

# **CHAPTER 3**

## **REPORTABLE DISEASES, ARIZONA, 2007-2017**

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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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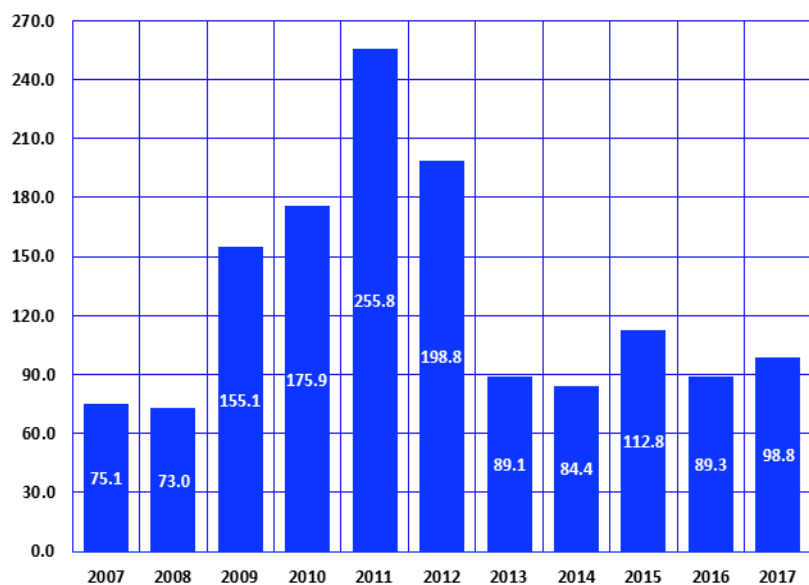
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable 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, 2007-2017

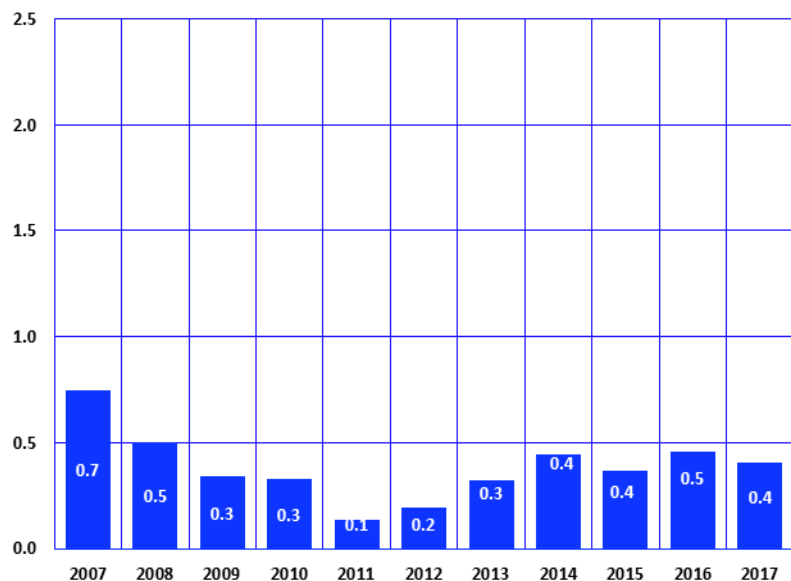


Note: <sup>a</sup> Number of cases per 100,000 population.

*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 2017. The reported incidence of Valley Fever increased 12.9 percent from 2016 (n=6,101) to 2017 (n=6,885). The 2017 incidence rate of 98.8/100,000 (**Figure 3A-1, Table 5F-2**) was 10.7 percent greater than the incidence rate of 89.3/100,000 in 2016, but was 61.4 percent lower than the unprecedented 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, 2007-2017



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

Twenty eight of the 6,885 Arizonans who had *Valley Fever* in 2017 died from it (**Table 3A-2**) for a case fatality rate of 0.4 deaths per 100 cases (**Figure 3A-2**). The 2017 case mortality rate for *Coccidioidomycosis* was 45.4 percent lower than in 2007.

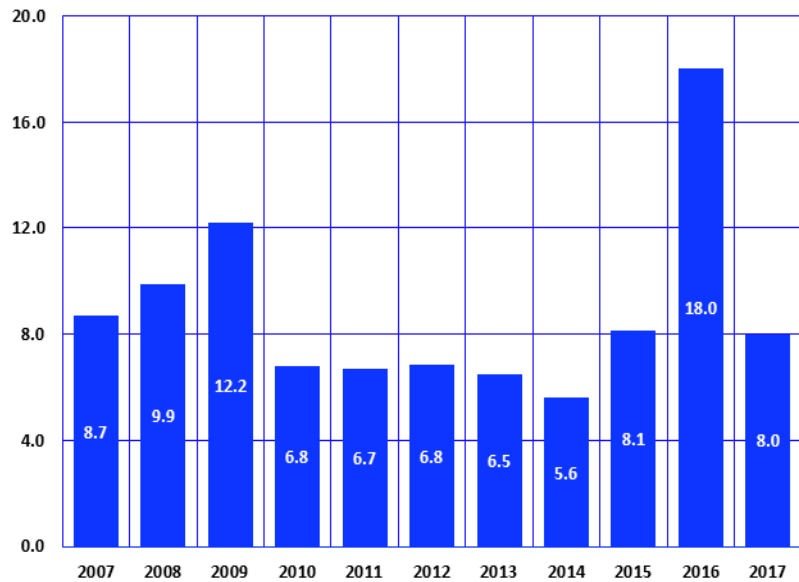
### 3A. NON-SEXUALLY TRANSMITTED DISEASES

*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 2007–2017, *shigellosis* was the most common enteric disease to afflict Arizonans after *campylobacteriosis* and *salmonellosis* (Table 3A-1).

The number of reported cases of *shigellosis* has decreased by 676 cases from 1,231 in 2016 to 555 in 2017. Compared to 2016, The incidence rate of *shigellosis* was 55.6 percent lower at 8 reported cases/100,000 population in 2017 (Figure 3A-3).

**Figure 3A-3**  
Trends in the Incidence Rates<sup>a</sup> of Shigellosis by Year, Arizona, 2007-2017

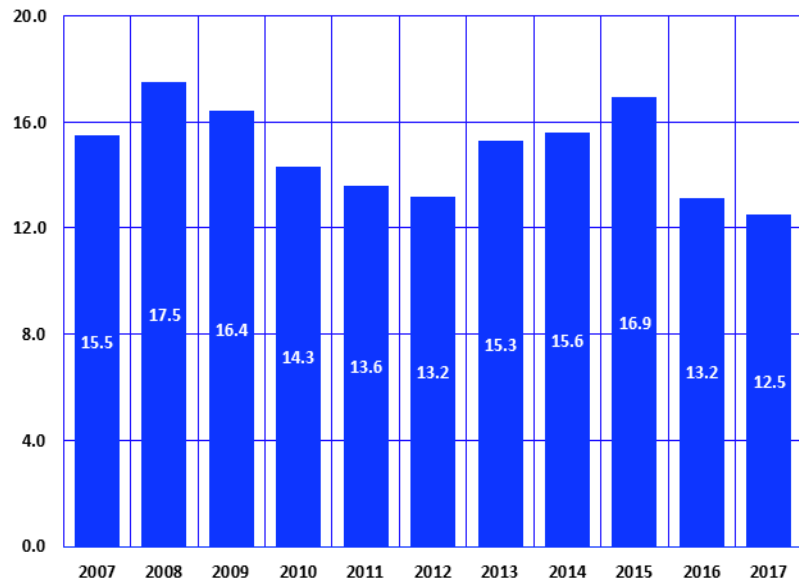


Note: <sup>a</sup> Number of reported cases per 100,000 population.

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

The incidence rate of *salmonellosis* decreased 5.0 percent from 13.2/100,000 in 2016 to 12.5/100,000 in 2017 (Figure 3A-4). The risk of *salmonellosis* was substantially higher in Apache (37.1/100,000), Graham (34.0/100,000), Navajo (24.3/100,000) and La Paz (23.2/100,000) counties (Table 5F-2).

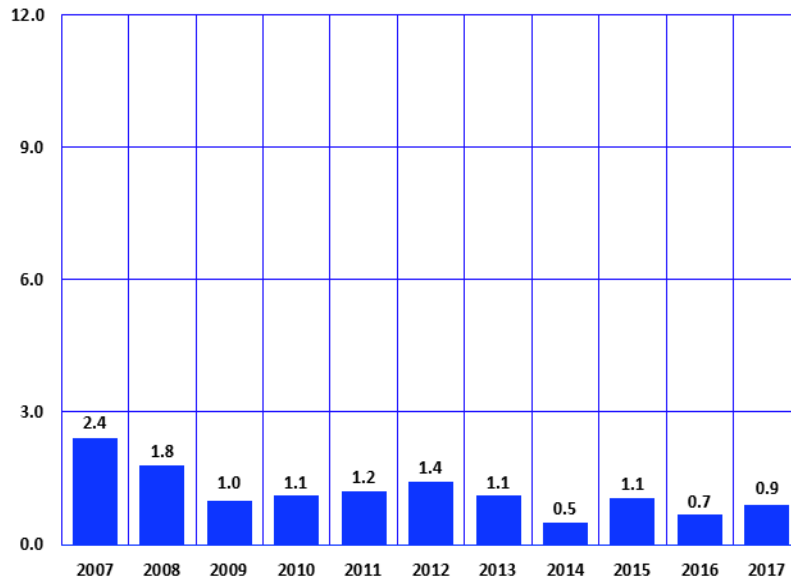
**Figure 3A-4**  
Trends in the Incidence Rates<sup>a</sup> of Salmonellosis<sup>b</sup> by Year, Arizona, 2007-2017



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, 2007-2017

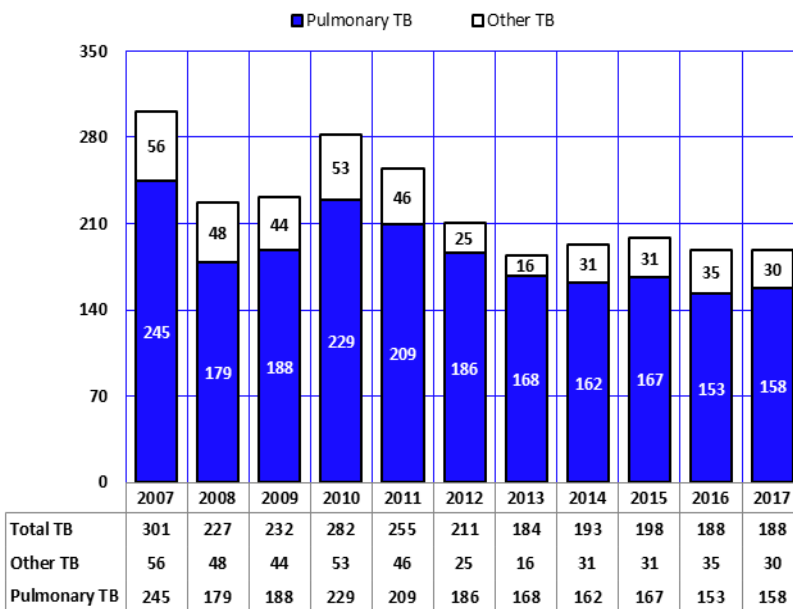


Note: <sup>a</sup> Number of reported cases per 100,000 population.

*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 62.5 percent from 2.4/100,000 in 2007 to 0.9/100,000 in 2017 (**Figure 3A-5**).

**Figure 3A-6**  
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis<sup>a</sup>  
by Year, Arizona, 2007-2017



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* slightly increased from 153 reported cases in 2016 to 158 cases in 2017. The number of reported cases of tuberculosis other than pulmonary decreased in 2017 to 30 cases (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis decreased slightly from 2.8/100,000 in 2016 to 2.7/100,000 in 2017 (**Table 5F-2**).

*Pulmonary tuberculosis* accounted for 84.0 percent of all tuberculosis infections in 2017 (**Table 3A-1**). Ten Arizonans who had *tuberculosis* died from it in 2017(**Table 3A-2**).

**TABLE 3A-1  
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2007-2017**

Disease	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
<b>Vaccine Preventable</b>												
Measles	*	18	0	*	*	*	*	*	*	7	31	0
Mumps	10	*	10	*	0	*	*	12	*	*	7	34
Pertussis	210	218	277	546	867	1,130	1,440	517	580	287	420	
Pertussis confirmed cases	(15)	(23)	(79)	(95)	(160)	(575)	(1,068)	(287)	(341)	(154)	(262)	
Rubella	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	
Varicella (chickenpox)	930	778	534	755	660	535	354	300	270	279	189	
<b>Central Nervous System</b>												
Aseptic Meningitis	632	688	516	733	400	453	343	288	189	146	81	
Meningococcal Disease	13	9	15	14	16	6	12	9	*	*	*	
Viral Encephalitis	14	8	*	6	6	*	*	*	*	*	*	
<b>Enteritides</b>												
Amebiasis	13	11	7	13	21	17	21	24	*	6	16	
Campylobacteriosis	962	1,006	877	956	939	940	846	939	1,379	1,241	1,372	
Cholera	*	0	0	0	0	0	0	0	0	0	0	
Cryptosporidiosis	53	89	34	40	46	47	42	46	62	549	112	
<i>E. coli</i> O157:H7	106	69	68	100	126	141	246	98	128	148	166	
Giardiasis	192	142	198	167	133	113	115	119	143	125	145	
Salmonellosis (exl. <i>S. Typhi</i> & <i>S. Paratyphi</i> )	997	1,143	1,079	984	877	857	1,007	1,040	1,143	899	874	
<i>Salmonella</i> Paratyphi A	*	*	*	7	*	0	*	*	*	*	*	
<i>Salmonella</i> Paratyphi B	*	10	6	*	7	*	*	*	16	0	0	
<i>Salmonella</i> Paratyphi C	*	0	0	0	0	0	0	0	0	0	0	
Shigellosis	557	650	806	465	434	444	428	376	549	1,231	555	
Typhoid Fever	7	*	*	6	*	7	12	*	*	9	*	
<b>Mycosis</b>												
Coccidioidomycosis (Valley Fever)	4,832	4,768	10,233	11,888	16,472	12,920	5,861	5,624	7,622	6,101	6,885	
<b>Hepatitides</b>												
Hepatitis A	152	118	68	62	77	93	73	35	72	46	61	
Hepatitis B (acute)	180	163	193	150	185	104	50	38	43	16	41	
Hepatitis C (acute)	0	0	0	0	NA	NA	NA	NA	NA	NA	NA/A	
Hepatitis D	*	0	0	*	0	0	0	*	0	0	0	
Hepatitis E	*	0	0	*	0	0	0	*	0	0	*	
Hepatitis non-A non-B	NA	NA	NA	NA	NA	N/A	NA	NA	NA	NA	NA	
<b>Tuberculosis</b>												
Pulmonary TB	245	179	188	229	209	186	168	162	167	153	158	
Total TB	301	227	232	282	255	211	184	193	198	188	188	

**TABLE 3A-1 (continued)**  
**NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2007-2017**

Disease	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Zoonoses/Vector-borne</b>											
Brucellosis	*	*	*	9	*	*	*	6	*	*	8
Colorado Tick Fever	0	0	0	*	0	0	0	*	*	0	0
Dengue	8	6	*	10	*	10	*	91	24	14	*
Erlchiosis	0	*	*	0	*	*	*	*	*	*	*
Hantavirus Pulmonary Syndrome	6	*	*	0	*	*	*	*	*	*	*
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	*	8	7	*	15	13	32	21	12	13	28
Malaria	12	17	10	28	21	19	33	25	14	38	26
Plague	*	*	0	0	0	0	0	0	*	0	*
Relapsing Fever, Tick-borne	0	0	*	0	*	*	*	12	*	*	*
Rocky Mountain Spotted Fever	10	17	23	17	77	50	63	16	17	23	27
St. Louis Encephalitis	0	0	0	0	0	0	0	*	23	0	6
Tularemia	*	0	0	*	0	0	0	0	*	*	*
West Nile Virus	98	114	21	166	69	135	62	108	103	78	110
<b>Other</b>											
Botulism	*	*	*	0	*	12	*	*	*	*	*
Legionellosis	40	26	49	65	46	44	69	59	93	76	74
Listeriosis	12	8	8	10	8	14	*	14	*	6	8
Methicillin Resistant <i>S. aureus</i> (invasive)	1,305	1,417	1,171	1,166	1,196	1,089	1,066	1,178	1,155	1,265	1,355
Streptococcal-Group A (invasive)	208	204	161	190	206	199	231	250	351	555	614
Streptococcal-Group B (invasive, age <90 d)	59	57	52	45	39	57	35	41	61	60	63
<i>Streptococcus pneumoniae</i> (invasive)	923	1,077	907	823	767	661	786	724	678	716	707
Reyes Syndrome	0	0	0	0	0	0	0	0	0	0	0
Toxic Shock Syndrome	*	*	*	*	*	*	*	6	*	*	0
<i>Vibrio</i> spp. (except toxogenic <i>V.cholerae</i> )	11	14	19	18	26	29	19	36	33	19	25
Vancomycin resist. <i>Enterococcus</i> spp.(VRE)	2,494	NA	NA	NA	NA	NA	NA	NA	NA	N/A	N/A
Yersiniosis (except <i>Y. pestis</i> )	8	*	7	*	6	10	9	*	12	14	20

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* 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:

<https://azdhs.gov/preparedness/epidemiology-disease-control/index.php#data-stats>

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



**TABLE 3A-2  
NUMBER OF DEATHS FROM SELECTED NOTIFIABLE DISEASES BY CATEGORY AND YEAR,  
ARIZONA, 2007-2017**

ICD-9/ICD-10 codes	Disease	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<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	*	*
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	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	*	*	*	*
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)	36	24	35	39	22	25	19	25	28	28	28
<b>HEPATITIDES</b>												
070.0-070.1/B15	Hepatitis A	*	*	*	*	0	*	*	*	0	0	0
070.2-070.3/B16	Hepatitis B	13	6	*	10	9	12	9	8	8	10	*
070.4-070.5/B17-B18	Other viral hepatitis	131	176	233	207	209	274	265	248	257	207	191
070.6-070.9/B19	Unspecified	*	*	*	*	0	0	*	*	*	0	*
<b>TUBERCULOSIS</b>												
010-011/A15-A16	Respiratory TB	10	10	8	12	10	*	11	6	9	6	7
010-018/A15-A19	Total TB	12	13	8	15	12	*	15	8	10	7	10
<b>ZOONOSES/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	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	*	*
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	*	0

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





### **3B.**

#### **SEXUALLY TRANSMITTED DISEASES**

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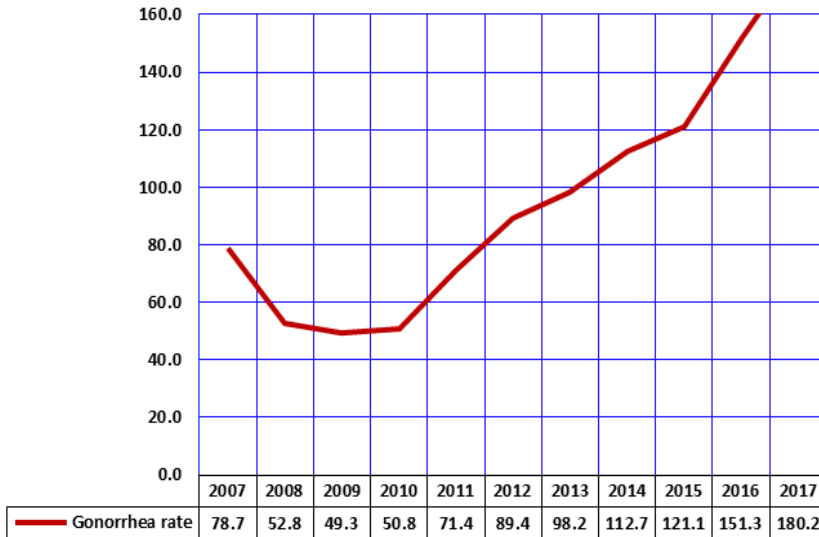
All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

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 2016 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, 2007-2017

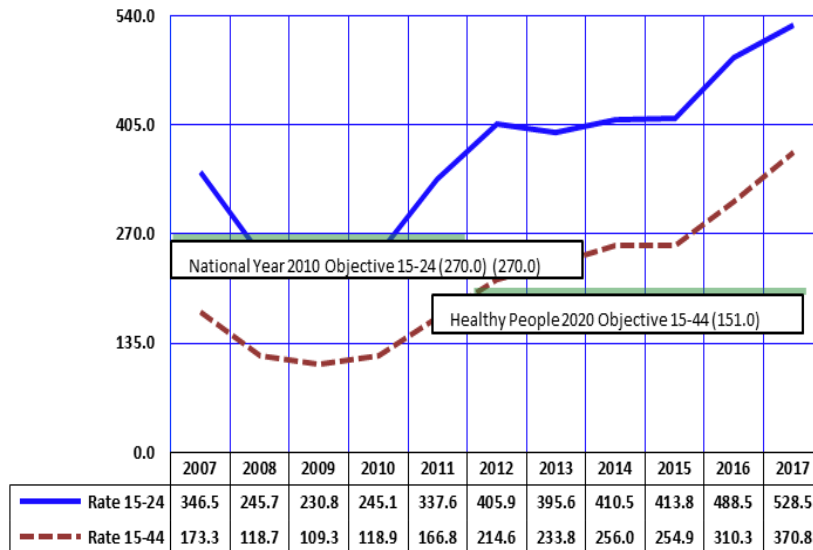


*Neisseria gonorrhoeae* infection is the second most commonly reported notifiable disease in the United States. (Figure 3B-1). The consistent steady increase in the incidence rate of gonorrhea since 2009 likely resulted from a combination of factors, such as changes in surveillance, increases in the 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, 2007-2017



The 2017 incidence rate for gonorrhea was 370.8 per 100,000 for Arizona females aged 15-44 years, meaning Arizona's incidence rate was higher than the *Healthy People 2020* objective. Generally, the trend in gonorrhea incidence rates are similar for women aged 15-24 and aged 15-44, although the overall incidence rate is consistently higher for women aged 15-24.

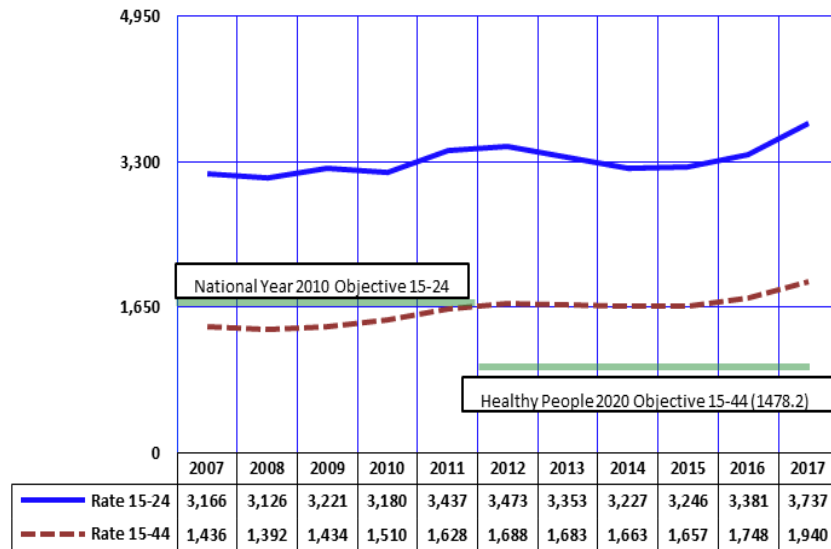
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

### 3B. SEXUALLY TRANSMITTED DISEASES

*Chlamydia trachomatis* is the most prevalent bacterial sexually transmitted disease in the United States (1,708,569 cases in 2017) 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 2017 was 1,940 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, 2007-2017



<http://www.cdc.gov/std/stats17/chlamydia.htm>

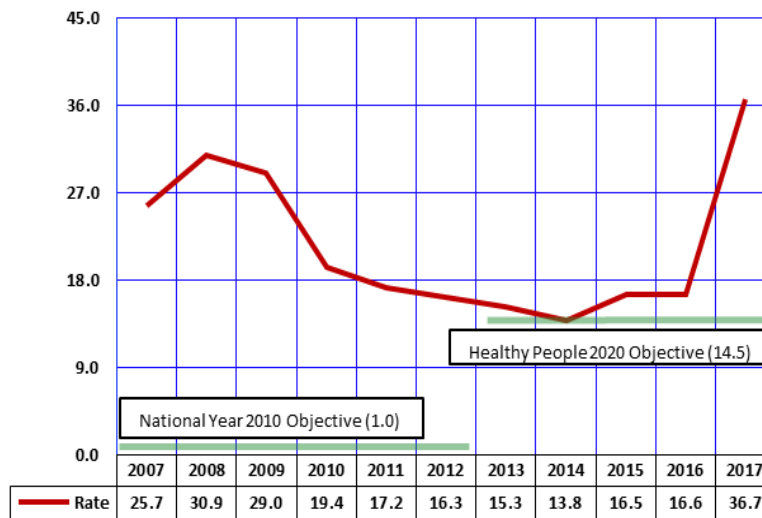
Notes: <sup>a</sup> Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females ages 15-24. In Healthy People 2020 objective is for females ages 15-44.

Congenital syphilis 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 Congenital syphilis 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 cases per 100,000. In Arizona, the incidence rate of congenital syphilis has seen a sharp increase at 36.7/100,000 in 2017 following a period of consistent decreases (Figure 3B-4, Table 6A-2).

**Figure 3B-4**  
Trends in the Incidence Rates<sup>a</sup> of Congenital Syphilis by Year, Arizona, 2007-2017



**TABLE 3B-1  
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2007-2017**

Disease	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Gonorrhea</b>	5,062	3,449	3,250	3,249	4,564	5,856	6,505	7,585	8,270	10,330	12,514
<b>Gonococcal PID<sup>a</sup></b>	*	0	0	0	0	0	0	0	0	0	*
<b>Resistant Gonorrhea<sup>b</sup></b>	0	0	0	0	0	0	0	*	0	0	0
<b>Syphilis (P &amp; S)<sup>c</sup></b>	296	317	231	230	274	204	290	572	590	721	943
<b>Syphilis-Total<sup>d</sup></b>	1,242	1,396	1,085	904	907	795	966	1,434	1,482	1,903	2,424
<b>Chlamydia</b>	24,866	24,769	26,002	26,861	29,251	30,571	30,923	31,750	32,511	34,923	39,635

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, 2007-2017**

Disease	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Gonococcal infections</b>	0	0	0	0	0	0	0	0	0	0	0
<b>Syphilis-Total</b>	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, 2017**

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
5-9	*	*	0	0†	0	6	0	6	0	*	0	0†
10-14	15	39	0	54	32	155	*	188	0	*	0	0†
15-19	825	1,024	*	1,853	2,267	7,016	19	9,302	62	23	0	85
20-24	1,813	1,407	*	3,224	4,298	10,173	37	14,508	174	70	0	244
25-29	1,651	1,147	*	2,802	2,864	4,857	14	7,735	239	79	0	318
30-34	1,068	699	6	1,773	1,485	2,115	10	3,610	200	65	0	265
35-39	695	429	*	1,128	930	1,137	*	2,070	162	35	0	197
40-44	405	227	*	633	461	512	*	976	106	17	0	123
45-49	333	128	*	462	300	274	*	577	98	11	0	109
50-54	225	72	0	297	213	129	0	342	103	11	0	114
55-59	130	32	*	164	132	61	0	193	56	*	0	60†
60-64	57	11	0	68	49	29	0	78	21	*	0	30†
65-over	44	*	0	50†	33	15	0	48	22	*	0	20†
<b>Total</b>	<b>7,260†</b>	<b>5,220†</b>	<b>30†</b>	<b>12,510†</b>	<b>13,064</b>	<b>26,480†</b>	<b>90†</b>	<b>39,640†</b>	<b>1,243</b>	<b>320†</b>	<b>0</b>	<b>1,560†</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, 2017**

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
<b>5-9</b>	**	**	**	0.0	2.7	1.3	0.0	**	**
<b>10-14</b>	6.4	17.3	11.8	13.7	68.8	40.7	0.0	**	**
<b>15-19</b>	345.1	450.3	396.4	948.2	3085.0	1989.9	25.9	10.1	18.2
<b>20-24</b>	718.8	605.1	664.3	1703.9	4375.2	2985.2	69.0	30.1	50.3
<b>25-29</b>	657.4	491.7	577.6	1140.4	2082.1	1593.9	95.2	33.9	65.6
<b>30-34</b>	462.4	321.0	393.8	643.0	971.2	802.3	86.6	29.8	59.1
<b>35-39</b>	316.6	200.5	259.3	423.7	531.4	476.8	73.8	16.4	45.4
<b>40-44</b>	196.3	110.5	153.5	223.4	249.2	236.3	51.4	8.3	29.9
<b>45-49</b>	158.4	60.6	109.4	142.7	129.7	136.2	46.6	5.2	25.9
<b>50-54</b>	107.4	33.4	69.8	101.6	59.8	80.4	49.1	5.1	26.8
<b>55-59</b>	62.7	14.3	37.5	63.6	27.2	44.7	27.0	**	13.7
<b>60-64</b>	30.4	5.2	17.0	26.2	13.7	19.5	11.2	**	6.3
<b>65-over</b>	8.2	**	4.2	6.1	2.4	4.1	4.1	**	2.0
<b>Total</b>	211.0	149.8	180.2	379.4	759.2	570.5	36.1	9.2	22.6

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 2017; 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, 2017**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA		
	Early			Late			Resistant			Total			Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate			
<b>White Non-Hispanic</b>	497	31.8	12.7	177	21.3	4.5	0	0.0	0.0	2,598	20.8	66.4	6,703	16.9	171.2
<b>Black or African American</b>	144	9.2	43.8	97	11.7	29.5	0	0.0	0.0	1,671	13.4	508.4	3,048	7.7	927.4
<b>Hispanic or Latino</b>	583	37.3	27.2	336	40.5	15.7	0	0.0	0.0	3,460	27.6	161.3	11,733	29.6	547.1
<b>Asian or Pacific Islander</b>	18	1.2	7.2	11	1.3	4.4	0	0.0	0.0	85	0.7	34.0	354	0.9	141.7
<b>American Indian or Alaska Native</b>	141	9.0	48.0	50	6.0	17.0	0	0.0	0.0	845	6.8	287.7	2,354	5.9	801.6
<b>Not Specified</b>	181	11.6	N/A	159	19.2	N/A	0	0.0	N/A	3,855	30.8	N/A	15,443	39.0	N/A
<b>Total</b>	1,564	100.0	22.6	830	100.0	12.0	0	N/A	N/A	12,514	100.0	180.5	39,635	100.0	571.8

Notes: a Number of cases per 100,000 population; Table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2017; rates per 100,000 population.

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





### 3C.

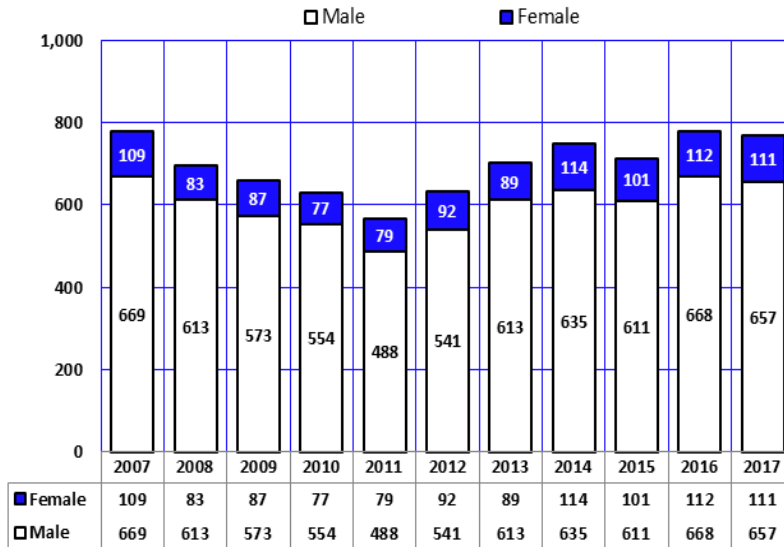
#### **HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)**

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Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2017, as provided by the Office of HIV, STD, and Hepatitis Services, are available in Tables 3C-1, 3C-2, 3C-3, 3C-4, 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, 2007-2017**

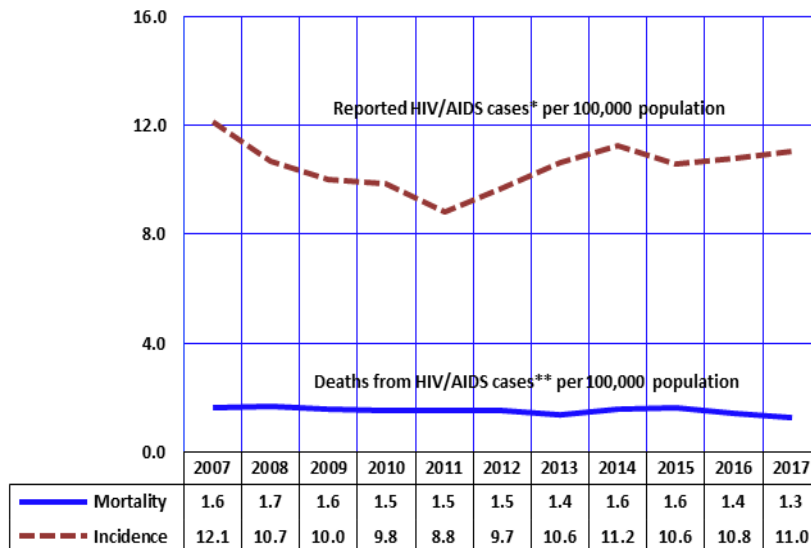


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 23,723 cases of HIV/AIDS had been diagnosed in the State by the end of 2017 and reported by July 1, 2018 (**Table 3C-1**).

In 2017, males accounted for 85.5 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2017 was 5.9:1 (657/111; **Figure 3C-1, Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of *HIV/AIDS* in 2017 remained similar to previous years. Of the 768 *HIV/AIDS* cases diagnosed in 2017, 472 were among men who reported sexual contact with other men (**Table 3C-4**). Another 65 reported heterosexual contact. An additional 37 reported only injecting drugs. Adults without an indicated risk accounted for 149 of *HIV/AIDS* cases diagnosed in 2017.

**Figure 3C-2**  
**Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease**  
**by Year, Arizona, 2007-2017**



The incidence rate measures the relative risk for *HIV/AIDS* in a population. The incidence rate of *HIV/AIDS* has fallen in Arizona by 9.0 percent from 12.1 cases per 100,000 population in 2007 to 11.0/100,000 in 2017 (**Figure 3C-2**; the incidence rates for 2007 – 2017 have been re-computed based on the latest volume of the *HIV/AIDS* data as of 7/01/2018).

The rate of deaths from *HIV disease* remained unchanged from 2014 to 2015, then decreased slightly at 1.4 deaths per 100,000 population in 2016 to 1.3 in 2017 (**Figure 3C-2**).

Of the 768 *HIV/AIDS* cases diagnosed in 2017, 266 were White non-Hispanic, 306 were Hispanic, 123 were Black, 47 were American Indian, and 23 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, 1981-2017**

<b>Age Group (years)</b>	<b>HIV/AIDS cases</b>
<b>Under 5</b>	125
<b>5-12</b>	61
<b>13-19</b>	536
<b>20-29</b>	7,116
<b>30-39</b>	8,410
<b>40-49</b>	4,948
<b>50 or above</b>	2,509
<b>Missing</b>	18
<b>Total</b>	23,723

**TABLE 3C-2  
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,  
ARIZONA, 1981-2006 and 2007-2017**

	<b>1981-2006</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>2016</b>	<b>2017</b>
<b># Males</b>	14,143	670	614	573	553	489	538	610	635	613	631	657
<b># Females</b>	1,952	109	83	86	76	78	92	89	114	101	106	111
<b># Total</b>	16,095	779	697	659	629	567	630	699	749	714	737	768
<b># Presumed Living</b>	8,460	670	602	568	562	515	574	652	714	673	708	743
<b># Known dead</b>	7,635	109	95	91	67	52	56	47	35	41	29	25
<b>% Mortality</b>	<b>47.4</b>	<b>14.0</b>	<b>13.6</b>	<b>13.8</b>	<b>10.7</b>	<b>9.2</b>	<b>8.9</b>	<b>6.7</b>	<b>4.7</b>	<b>5.7</b>	<b>3.9</b>	<b>3.3</b>

Note: Due to reporting delays, all numbers are provisional (2017 volume as of 06/29/2018).

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, 1981-2006 AND 2007-2017**

Race/ethnicity	1981-2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
White non-Hispanic	10,004	364	344	283	312	227	245	284	271	248	249	266
Black or African American non-Hispanic	1,557	81	70	69	59	76	103	115	132	131	139	123
Hispanic or Latino all races	3,666	282	230	245	203	202	213	241	267	253	275	306
Asian or Pacific Islander non-Hispanic	97	15	15	13	10	16	16	9	17	23	17	23
American Indian or Alaska Native non-Hispanic	506	28	29	39	36	41	45	46	57	52	53	47
Two or more races/ other or unknown race	265	9	9	10	9	*	8	*	*	7	*	*
<b>Total</b>	16,095	779	697	659	629	570†	630	700†	750†	714	740†	770†

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 (2017 volume as of 06/29/2018).

**TABLE 3C-4  
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,  
ARIZONA, 1981-2006 AND 2007-2017**

Transmission	1981-2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
MSM	9,545	440	421	362	394	336	370	428	470	422	447	472
IV Drug User (IDU)	2,204	51	68	53	42	56	54	53	55	53	54	37
MSM/IDU	1,722	45	38	34	46	35	32	34	39	48	31	40
Hemophilic (Adult)	83	0	0	0	0	0	0	0	0	0	0	0
Heterosexual Contact	1,405	80	58	65	68	79	99	70	77	79	62	65
Transfusion/transplant (Adult)	127	0	0	0	0	0	0	0	0	0	0	0
No indicated risk (Adult)	864	157	109	141	77	60	67	108	103	107	140	149
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+	116	6	*	*	*	*	8	*	*	*	*	*
Pediatric (no indicated risk)	9	0	0	0	0	0	0	*	*	*	0	*
<b>Total</b>	16,100†	779	700†	660†	630†	570†	630	700†	750†	710†	740†	770†

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 (2017 volume as of 06/29/2018).

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