

# **CHAPTER 3**

## **REPORTABLE DISEASES, ARIZONA, 2005-2015**

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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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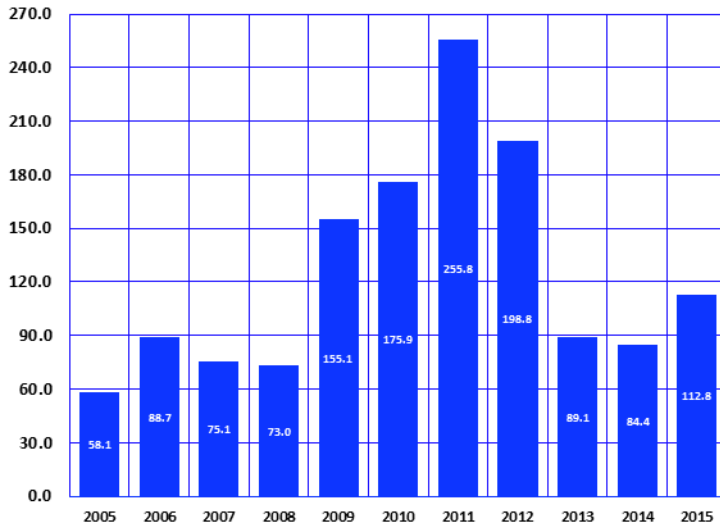
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable 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, 2005-2015

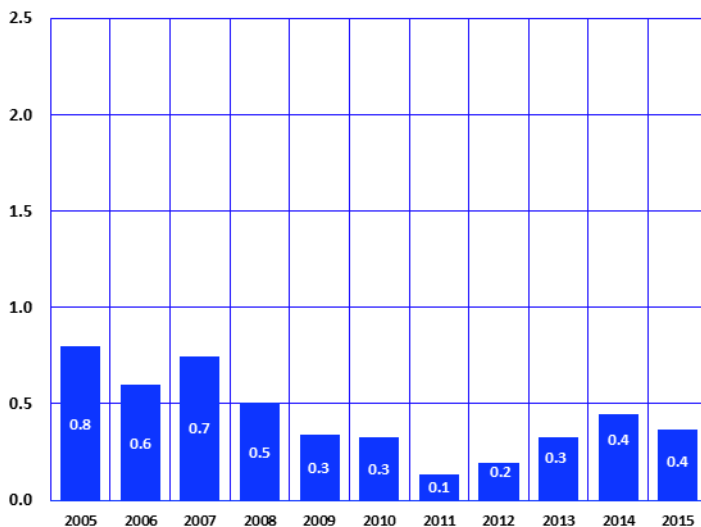


*Coccidioidomycosis* or *Valley Fever* is a fungal infection caused by inhalation of airborne spores that are present in the soil of southwestern United States, California, and parts of Central and South America. Most infections are asymptomatic or self-limited in patients with healthy immune systems. 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 2015. The reported incidence of Valley Fever increased 35.5 percent from 2014 (n=5,624) to 2015 (n=7,622). The 2015 incidence rate of 112.8/100,000 (**Figure 3A-1, Table 5F-2**) was 94.1 percent greater than the incidence rate of 58.1/100,000 in 2005, but was 55.9 percent lower than the incidence rate of 255.8/100,000 in 2011.

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

**Figure 3A-2**  
Trends in Case Fatality Rates<sup>a</sup> for Valley Fever (Coccidioidomycosis) by Year, Arizona, 2005-2015



Twenty eight of the 7,622 Arizonans who had *Valley Fever* in 2015 died from it (**Table 3A-2**) for a case fatality rate of 0.4 deaths per 100 cases (**Figure 3A-2**). The 2015 case mortality rate for *Coccidioidomycosis* was 53.9 percent lower than in 2005.

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

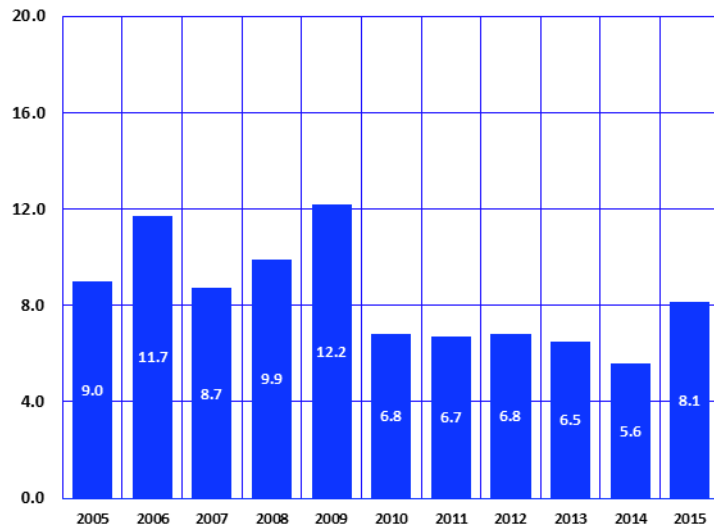
### 3A. NON-SEXUALLY TRANSMITTED DISEASES

*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 2005 – 2015, *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 2015 was 549, an increase from the number of cases observed in 2014 (n = 376). The incidence rate of *shigellosis* in 2015, 8.1 cases per 100,000, was among the highest incidence rate recorded for the first time since 2009 (**Figure 3A-3**).

**Figure 3A-3**  
Trends in the Incidence Rates<sup>a</sup> of Shigellosis by Year, Arizona, 2005-2015

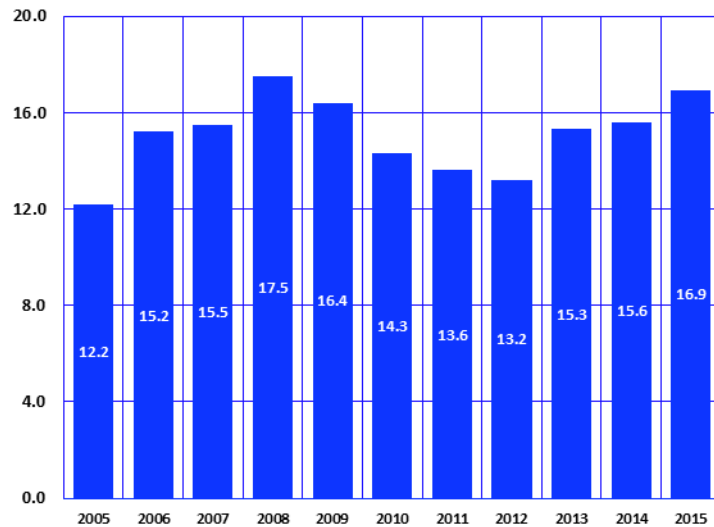


Note: <sup>a</sup> Number of reported cases per 100,000 population.

**Figure 3A-4**  
Trends in the Incidence Rates<sup>a</sup> of Salmonellosis<sup>b</sup> by Year, Arizona, 2005-2015

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

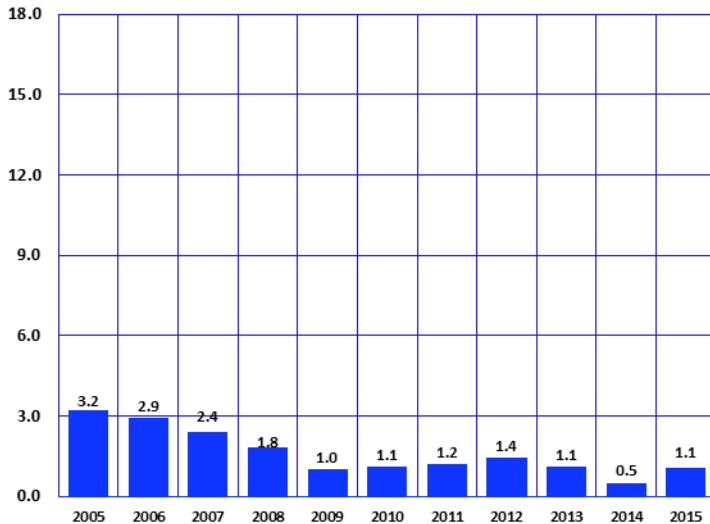
The incidence rate of *salmonellosis* increased 8.4 percent from 15.6/100,000 in 2014 to 16.9/100,000 in 2015 (**Figure 3A-4**). The risk of *salmonellosis* was substantially higher in Navajo (49.2/100,000) Graham (41.6/100,000), and La Paz (33.0/100,000) counties (**Table 5F-2**).



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, 2005-2015

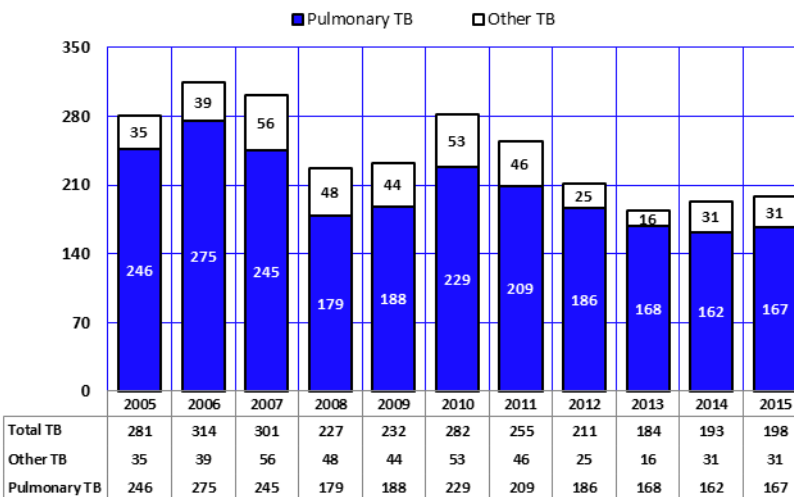


Note: <sup>a</sup> Number of reported cases per 100,000 population.

*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 66.7 percent from 3.2/100,000 in 2005 to 1.1/100,000 in 2015 (**Figure 3A-5**).

**Figure 3A-6**  
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis<sup>a</sup> by Year, Arizona, 2005-2015



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* increased from 162 reported cases in 2014 to 167 cases in 2015. The number of reported cases of tuberculosis other than pulmonary remained stable at 31 since 2014 (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis remained unchanged at 2.9/100,000 between 2014 and 2015 (**Table 5F-2**).

*Pulmonary tuberculosis* accounted for 84.3 percent of all tuberculosis infections in 2015 (**Table 3A-1**). Ten Arizonans who had *tuberculosis* died from it in 2015 (**Table 3A-2**).

**TABLE 3A-1  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2005-2015**

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Vaccine Preventable</b>											
Measles	*	0	*	18	0	*	*	*	*	*	7
Mumps	*	40	10	*	10	*	0	*	*	12	*
Pertussis	1,108	508	210	218	277	546	867	1,130	1,440	517	580
Pertussis confirmed cases	(486)	(36)	(15)	(23)	(79)	(95)	(160)	(575)	(1,068)	(287)	(341)
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	*
Varicella (chickenpox)	1,537	974	930	778	534	755	660	535	354	300	270
<b>Central Nervous System</b>											
Aseptic Meningitis	832	720	632	688	516	733	400	453	343	288	189
Meningococcal Disease	36	16	13	9	15	14	16	6	12	9	*
Viral Encephalitis	26	18	14	8	*	6	6	*	*	*	*
<b>Enteritides</b>											
Amebiasis	20	16	13	11	7	13	21	17	21	24	*
Campylobacteriosis	867	803	962	1,006	877	956	939	940	846	939	1,379
Cholera	0	0	*	0	0	0	0	0	0	0	0
Cryptosporidiosis	11	29	53	89	34	40	46	47	42	46	62
<i>E. coli</i> O157:H7	35	105	106	69	68	100	126	141	246	98	128
Giardiasis	183	163	192	142	198	167	133	113	115	119	143
Salmonellosis (exl. <i>S. Typhi</i> & <i>S. Paratyphi</i> )	739	949	997	1,143	1,079	984	877	857	1,007	1,040	1,143
<i>Salmonella</i> Paratyphi A	*	*	*	*	*	7	*	0	*	*	*
<i>Salmonella</i> Paratyphi B	6	7	*	10	6	*	7	*	*	*	16
<i>Salmonella</i> Paratyphi C	0	0	*	0	0	0	0	0	0	0	0
Shigellosis	547	729	557	650	806	465	434	444	428	376	549
Typhoid Fever	*	7	7	*	*	6	*	7	12	*	*
<b>Mycosis</b>											
Coccidioidomycosis (Valley Fever)	3,515	5,535	4,832	4,768	10,233	11,888	16,472	12,920	5,861	5,624	7,622
<b>Hepatitis</b>											
Hepatitis A	195	179	152	118	68	62	77	93	73	35	72
Hepatitis B (acute)	375	373	180	163	193	150	185	104	50	38	43
Hepatitis C (acute)	0	0	0	0	0	0	NA	NA	NA	NA	NA
Hepatitis D	*	*	*	*	0	*	0	0	0	*	0
Hepatitis E	0	*	*	0	0	*	0	0	0	0	0
Hepatitis non-A non-B	NA	NA	NA	NA	NA	NA	NA	N/A	NA	NA	NA
<b>Tuberculosis</b>											
Pulmonary TB	246	275	245	179	188	229	209	186	168	162	167
Total TB	281	314	301	227	232	282	255	211	184	193	198

**TABLE 3A-1 (continued)  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2005-2015**

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Zoonoses/Vector-borne</b>											
Brucellosis	*	*	*	*	*	9	*	*	*	6	*
Colorado Tick Fever	0	0	0	0	0	*	0	0	0	*	*
Dengue	0	9	8	6	*	10	*	10	*	91	24
Erlchiosis	*	0	0	*	*	0	*	*	*	*	*
Hantavirus Pulmonary Syndrome	*	13	6	*	*	0	*	*	*	*	*
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	10	12	*	8	7	*	15	13	32	21	12
Malaria	21	23	12	17	10	28	21	19	33	25	14
Plague	0	0	*	*	0	0	0	0	0	0	*
Relapsing Fever, Tick-borne	0	0	0	0	*	0	*	*	*	12	*
Rocky Mountain Spotted Fever	25	11	10	17	23	17	77	50	63	16	17
St. Louis Encephalitis	*	*	0	0	0	0	0	0	0	*	23
Tularemia	*	*	*	*	0	*	0	0	0	0	*
West Nile Virus	111	148	98	114	21	166	69	135	62	108	103
<b>Other</b>											
Botulism	*	*	*	*	*	0	*	12	*	*	*
Legionellosis	26	38	40	26	49	65	46	44	69	59	93
Listeriosis	13	7	12	8	8	10	8	14	*	14	*
Methicillin Resistant <i>S. aureus</i> (invasive)	1,432	1,336	1,305	1,417	1,171	1,166	1,196	1,089	1,066	1,178	1,155
Streptococcal-Group A (invasive)	303	351	208	204	161	190	206	199	231	250	351
Streptococcal-Group B (invasive, age <90 d)	44	54	59	57	52	45	39	57	35	41	61
<i>Streptococcus pneumoniae</i> (invasive)	726	971	923	1,077	907	823	767	661	786	724	678
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> )	16	25	11	14	19	18	26	29	19	36	33
Vancomycin resist. <i>Enterococcus</i> spp.(VRE)	1,956	2,683	2,494	NA	NA	NA	NA	NA	NA	NA	NA
Yersiniosis (except <i>Y. pestis</i> )	*	11	8	*	7	*	6	10	9	*	12

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. *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/preparedness/epidemiology-disease-control/index.php#data-stats-archive>.

**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, 2005-2015**

ICD-9/ICD-10 codes	Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<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	*
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	*	0
<b>CENTRAL NERVOUS SYSTEM</b>												
047.9/G03.0	Aseptic meningitis	*	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	*	*	*
002/A01	Typhoid	0	0	0	*	0	0	0	0	0	0	0
<b>MYCOSIS</b>												
114/B38	Coccidioidomycosis (Valley Fever)	28	33	36	24	35	39	22	25	19	25	28
<b>HEPATITIDES</b>												
070.0-070.1/B15	Hepatitis A	0	*	*	*	*	*	0	*	*	*	0
070.2-070.3/B16	Hepatitis B	12	21	13	6	*	10	9	12	9	8	8
070.4-070.5/B17-B18	Other viral hepatitis	151	189	131	176	233	207	209	274	265	248	257
070.6-070.9/B19	Unspecified	*	*	*	*	*	*	0	0	*	*	*
<b>TUBERCULOSIS</b>												
010-011/A15-A16	Respiratory TB	13	13	10	10	8	12	10	*	11	6	9
010-018/A15-A19	Total TB	17	20	12	13	8	15	12	*	15	8	10
<b>ZOOZOSES/VECTOR-BORNE</b>												
023.9/A23	Brucellosis	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	*	*	*	*	*
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	0

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





### **3B.**

#### **SEXUALLY TRANSMITTED DISEASES**

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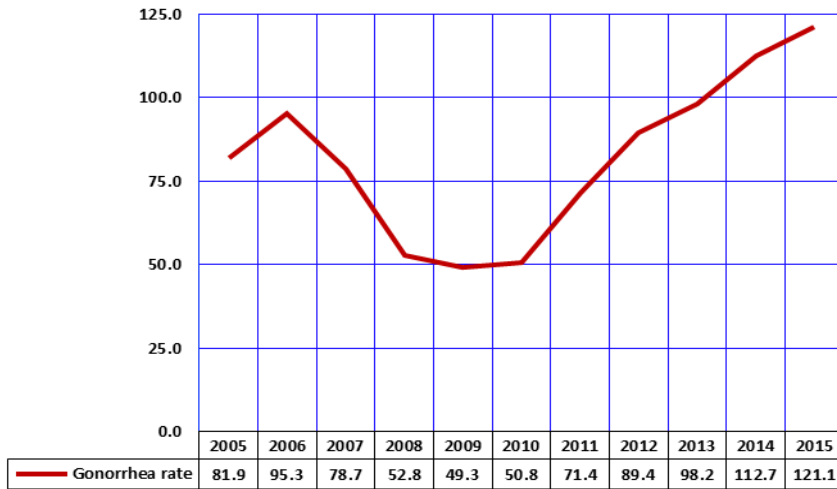
All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

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 2015 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, 2005-2015

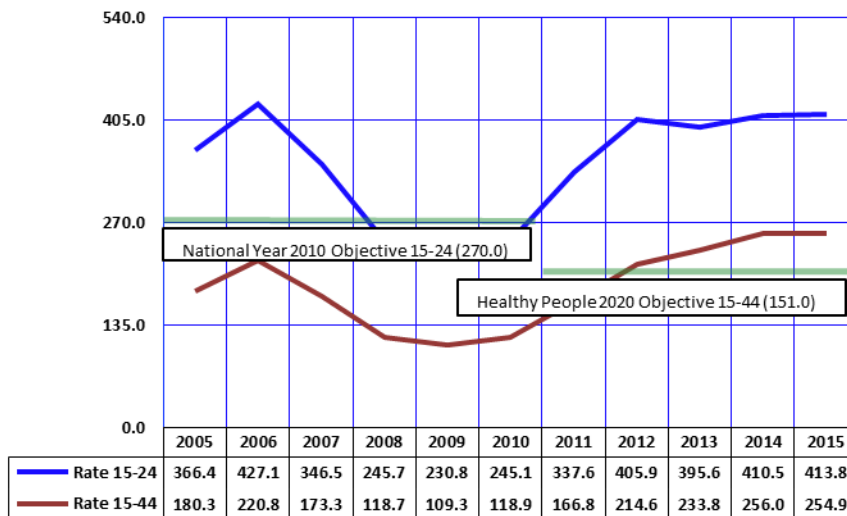


*Neisseria gonorrhoeae* infection is the second most commonly reported notifiable disease in the United States. (Figure 3B-1). The consistent steady increase in the incidence rate of gonorrhea since 2009 likely resulted from a combination of factors, such as changes in surveillance, increases in the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

The *Healthy People 2010* objective HP25-2 defines the target rate for gonorrhea as equal to or lower than 19.1 cases per 100,000 population. However, the *Healthy People 2020* target is for ages 15-44 and is set at 151.0/100,000 females and 147.0/100,000 males (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, 2005-2015



The 2015 incidence rate for gonorrhea was 254.9 per 100,000 for Arizona females age 15-44 years, meaning Arizona's incidence rate was higher than the *Healthy People 2020* objective, and decreased 0.4 percent from 2014. 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.

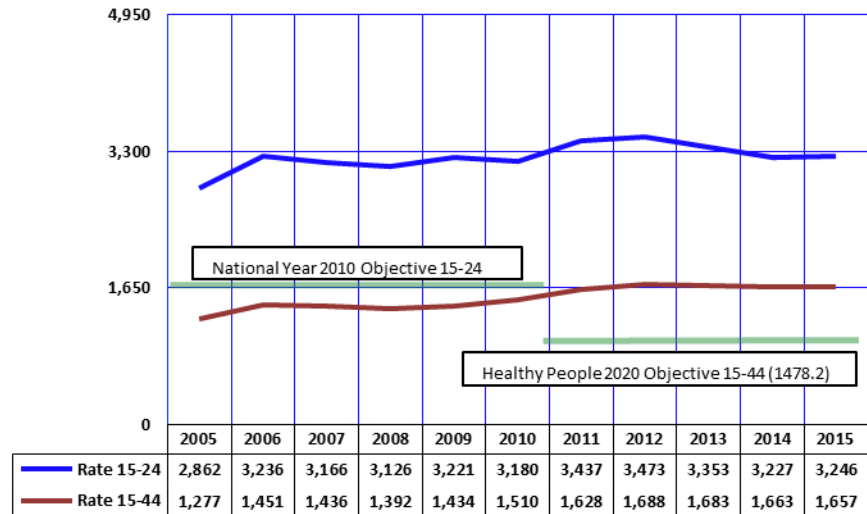
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

### 3B. SEXUALLY TRANSMITTED DISEASES

*Chlamydia trachomatis* is the most prevalent bacterial sexually transmitted disease in the United States (1,526,658 cases in 2015, 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 2015 was 1,657 per 100,000 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, 2005-2015



<http://www.cdc.gov/std/stats15/chlamydia.htm>

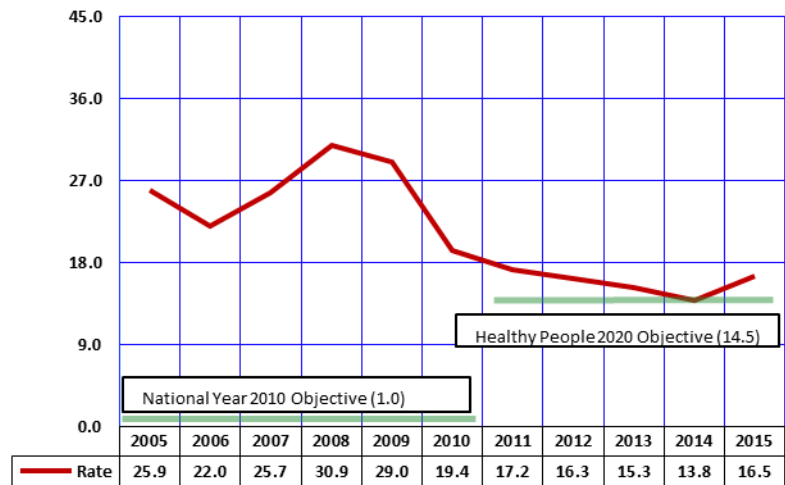
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

*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 increased from 13.8/100,000 in 2014 to 16.5/100,000 in 2015 (**Figure 3B-4**, **Table 6A-2**).

**Figure 3B-4**  
Trends in the Incidence Rates<sup>a</sup> of Congenital Syphilis by Year, Arizona, 2005-2015



**TABLE 3B-1  
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2005-2015**

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gonorrhea	4,951	5,949	5,062	3,449	3,250	3,249	4,564	5,856	6,505	7,585	8,270
Gonococcal PID <sup>a</sup>	8	*	*	0	0	0	0	0	0	0	0
Resistant Gonorrhea <sup>b</sup>	*	0	0	0	0	0	0	0	0	*	0
Syphilis (P & S) <sup>c</sup>	175	203	296	317	231	230	274	204	290	572	590
Syphilis-Total <sup>d</sup>	789	931	1,242	1,396	1,085	904	907	795	966	1,434	1,482
Chlamydia	21,264	24,090	24,866	24,769	26,002	26,861	29,251	30,571	30,923	31,750	32,511

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, 2005-2015**

Disease	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Gonococcal infections	0	0	0	0	0	0	0	0	0	0	0
Syphilis-Total	0	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, 2015**

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	0
5-9	0	*	0	0†	0	0	0	0	0	0	0	0
10-14	6	30	0	36	18	131	0	149	0	0	0	0
15-19	510	751	*	1,264	1,687	5,952	6	7,645	36	8	0	44
20-24	1,365	1,150	*	2,517	3,637	8,958	17	12,612	151	30	0	181
25-29	1,040	761	*	1,805	2,190	3,949	13	6,152	156	20	0	176
30-34	696	395	0	1,091	1,124	1,754	*	2,882	127	12	0	139
35-39	409	208	*	618	572	854	*	1,427	109	14	0	123
40-44	275	100	*	376	344	410	*	755	73	*	0	80†
45-49	183	68	0	251	242	205	*	448	84	*	0	90†
50-54	130	35	0	165	128	111	0	239	69	*	0	70†
55-59	66	15	0	81	62	52	0	114	33	0	0	33
60-64	35	*	0	40†	36	18	0	54	14	0	0	14
65-over	23	*	0	30†	28	*	*	30†	8	0	0	8
<b>Total</b>	<b>4,738</b>	<b>3,520†</b>	<b>10†</b>	<b>8,270†</b>	<b>10,068</b>	<b>22,400†</b>	<b>40†</b>	<b>32,511</b>	<b>860</b>	<b>90†</b>	<b>0</b>	<b>952</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, 2015**

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	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>	2.6	13.3	7.9	7.7	58.3	32.6	0.0	0.0	0.0
<b>15-19</b>	215.9	334.1	274.2	714.3	2647.8	1658.4	15.2	3.6	9.5
<b>20-24</b>	540.2	490.2	516.6	1439.4	3818.8	2588.3	59.8	12.8	37.1
<b>25-29</b>	429.4	339.2	386.9	904.3	1760.3	1318.7	64.4	8.9	37.7
<b>30-34</b>	303.6	181.3	244.0	490.3	805.1	644.6	55.4	5.5	31.1
<b>35-39</b>	191.6	99.2	146.0	267.9	407.2	337.2	51.1	6.7	29.1
<b>40-44</b>	131.1	47.9	89.9	164.0	196.6	180.5	34.8	**	18.6
<b>45-49</b>	88.7	33.0	60.8	117.3	99.5	108.6	40.7	**	20.8
<b>50-54</b>	61.3	16.0	38.3	60.3	50.7	55.4	32.5	**	16.2
<b>55-59</b>	32.4	6.8	19.1	30.4	23.5	26.9	16.2	0.0	7.8
<b>60-64</b>	19.2	**	10.3	19.7	8.7	13.9	7.7	0.0	3.6
<b>65-over</b>	4.5	**	2.2	5.4	**	3.0	1.6	0.0	0.7
<b>Total</b>	139.7	102.5	121.1	296.9	651.8	476.1	25.4	2.7	13.9

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 2015; 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, 2015**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA		
	Early			Late			Resistant			Total			Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate			
<b>White Non-Hispanic</b>	386	40.5	10.0	119	22.5	3.1	0	0.0	0.0	1,973	23.9	50.9	5,734	17.6	147.9
<b>Black or African American</b>	117	12.3	36.6	66	12.5	20.6	0	0.0	0.0	1,336	16.2	417.7	2,557	7.9	799.4
<b>Hispanic or Latino</b>	350	36.8	16.7	243	45.8	11.6	0	0.0	0.0	2,431	29.4	115.8	9,901	30.5	471.8
<b>Asian or Pacific Islander</b>	16	1.7	6.5	14	2.6	5.7	0	0.0	0.0	58	0.7	23.7	325	1.0	132.9
<b>American Indian or Alaska Native</b>	42	4.4	14.6	30	5.7	10.4	0	0.0	0.0	526	6.4	183.1	2,430	7.5	845.9
<b>Not Specified</b>	41	4.3	N/A	58	10.9	N/A	0	0.0	N/A	1,946	23.5	N/A	11,555	35.5	N/A
<b>Total</b>	952	100.0	13.9	530	100.0	7.8	0	0.0	0.0	8,270	100.0	121.1	32,511	100.0	476.1

Notes: Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2015; rates per 100,000 population.

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





### 3C.

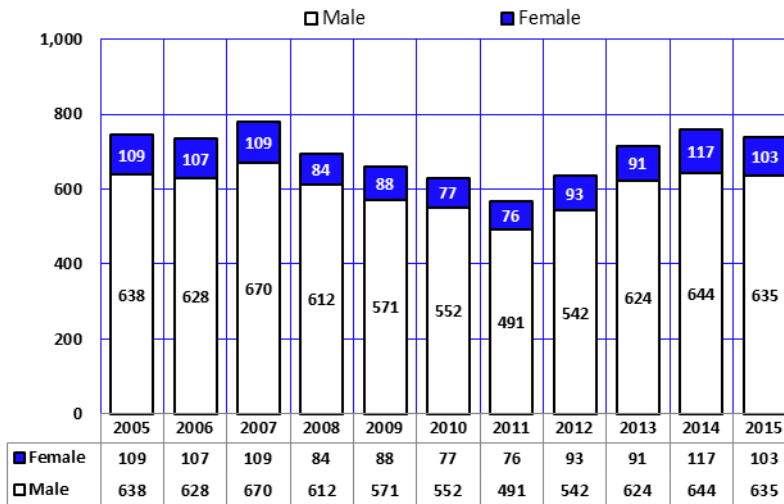
#### **HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)**

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Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2015, 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, 2005-2015**

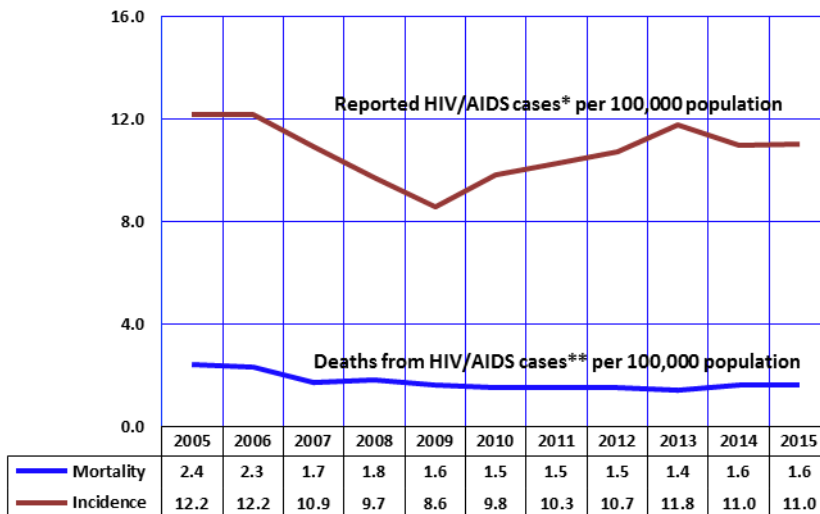


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 22,337 cases of HIV/AIDS had been diagnosed in the State by the end of 2015 and reported by July 1, 2016 (**Table 3C-1**).

In 2015, males accounted for 86.0 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2015 was 6.2:1 (635/103, **Figure 3C-1**, **Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of HIV/AIDS in 2015 remained similar to previous years. Of the 738 *HIV/AIDS* cases diagnosed in 2015, 429 were among men who reported sexual contact with other men (**Table 3C-4**). Another 76 reported heterosexual contact. An additional 52 reported only injecting drugs. Adults without an indicated risk accounted for 135 of HIV/AIDS cases diagnosed in 2015.

**Figure 3C-2**  
**Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease**  
**by Year, Arizona, 2005-2015**



The incidence rate measures the relative risk for HIV/AIDS in a population. The incidence rate of HIV/AIDS has fallen in Arizona by 9.6 percent from 12.2 cases per 100,000 population in 2005 to 11.0/100,000 in 2015 (**Figure 3C-2**; the incidence rates for 2005 – 2015 have been re-computed based on the latest volume of the HIV/AIDS data as of 7/01/2016).

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 during 2014-2015 (**Figure 3C-2**).

Of the 738 *HIV/AIDS* cases diagnosed in 2015, 266 were White non-Hispanic, 256 were Hispanic, 135 were Black, 53 were American Indian, and 21 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, 1981-2015**

<b>Age Group (years)</b>	<b>HIV/AIDS cases</b>
<b>Under 5</b>	121
<b>5-12</b>	59
<b>13-19</b>	489
<b>20-29</b>	6,598
<b>30-39</b>	8,089
<b>40-49</b>	4,694
<b>50 or above</b>	2,269
<b>Missing</b>	18
<b>Total</b>	22,337

**TABLE 3C-2  
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,  
ARIZONA, 1981-2004 and 2005-2015**

	<b>1981-2004</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>2015</b>
<b># Males</b>	12,937	637	630	668	612	573	552	490	543	614	642	635
<b># Females</b>	1,753	109	104	109	84	88	77	77	92	90	118	103
<b># Total</b>	14,690	746	734	777	696	661	629	567	635	704	760	738
<b># Presumed Living</b>	7,583	603	627	686	619	588	576	524	587	671	741	717
<b># Known dead</b>	7,107	143	107	91	77	73	53	43	48	33	19	21
<b>% Mortality</b>	<b>48.4</b>	<b>19.2</b>	<b>14.6</b>	<b>11.7</b>	<b>11.1</b>	<b>11.0</b>	<b>8.4</b>	<b>7.6</b>	<b>7.6</b>	<b>4.7</b>	<b>2.5</b>	<b>2.8</b>

Note: Due to reporting delays, all numbers are provisional (2015 volume as of 05/04/2016).

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, 1981-2004 AND 2005-2015**

Race/ethnicity	1981-2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
White non-Hispanic	9,375	365	324	362	343	283	312	225	249	286	282	266
Black or African American non-Hispanic	1,383	82	107	81	71	70	59	76	104	117	133	135
Hispanic or Latino all races	3,176	244	257	282	228	246	202	203	213	242	268	256
Asian or Pacific Islander non-Hispanic	81	8	10	15	15	13	12	16	16	9	17	21
American Indian or Alaska Native non-Hispanic	439	41	27	28	30	39	37	42	45	48	57	53
Two or more races/ other or unknown race	236	6	9	9	9	10	7	*	8	*	*	7
<b>Total</b>	<b>14,690</b>	<b>746</b>	<b>734</b>	<b>777</b>	<b>696</b>	<b>661</b>	<b>629</b>	<b>570†</b>	<b>635</b>	<b>700†</b>	<b>760†</b>	<b>738</b>

Note: \* 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 (2015 volume as of 05/04/2016).

**TABLE 3C-4  
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,  
ARIZONA, 1981-2004 AND 2005-2015**

Transmission	1981-2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
MSM	8,617	483	471	433	407	356	392	333	372	425	470	429
IV Drug User (IDU)	2,025	93	87	50	67	54	41	55	53	55	56	52
MSM/IDU	1,609	47	44	44	37	34	45	35	27	32	34	42
Hemophilic (Adult)	82	*	0	0	0	0	0	0	0	0	0	0
Heterosexual Contact	1,259	68	71	76	56	63	66	78	94	68	78	76
Transfusion/transplant (Adult)	124	*	*	0	0	0	0	0	0	0	0	0
No indicated risk (Adult)	846	41	54	168	126	150	83	65	81	118	117	135
Pediatric Hemophilic	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 +	98	11	6	6	*	*	*	*	7	*	*	*
Pediatric (no indicated risk)	10	0	0	0	0	0	0	0	*	*	*	*
<b>Total</b>	<b>14,690†</b>	<b>750†</b>	<b>730†</b>	<b>777</b>	<b>700†</b>	<b>660†</b>	<b>630†</b>	<b>570†</b>	<b>640†</b>	<b>700†</b>	<b>760†</b>	<b>740†</b>

Note: \* 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 (2015 volume as of 05/04/2016).

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