaccine Preventable</b>											
Measles	0	*	0	*	18	0	*	*	*	*	*
Mumps	*	*	40	10	*	10	*	*	*	*	12
Pertussis	278 (149)	1,108 (486)	508 (36)	210 (15)	218 (23)	277 (79)	546 (95)	867 (160)	1,130 (575)	1,440	517
Pertussis confirmed cases										1,068	287
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)	*	*	*	*	*	*	*	*	*	*	0
Tetanus	0	0	0	0	0	0	*	*	0	0	0
Varicella (chickenpox)	920	1,537	974	930	778	534	755	660	535	354	300
<b>Central Nervous System</b>											
Aseptic Meningitis	734	832	720	632	688	516	733	400	453	343	288
Meningococcal Disease	15	36	16	13	9	15	14	16	6	12	9
Viral Encephalitis	32	26	18	14	8	*	6	6	*	*	*
<b>Enteritides</b>											
Amebiasis	14	20	16	13	11	7	13	21	17	21	24
Campylobacteriosis	795	867	803	962	1,006	877	956	939	940	846	939
Cholera	0	0	0	*	0	0	0	0	0	0	0
Cryptosporidiosis	17	11	29	53	89	34	40	46	47	42	46
<i>E. coli</i> O157:H7	28	35	105	106	69	68	100	126	141	246	98
Giardiasis	176	183	163	192	142	198	167	133	113	115	119
Salmonellosis (exl. <i>S. Typhi</i> & <i>S. Paratyphi</i> )	694	739	949	997	1,143	1,079	984	877	857	1,007	1,040
<i>Salmonella</i> Paratyphi A	*	*	*	*	*	*	7	*	0	*	*
<i>Salmonella</i> Paratyphi B	*	6	7	*	10	6	*	7	*	*	*
<i>Salmonella</i> Paratyphi C	0	0	0	*	0	0	0	0	0	0	0
Shigellosis	409	547	729	557	650	806	465	434	444	428	376
Typhoid Fever	*	*	7	7	*	*	6	*	7	12	*
<b>Mycosis</b>											
Coccidioidomycosis (Valley Fever)	3,665	3,515	5,535	4,832	4,768	10,233	11,888	16,472	12,920	5,861	5,624
<b>Hepatitides</b>											
Hepatitis A	267	195	179	152	118	68	62	77	93	73	35
Hepatitis B (acute)	289	375	373	180	163	193	150	185	104	50	38
Hepatitis C (acute)	*	0	0	0	0	0	0	NA	NA	NA	NA
Hepatitis D	0	*	*	*	0	0	*	0	0	0	*
Hepatitis E	0	0	*	*	0	0	*	0	0	0	*
Hepatitis non-A non-B	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Tuberculosis</b>											
Pulmonary TB	227	246	275	245	179	188	229	209	186	168	162
Total TB	272	281	314	301	227	232	282	255	211	184	193

TABLE 3A-1 (continued)  
**NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2004-2014**

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Zoonoses/Vector-borne</b>											
Brucellosis	*	*	*	*	*	*	9	*	*	*	6
Colorado Tick Fever	0	0	0	0	0	0	*	0	0	0	*
Dengue	0	0	9	8	6	*	10	*	10	*	91
Ehrlichiosis	0	*	*	0	*	*	0	*	*	*	*
Hantavirus Pulmonary Syndrome	*	*	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	32	21
Malaria	16	21	23	12	17	10	28	21	19	33	25
Plague	0	0	0	*	*	0	0	0	0	0	0
Relapsing Fever, Tick-borne	0	0	0	0	0	*	0	*	*	*	12
Rocky Mountain Spotted Fever	*	25	11	10	17	23	17	77	50	63	16
St. Louis Encephalitis	*	*	*	*	0	0	0	0	0	0	*
Tularemia	0	*	*	*	0	0	*	0	0	0	0
West Nile Virus	391	111	148	98	114	21	166	69	135	62	108
<b>Other</b>											
Botulism	*	*	*	*	*	*	0	*	*	*	*
Legionellosis	23	26	38	40	26	49	65	46	44	69	59
Listeriosis	10	13	7	12	8	8	10	8	14	*	14
Methicillin Resistant <i>S. aureus</i> (invasive)	NA	1,432	1,336	1,305	1,417	1,171	1,166	1,196	1,089	1,066	1,178
Streptococcal-Group A (invasive)	247	303	351	208	204	161	190	206	199	231	250
Streptococcal-Group B (invasive, age <90 d)	47	44	54	59	57	52	45	39	57	35	41
<i>Streptococcus pneumoniae</i> (invasive)	670	726	971	923	1,077	907	823	767	661	786	724
Reyes Syndrome	0	0	0	0	0	0	0	0	0	0	0
Toxic Shock Syndrome	*	*	*	*	*	*	*	*	*	*	6
<i>Vibrio</i> spp. (except toxogenic <i>V.cholerae</i> )	8	16	25	11	14	19	18	26	29	19	36
Vancomycin resist. <i>Enterococcus</i> spp.(VRE)	1,404	1,956	2,683	2,494	NA	NA	N/A	NA	N/A	N/A	N/A
Yersiniosis (except <i>Y. pestis</i> )	6	*	11	8	*	7	*	6	10	9	*

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.coli* 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. Reported coccidioidomycosis cases were elevated from June 2009 through December 2012 and then declined in 2013 due to changes in reporting practices and laboratory testing from a major commercial laboratory. A change in the criteria for counting Lyme disease in 2013 may account for the increase in cases in that year. For additional statistics on these diseases, please see <http://www.azdhs.gov/phs/oids/data/stats-archive.htm>.

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



**TABLE 3A-2  
NUMBER OF DEATHS FROM SELECTED NOTIFIABLE DISEASES BY CATEGORY AND YEAR,  
ARIZONA, 2004-2014**

ICD-9/ICD-10 codes	Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<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	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	*	*	*	*	*	*	*	6	*	*	*
<b>ENTERITIDES (FOODBORNE)</b>												
006/A06	Amebiasis	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	*	*
002/A01	Typhoid	0	0	0	0	*	0	0	0	0	0	0
<b>MYCOSIS</b>												
114/B38	Coccidioidomycosis (Valley Fever)	28	28	33	36	24	35	39	22	25	19	25
<b>HEPATITIDES</b>												
070.0-070.1/B15	Hepatitis A	*	0	*	*	*	*	*	0	*	*	*
070.2-070.3/B16	Hepatitis B	10	12	21	13	6	*	10	9	12	9	8
070.4-070.5/B17-B18	Other viral hepatitis	125	151	189	131	176	233	207	209	274	265	248
070.6-070.9/B19	Unspecified	*	*	*	*	*	*	*	0	0	*	*
<b>TUBERCULOSIS</b>												
010-011/A15-A16	Respiratory TB	8	13	13	10	10	8	12	10	*	11	6
010-018/A15-A19	Total TB	11	17	20	12	13	8	15	12	*	15	8
<b>ZOONOSES/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
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	*
<b>OTHER</b>												
482.8/A48.1	Legionellosis	0	0	*	*	0	*	0	*	*	*	*
027.0/A32	Listeriosis	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	0
995.0/A48.3	Toxic Shock Syndrome	*	*	*	0	0	0	0	0	0	0	0

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





### **3B.**

#### **SEXUALLY TRANSMITTED DISEASES**

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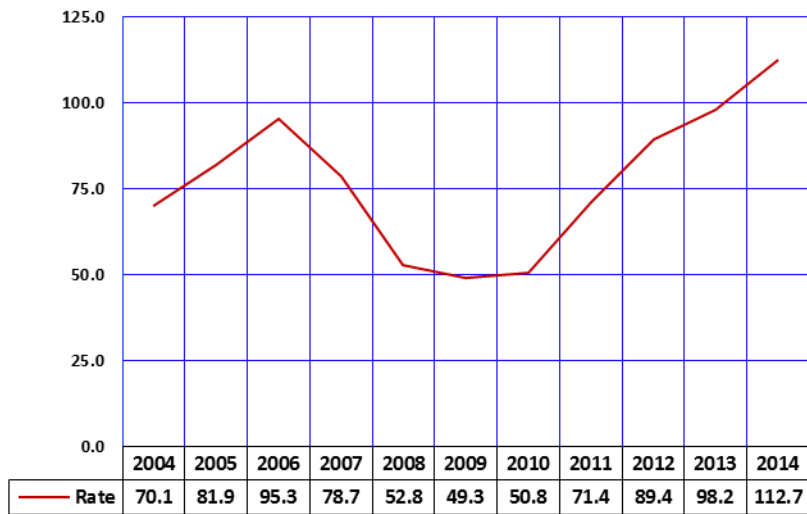
All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

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.\* In this section, rates for STDs were calculated using denominators based on 2014 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, 2004-2014

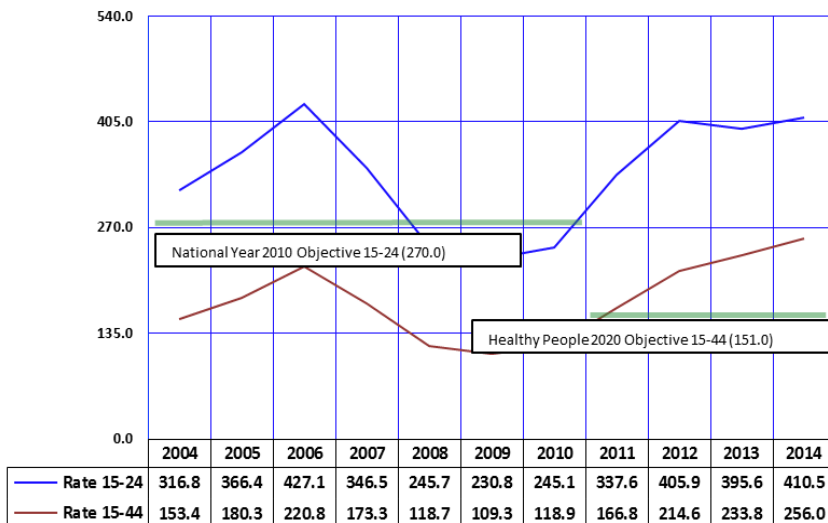


*Neisseria gonorrhoeae* infection is the second most commonly reported notifiable disease in the United States. (Figure 3B-1). The consistent steady increase in the incidence rate of gonorrhea since 2009 likely resulted from a combination of factors, such as changes in surveillance, increases in the number of tests performed, and actual increases in disease occurrence (Figure 3B-1).

The *Healthy People 2010* objective 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 (Table 6A-2).

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, 2004-2014



The 2014 incidence rate for gonorrhea was 256.0 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 9.5 percent from 2013. 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.

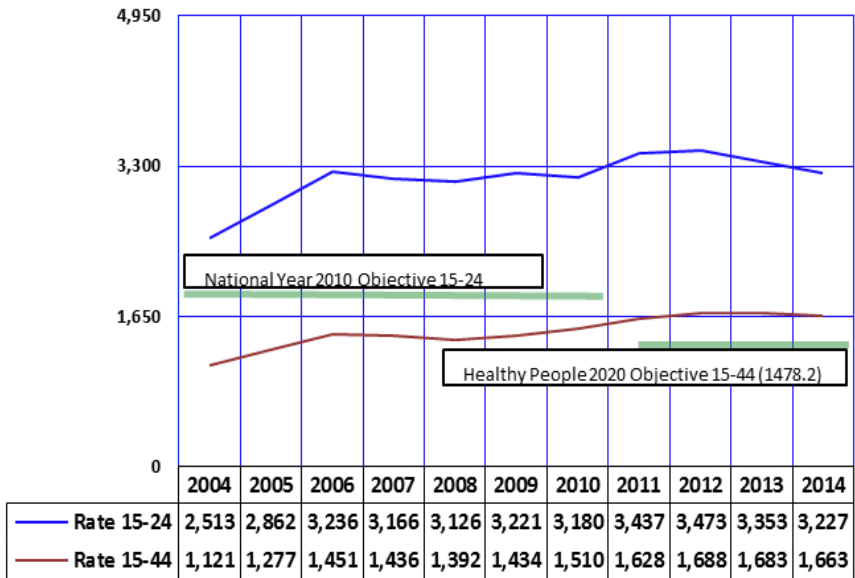
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

### 3B. SEXUALLY TRANSMITTED DISEASES

*Chlamydia trachomatis* is the most prevalent bacterial sexually transmitted disease in the United States (1,441,789 cases in 2014, 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 over the last decade (**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 2014 was 1,663 per 100,000 for females age 15-44 years (**Table 6A-2**).

**Figure 3B-3**  
Trends in the Incidence Rates<sup>a</sup> of Chlamydia among Females 15-24 and 15-44 Years, Arizona, 2004-2014



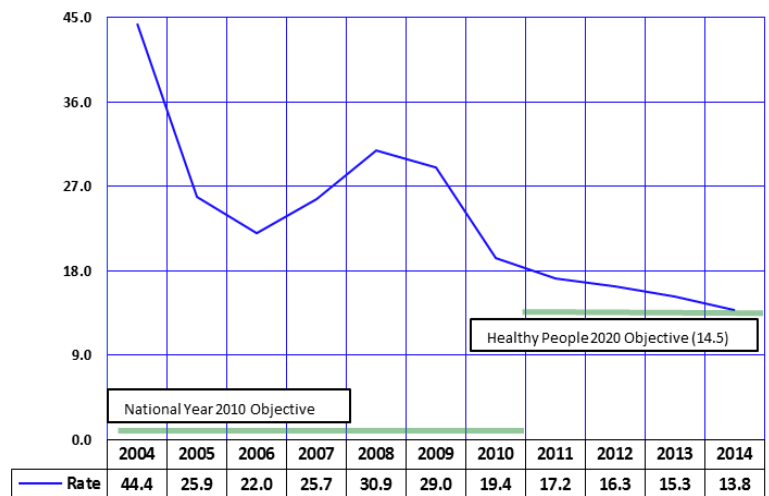
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

*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 sixth consecutive year from 30.9/100,000 in 2008 to 13.8/100,000 in 2014 (**Figure 3B-4, Table 6A-2**).

**Figure 3B-4**  
Trends in the Incidence Rates<sup>a</sup> of Congenital Syphilis by Year, Arizona, 2004-2014



**TABLE 3B-1  
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2004-2014**

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<b>Gonorrhea</b>	4,088	4,951	5,949	5,062	3,449	3,250	3,249	4,564	5,856	6,505	7,585
<b>Gonococcal PID<sup>a</sup></b>	15	8	*	*	0	0	0	0	0	0	0
<b>Resistant Gonorrhea<sup>b</sup></b>	*	*	0	0	0	0	0	0	0	0	*
<b>Syphilis (P &amp; S)<sup>c</sup></b>	160	175	203	296	317	231	230	274	204	290	572
<b>Syphilis-Total<sup>d</sup></b>	998	789	931	1,242	1,396	1,085	904	907	795	966	1,434
<b>Chlamydia</b>	16,869	21,264	24,090	24,866	24,769	26,002	26,861	29,251	30,571	30,923	31,750

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, 2004-2014**

Disease	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
<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, AND EARLY SYPHILIS  
BY AGE AND GENDER, ARIZONA, 2014**

Age group	GONORRHEA				CHLAMYDIA				EARLY SYPHILIS			
	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total
0-4	0	*	0	0†	0	0	0	0	0	0	0	0
5-9	0	0	0	0	0	*	0	0†	0	0	0	0
10-14	*	16	0	20†	24	143	0	167	0	0	0	0
15-19	503	679	0	1,182	1,606	5,876	0	7,482	36	9	0	45
20-24	1,163	1,198	0	2,361	3,454	8,878	0	12,332	161	20	0	181
25-29	894	695	0	1,589	2,047	3,903	0	5,950	131	25	0	156
30-34	549	431	0	980	1,048	1,832	0	2,880	113	16	0	129
35-39	334	218	0	552	529	859	0	1,388	74	10	0	84
40-44	225	127	0	352	338	402	0	740	75	9	0	84
45-49	196	64	0	260	193	185	0	378	88	*	0	90†
50-54	112	36	0	148	109	105	0	214	60	*	0	60†
55-59	51	17	0	68	67	61	0	128	29	*	0	30†
60-64	37	*	0	40†	30	16	0	46	14	0	0	14
65-over	29	*	0	30†	26	16	0	42	7	0	0	7
<b>Total</b>	<b>4,100†</b>	<b>3,490†</b>	<b>0</b>	<b>7,590†</b>	<b>9,471</b>	<b>22,280†</b>	<b>0</b>	<b>31,750†</b>	<b>788</b>	<b>90†</b>	<b>0</b>	<b>880</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, AND EARLY SYPHILIS  
BY AGE AND GENDER, ARIZONA, 2014**

Age group	GONORRHEA		CHLAMYDIA		EARLY SYPHILIS				
	Males	Females	Total	Males	Females	Total	Males	Females	Total
<b>0-4</b>	0.0	**	**	0.0	0.0	0.0	0.0	0.0	0.0
<b>5-9</b>	0.0	0.0	0.0	0.0	**	**	0.0	0.0	0.0
<b>10-14</b>	**	7.1	4.6	10.3	63.7	36.5	0.0	0.0	0.0
<b>15-19</b>	215.5	306.9	260.0	687.9	2656.2	1645.6	15.4	4.1	9.9
<b>20-24</b>	459.5	507.6	482.7	1364.8	3762.0	2521.5	63.6	8.5	37.0
<b>25-29</b>	381.1	319.5	351.4	872.6	1794.0	1315.9	55.8	11.5	34.5
<b>30-34</b>	240.6	198.3	219.9	459.3	842.7	646.3	49.5	7.4	29.0
<b>35-39</b>	159.7	105.8	133.0	253.0	417.0	334.4	35.4	4.9	20.2
<b>40-44</b>	106.3	60.5	83.5	159.7	191.6	175.6	35.4	4.3	19.9
<b>45-49</b>	96.2	31.5	63.9	94.7	91.1	92.9	43.2	**	21.9
<b>50-54</b>	52.6	16.4	34.2	51.2	47.8	49.5	28.2	**	14.1
<b>55-59</b>	25.7	7.9	16.4	33.8	28.2	30.9	14.6	**	7.2
<b>60-64</b>	20.7	**	10.3	16.8	8.0	12.1	7.9	0.0	3.7
<b>65-over</b>	5.9	**	3.0	5.3	2.8	3.9	1.4	0.0	0.7
<b>Total</b>	122.6	102.9	112.7	283.2	657.7	471.7	23.6	2.7	13.1

Notes: \*\* Cell suppressed due to rate/ratio/percent based on non-zero count less than 6;<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 2014; 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, AND CHLAMYDIA BY RACE/ETHNICITY, ARIZONA, 2014**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA		
	Early			Late			Resistant			Total			Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate			
<b>White Non-Hispanic</b>	350	39.8	9.1	125	22.6	3.2	0	0.0	0.0	1,564	20.6	40.6	5,203	16.4	135.2
<b>Black or African American</b>	90	10.2	29.3	62	11.2	20.2	0	0.0	0.0	1,034	13.6	336.2	2,357	7.4	766.3
<b>Hispanic or Latino</b>	332	37.7	16.1	232	41.9	11.3	0	0.0	0.0	2,135	28.1	103.8	9,282	29.2	451.4
<b>Asian or Pacific Islander</b>	13	1.5	5.6	8	1.4	3.4	0	0.0	0.0	58	0.8	24.8	268	0.8	114.7
<b>American Indian or Alaska Native</b>	48	5.5	16.9	24	4.3	8.4	0	0.0	0.0	587	7.7	206.5	2,804	8.8	986.6
<b>Not Specified</b>	47	5.3	N/A	103	18.6	N/A	*	**	N/A	2,207	29.1	N/A	11,836	37.3	N/A
<b>Total</b>	880	100.0	13.1	554	100.0	8.2	*	**	0.0	7,585	100.0	112.7	31,750	100.0	471.7

Notes: \* Cell suppressed due to non-zero count less than 6; \*\* Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2014; rates per 100,000 population.

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





### **3C.**

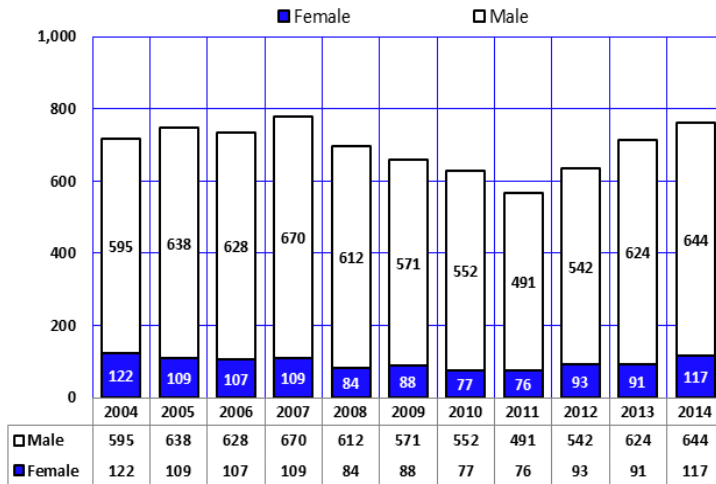
#### **HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)**

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Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2014, 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 with 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.

### 3C. HIV DISEASE AND AIDS

**Figure 3C-1**  
**Reported Cases of HIV/AIDS by Gender and Year of Diagnosis,**  
**Arizona, 2004-2014**

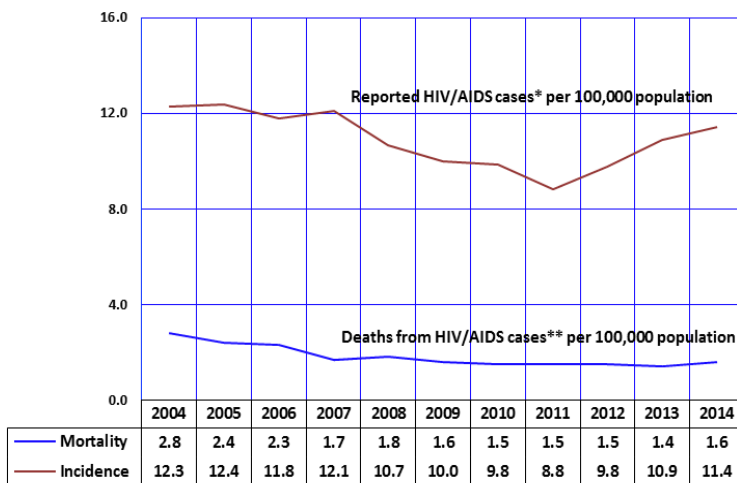


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 21,608 cases of HIV/AIDS had been diagnosed in the State by the end of 2014 and reported by July 1, 2015 (**Table 3C-1**).

In 2014, males accounted for 85.0 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2014 was 5.5:1 (644/117, **Figure 3C-1**, **Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of *HIV/AIDS* in 2014 remained similar to previous years. Of the around 760 *HIV/AIDS* cases diagnosed in 2014, 470 were among men who reported sexual contact with other men (**Table 3C-4**). Another 75 reported heterosexual contact. An additional 58 reported only injecting drugs. Adults without an indicated risk accounted for 120 of *HIV/AIDS* cases diagnosed in 2014.

**Figure 3C-2**  
**Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease**  
**by Year, Arizona, 2004-2014**



The incidence rate measures the relative risk for *HIV/AIDS* in a population. The incidence rate of *HIV/AIDS* has fallen in Arizona by 7.2 percent from 12.3 cases per 100,000 population in 2004 to 11.4/100,000 in 2014 (**Figure 3C-2**; the incidence rates for 2004 – 2014 have been re-computed based on the latest volume of the *HIV/AIDS* data as of 7/01/2015).

The rate of deaths from *HIV disease* remained unchanged from 2010 to 2012, then decreased slightly at 1.4 deaths per 100,000 population in 2013, followed by a modest increase to 1.6/100,000 in 2014 (**Figure 3C-2**).

Of the around 760 *HIV/AIDS* cases diagnosed in 2014, 285 were White non-Hispanic, 267 were Hispanic, 132 were Black, 57 were American Indian, and 17 were Asian or Pacific Islander (**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, 1981-2014**

<b>Age Group (years)</b>	<b>HIV/AIDS cases</b>
<b>Under 5</b>	119
<b>5-12</b>	57
<b>13-19</b>	463
<b>20-29</b>	6,330
<b>30-39</b>	7,890
<b>40-49</b>	4,566
<b>50 or above</b>	2,163
<b>Missing</b>	20
<b>Total</b>	21,608

**TABLE 3C-2  
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,  
ARIZONA, 1981-2003 and 2004-2014**

	<b>1981-2003</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>2013</b>	<b>2014</b>
<b># Males</b>	12,338	595	638	628	670	612	571	552	491	542	624	644
<b># Females</b>	1,630	122	109	107	109	84	88	77	76	93	91	117
<b># Total</b>	13,968	717	747	735	779	696	659	629	567	635	715	761
<b># Presumed Living</b>	7,065	587	612	632	692	623	588	583	524	592	686	746
<b># Known dead</b>	6,903	130	135	103	87	73	71	46	43	43	29	15
<b>% Mortality</b>	<b>49.4</b>	<b>18.1</b>	<b>18.1</b>	<b>14.0</b>	<b>11.2</b>	<b>10.5</b>	<b>10.8</b>	<b>7.3</b>	<b>7.6</b>	<b>6.8</b>	<b>4.1</b>	<b>2.0</b>

Note: Due to reporting delays, all numbers are provisional (2014 volume as of 11/30/2015).

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, 1981-2003 AND 2004-2014**

Race/ethnicity	1981-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
White non-Hispanic	9,033	337	364	324	362	342	284	312	225	247	291	285
Black or African American non-Hispanic	1,293	90	82	107	81	71	70	58	75	106	117	132
Hispanic or Latino all races	2,922	248	246	258	284	229	244	203	203	213	246	267
Asian or Pacific Islander non-Hispanic	74	9	8	10	15	14	12	12	16	16	9	17
American Indian or Alaska Native non-Hispanic	411	29	41	28	28	30	39	37	43	45	49	57
Two or more races/ other or unknown race	235	*	6	8	9	10	10	7	*	8	*	*
<b>Total</b>	<b>13,968</b>	<b>720†</b>	<b>747</b>	<b>735</b>	<b>779</b>	<b>696</b>	<b>659</b>	<b>629</b>	<b>570†</b>	<b>635</b>	<b>720†</b>	<b>760†</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 (2014 volume as of 11/30/2015).

**TABLE 3C-4  
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,  
ARIZONA, 1981-2003 AND 2004-2014**

Transmission	1981-2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
MSM	8,176	436	484	470	435	406	353	392	332	372	429	470
IV Drug User (IDU)	1,927	94	94	88	50	67	54	41	54	53	57	58
MSM/IDU	1,564	42	46	43	43	37	34	45	34	27	32	33
Hemophiliac (Adult)	81	*	*	0	0	0	0	0	0	0	0	0
Heterosexual Contact	1,148	109	67	72	76	55	62	66	78	94	70	75
Transfusion/transplant (Adult)	124	0	*	*	0	0	0	0	0	0	0	0
No indicated risk (Adult)	826	29	42	55	169	128	153	82	68	81	121	120
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+	93	*	11	6	6	*	*	*	*	7	*	*
Pediatric (no indicated risk)	9	*	0	0	0	0	0	0	0	*	*	*
<b>Total</b>	<b>13,970†</b>	<b>720†</b>	<b>750†</b>	<b>740†</b>	<b>779</b>	<b>700†</b>	<b>660†</b>	<b>630†</b>	<b>570†</b>	<b>640†</b>	<b>720†</b>	<b>760†</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 (2014 volume as of 11/30/2015).

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