

CHAPTER 3

REPORTABLE DISEASES, ARIZONA, 2009-2019

- 3A. NON-SEXUALLY TRANSMITTED DISEASES**
- 3B. SEXUALLY TRANSMITTED DISEASES**
- 3C. HUMAN IMMUNODEFICIENCY VIRUS (HIV)
DISEASE AND ACQUIRED IMMUNODEFICIENCY
SYNDROME (AIDS)**



3A.

NON-SEXUALLY TRANSMITTED DISEASES

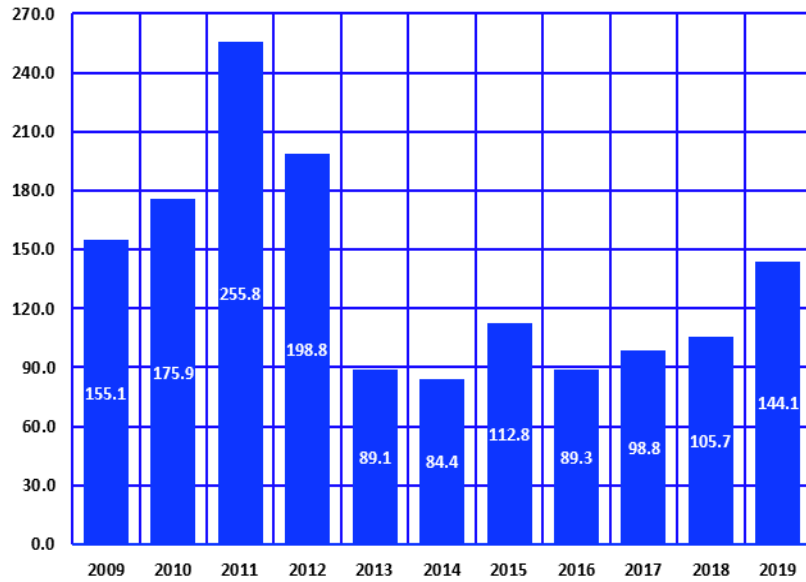
The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable diseases (i.e., cholera or plague) in compliance with the World Health Organization's International Health Regulations.

Data on morbidity, levels of disease, and disability in the Arizona population are obtained for certain infectious diseases that must be reported by law. The Bureau of Epidemiology and Disease Control Services conducts surveillance and monitoring of these reportable diseases and it provided data for the respective sections of this chapter and sections 5F, 6A, and 6B.

This section provides some illustrative findings from the tabulated data. It is not intended to be an exhaustive analysis of the incidence of infectious diseases in the State. There is more information available online on the website of the Office of Infectious Disease Services at: <http://azdhs.gov/phs/oids/index.htm>.

3A. NON-SEXUALLY TRANSMITTED DISEASES

Figure 3A-1
Trends in the Incidence Rates^a of Valley Fever (Coccidioidomycosis) by Year, Arizona, 2009-2019

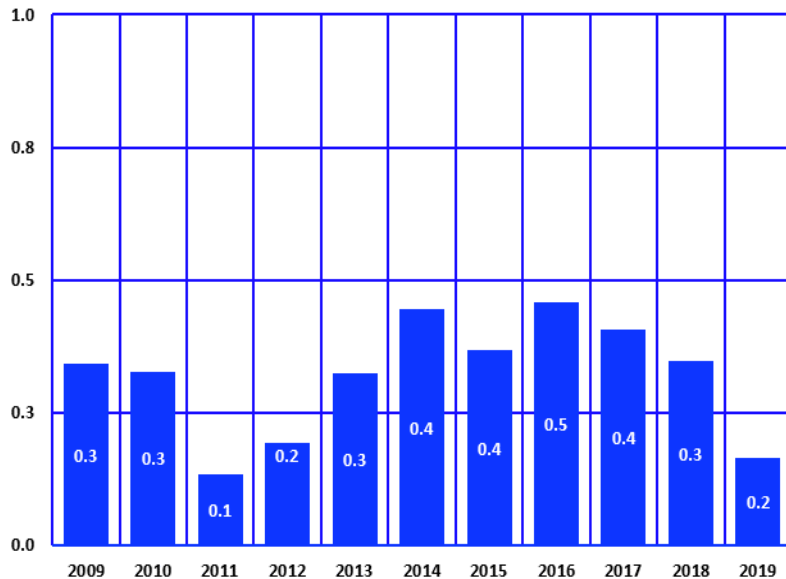


Note: ^a Number of cases per 100,000 population.

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 2019. The reported incidence of Valley Fever increased 38.5 percent from 2018 (n=7,478) to 2019 (n=10,358). The 2019 incidence rate of 144.1/100,000 (**Figure 3A-1, Table 5F-2**) was 36.3 percent greater than the incidence rate of 105.7/100,000 in 2018, but was 43.7 percent lower than the unprecedented incidence rate of 255.8/100,000 in 2011.

Figure 3A-2
Trends in Case Fatality Rates^a for Valley Fever (Coccidioidomycosis) by Year, Arizona, 2009-2019



Note: ^a Number of deaths per 100 reported cases.

Seventeen of the 10,358 Arizonans who had *Valley Fever* in 2019 died from it (**Table 3A-2**) for a case fatality rate of 0.2 deaths per 100 cases (**Figure 3A-2**). The 2019 case mortality rate for *Coccidioidomycosis* was 52.0 percent lower than in 2009.

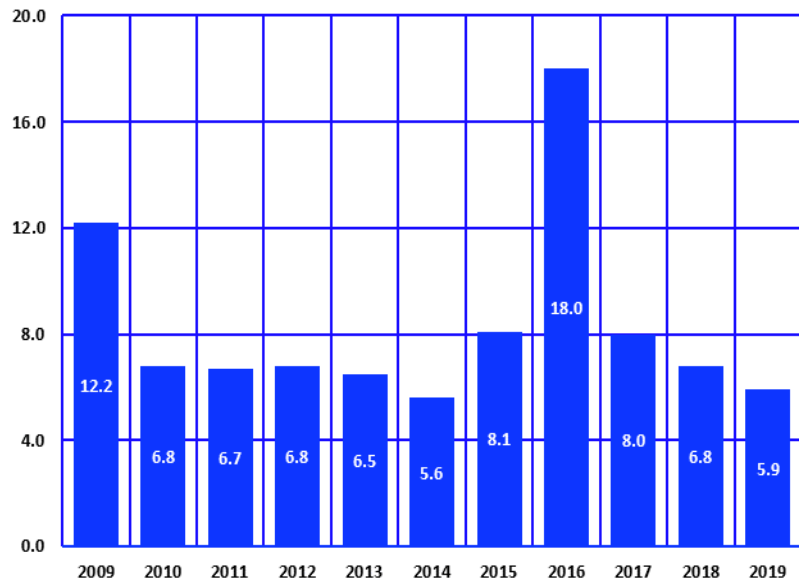
3A. NON-SEXUALLY TRANSMITTED DISEASES

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 2009–2019, *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 52 cases from 478 in 2018 to 426 in 2019. Compared to 2018, the incidence rate of *shigellosis* was 13.2 percent lower at approximately 6 reported cases/100,000 population in 2019 (**Figure 3A-3**).

Figure 3A-3
Trends in the Incidence Rates^a of Shigellosis by Year, Arizona, 2009-2019

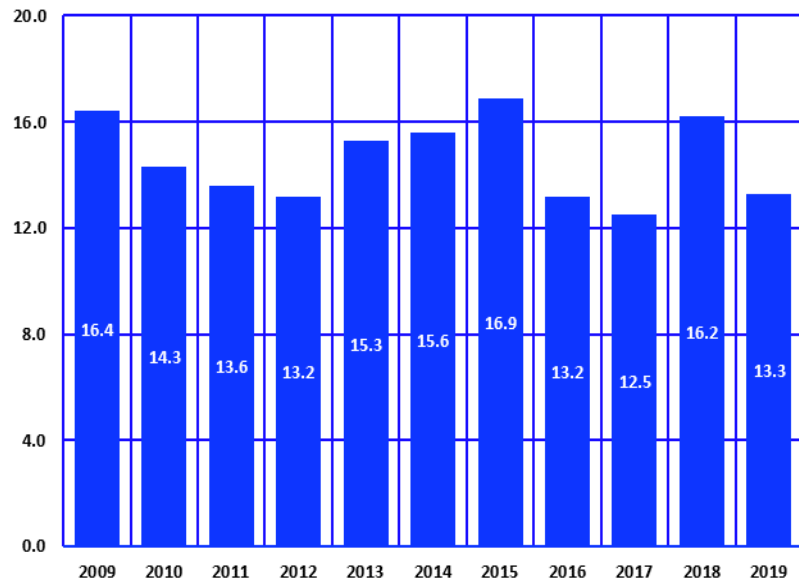


Note: ^a Number of reported cases per 100,000 population.

Figure 3A-4
Trends in the Incidence Rates^a of Salmonellosis^b by Year, Arizona, 2009-2019

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

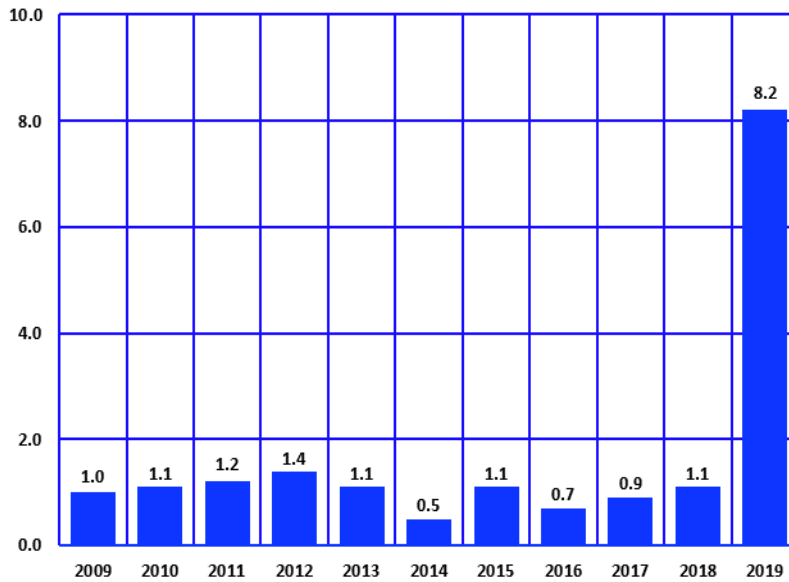
The incidence rate of *salmonellosis* decreased 17.9 percent from 16.2/100,000 in 2018 to 13.3/100,000 in 2019 (**Figure 3A-4**). The risk of *salmonellosis* was substantially higher in Graham (46.8/100,000), Santa Cruz (37.6/100,000), Apache (27.9/100,000), and Navajo (25.7/100,000) than the remaining counties (**Table 5F-2**).



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

3A. NON-SEXUALLY TRANSMITTED DISEASES

Figure 3A-5
Trends in the Incidence Rates^a of Hepatitis A by Year, Arizona, 2009-2019

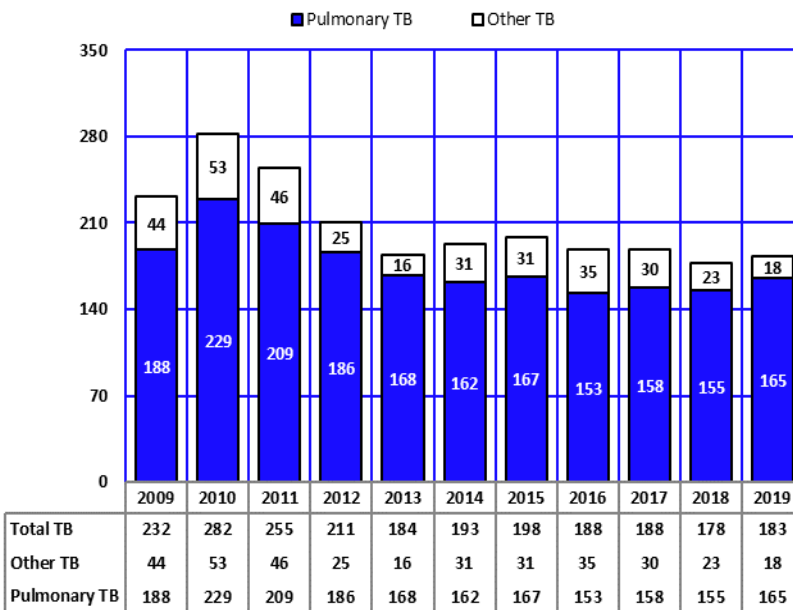


Note: ^a Number of reported cases per 100,000 population.

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* was 8.2/100,000 in 2019, the highest rate recorded in the 2009-2019 period. The 2019 incidence rate was approximately 8 times higher than the 2018 rate (1.1/100,000; **Figure 3A-5**).

Figure 3A-6
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis^a by Year, Arizona, 2009-2019



Note: ^a 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 155 cases in 2018 to 165 reported cases in 2019. The number of reported cases of tuberculosis other than pulmonary decreased from 23 in 2018 to 18 in 2019 cases (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis remained unchanged from 2018 to 2019 at 2.5/100,000 (**Table 5F-2**).

Pulmonary tuberculosis accounted for 90.2 percent of all tuberculosis infections in 2019 (**Table 3A-1**). Ten Arizonans who had *tuberculosis* died from it in 2019, the same number of casualties as in 2018 (**Table 3A-2**).

**TABLE 3A-1
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2009-2019**

Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Vaccine Preventable											
Measles	0	*	*	*	*	*	7	31	0	0	*
Mumps	10	*	0	*	*	12	*	7	34	15	103
Pertussis	277	546	867	1,130	1,440	517	580	287	420	239	379
Pertussis confirmed cases	(79)	(95)	(160)	(575)	(1,068)	(287)	(341)	(154)	(262)	(135)	207
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	*
Varicella (chickenpox)	534	755	660	535	354	300	270	279	189	245	307
Central Nervous System											
Aseptic Meningitis	516	733	400	453	343	288	189	146	81	N/A	N/A
Meningococcal Disease	15	14	16	6	12	9	*	*	*	*	*
Viral Encephalitis	*	6	6	*	*	*	*	*	*	*	16
Enteritides											
Amebiasis	7	13	21	17	21	24	*	6	16	21	20
Campylobacteriosis	877	956	939	940	846	939	1,379	1,241	1,372	1,269	1,615
Cholera	0	0	0	0	0	0	0	0	0	*	0
Cryptosporidiosis	34	40	46	47	42	46	62	549	112	203	143
<i>E. coli</i> O157:H7	68	100	126	141	246	98	128	148	166	296	297
Giardiasis	198	167	133	113	115	119	143	125	145	149	143
Salmonellosis (excl. <i>S. Typhi</i> & <i>S. Paratyphi</i>)	1,079	984	877	857	1,007	1,040	1,143	899	874	1,149	954
<i>Salmonella</i> Paratyphi A	*	7	*	0	*	*	*	*	*	*	*
<i>Salmonella</i> Paratyphi B	6	*	7	*	*	*	16	0	0	0	0
<i>Salmonella</i> Paratyphi C	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	806	465	434	444	428	376	549	1,231	555	478	426
Typhoid Fever	*	6	*	7	12	*	*	9	*	9	7
Mycosis											
Coccidioidomycosis (Valley Fever)	10,233	11,888	16,472	12,920	5,861	5,624	7,622	6,101	6,885	7,478	10,358
Hepatitides											
Hepatitis A	68	62	77	93	73	35	72	46	61	80	590
Hepatitis B (acute)	193	150	185	104	50	38	43	16	41	30	49
Hepatitis C (acute)	0	0	NA	NA	NA	NA	NA	NA	NA	N/A	N/A
Hepatitis D	0	*	0	0	0	*	0	0	0	*	0
Hepatitis E	0	*	0	0	0	*	0	0	*	0	*
Tuberculosis											
Pulmonary TB	188	229	209	186	168	162	167	153	158	155	165
Total TB	232	282	255	211	184	193	198	188	188	178	183

**TABLE 3A-1 (continued)
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2009-2019**

Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Zoonoses/Vector-borne											
Brucellosis	*	9	*	*	*	6	*	*	*	8	*
Colorado Tick Fever	0	*	0	0	0	*	*	0	0	0	0
Dengue	*	10	*	10	*	91	24	14	*	10	18
Erichiosis	*	0	*	*	*	*	*	*	*	*	*
Hantavirus Pulmonary Syndrome	*	0	*	*	*	*	*	*	*	*	0
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	7	*	15	13	32	21	12	13	28	7	10
Malaria	10	28	21	19	33	25	14	38	26	24	30
Plague	0	0	0	0	0	0	0	0	0	0	0
Relapsing Fever, Tick-borne	*	0	*	*	*	12	*	*	*	*	*
Rocky Mountain Spotted Fever	23	17	77	50	63	16	17	23	27	38	48
St. Louis Encephalitis	0	0	0	0	0	*	23	0	6	0	9
Tularemia	0	*	0	0	0	0	*	*	*	0	*
West Nile Virus	21	166	69	135	62	108	103	78	110	27	174
Other											
Botulism	*	0	*	12	*	*	*	*	*	*	12
Legionellosis	49	65	46	44	69	59	93	76	74	83	93
Listeriosis	8	10	8	14	*	14	*	6	8	6	13
Methicillin Resistant <i>S. aureus</i> (invasive)	1,171	1,166	1,196	1,089	1,066	1,178	1,155	1,265	1,355	1,529	1,467
Streptococcal-Group A (invasive)	161	190	206	199	231	250	351	555	614	758	790
Streptococcal-Group B (invasive, age <90 d)	52	45	39	57	35	41	61	60	63	40	44
<i>Streptococcus pneumoniae</i> (invasive)	907	823	767	661	786	724	678	716	707	862	740
Reyes Syndrome	0	0	0	0	0	0	0	0	0	0	N/A
Toxic Shock Syndrome	*	*	*	*	*	6	*	*	0	*	0
<i>Vibrio</i> spp. (except toxogenic <i>V.cholerae</i>)	19	18	26	29	19	36	33	19	25	54	52
Yersiniosis (except <i>Y. pestis</i>)	7	*	6	10	9	*	12	14	20	11	58

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. Reported coxioidiomycosis 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. Aseptic meningitis and Reyes syndrome ceased being reportable in January 2018. 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, 2009-2019**

ICD-9/ICD-10 codes	Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
VACCINE PREVENTABLE												
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	*	*
CENTRAL NERVOUS SYSTEM												
047.9/G03.0	Aseptic meningitis	*	0	*	*	0	0	*	0	*	*	0
036/A39	Meningococcal infections	0	*	*	*	*	*	0	0	0	0	*
049.9/A86	Viral encephalitis	*	*	6	*	*	*	*	*	*	*	*
ENTERITIDES (FOODBORNE)												
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	0
MYCOSIS												
114/B38	Coccidioidomycosis (Valley Fever)	35	39	22	25	19	25	28	28	28	26	17
HEPATITIDES												
070.0-070.1/B15	Hepatitis A	*	*	0	*	*	*	0	0	0	0	6
070.2-070.3/B16	Hepatitis B	*	10	9	12	9	8	8	10	*	6	6
070.4-070.5/B17-B18	Other viral hepatitis	233	207	209	274	265	248	257	207	191	133	96
070.6-070.9/B19	Unspecified	*	*	0	0	*	*	*	0	*	*	*
TUBERCULOSIS												
010-011/A15-A16	Respiratory TB	8	12	10	*	11	6	9	6	7	*	*
010-018/A15-A19	Total TB	8	15	12	*	15	8	10	7	10	10	10
ZOONOSES/VECTOR-BORNE												
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	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
OTHER												
482.8/A48.1	Legionellosis	*	0	*	*	*	*	*	*	0	6	*
027.0/A32	Listeriosis	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

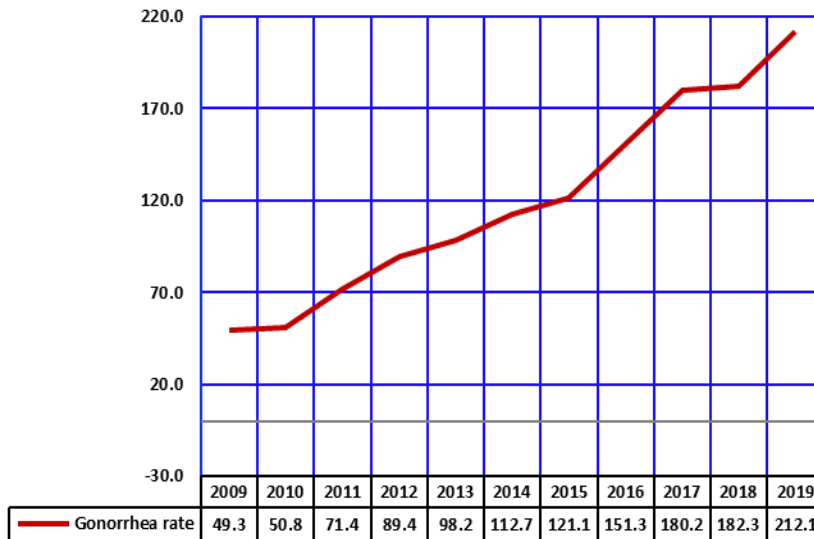
All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

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, STD rates were calculated using denominators from the CDC for years prior 2018. In the current report, the Arizona Department of Health Services denominators were used to compute the STD rates.

*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^a of Gonorrhea by Year, Arizona, 2009-2019

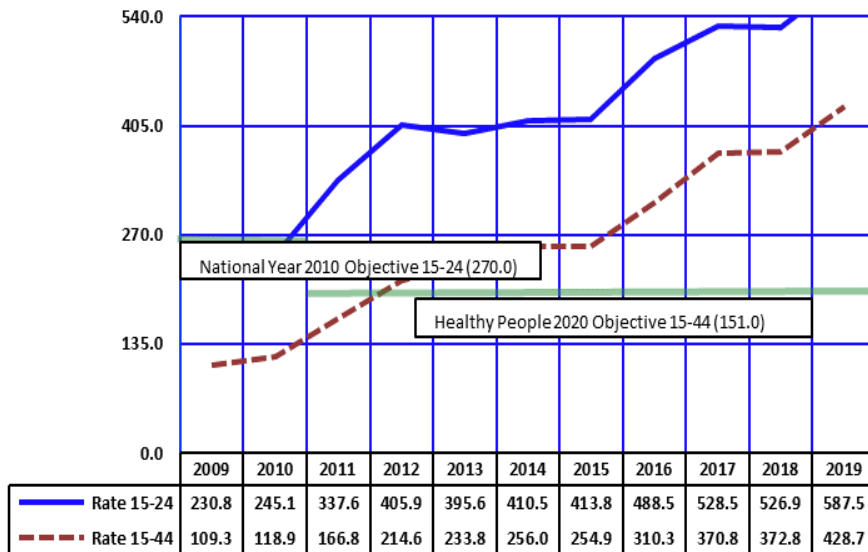


Neisseria gonorrhoeae infection is the second most commonly reported notifiable disease in the United States. (Figure 3B-1). The consistent steady increase in the incidence rate of gonorrhea since 2009 likely resulted from a combination of factors, such as changes in surveillance, increases in the number 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: ^a Number of reported cases per 100,000 population.

Figure 3B-2
Trends in the Incidence Rates^a of Gonorrhea among Females aged 15-24 and 15-44 Years, Arizona, 2009-2019



The 2019 incidence rate for gonorrhea was 428.7 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 trends in gonorrhea incidence rates are similar for women in the age groups 15-24 and 15-44, although the overall incidence rate is consistently higher for women aged 15-24.

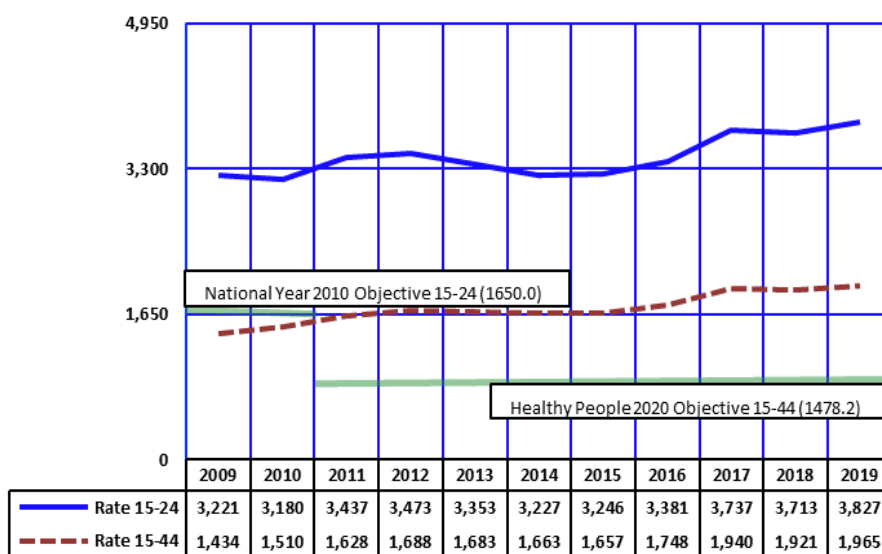
Notes: ^a Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females aged 15 and 24 years. In Healthy People 2020 objective is for females aged 15 and 44 years.

3B. SEXUALLY TRANSMITTED DISEASES

Chlamydia trachomatis is the most prevalent bacterial sexually transmitted disease in the United States (1,758,668 cases in 2018*) 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 aged 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 2019 was 1,965 per 100,000 females age 15-44 years (**Table 6A-2**).

Figure 3B-3
Trends in the Incidence Rates^a of Chlamydia among Females 15-24 and 15-44 Years, Arizona, 2009-2019



*Most recent publication <http://www.cdc.gov/std/stats18/chlamydia.htm>

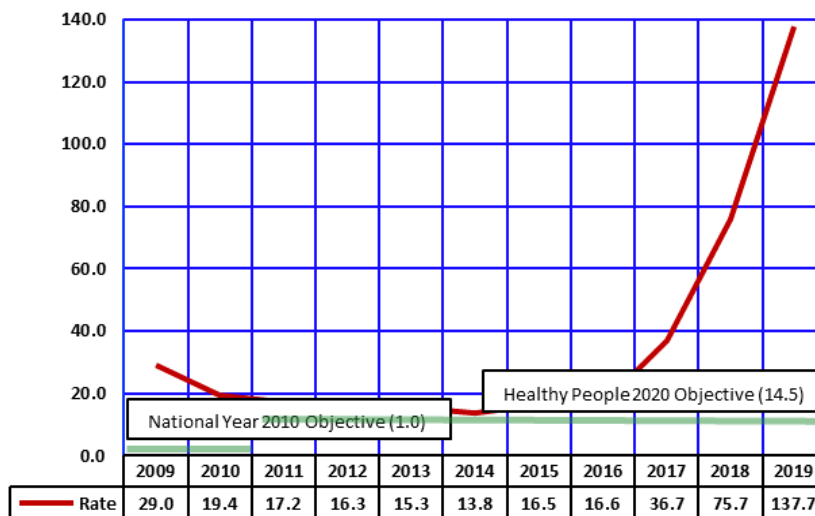
Notes: ^a Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females aged 15-24 years. In Healthy People 2020 objective is for females aged 15-44 years.

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, which has been surpassed by Arizona in each year from 2009 to 2019, with sole exception of 2014. The Arizona incidence rates of congenital syphilis were for the most part below 20 cases per 100,000 infants, with exception to years prior 2010 and after 2016. In 2017, a sharp increase in the incidence was recorded (36.7/100,000), in 2018, the rate more than doubled at 75.7/100,000 and in 2019, the rate was the highest recorded during the 11-year period. (**Figure 3B-4**, **Table 6A-2**).

Figure 3B-4
Trends in the Incidence Rates^a of Congenital Syphilis by Year, Arizona, 2009-2019



**TABLE 3B-1
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2009-2019**

Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Gonorrhea	3,250	3,249	4,564	5,856	6,505	7,585	8,270	10,330	12,514	12,903	15,249
Gonococcal PID^a	0	0	0	0	0	0	0	0	*	17	18
Resistant Gonorrhea^b	0	0	0	0	0	*	0	0	0	0	0
Syphilis (P & S)^c	231	230	274	204	290	572	590	721	943	1,052	1,295
Syphilis-Total^d	1,085	904	907	795	966	1,434	1,482	1,903	2,424	3,258	4,056
Chlamydia	26,002	26,861	29,251	30,571	30,923	31,750	32,511	34,923	39,635	40,866	43,220

Notes: * Cell suppressed due to non-zero count less than 6; ^a PID is pelvic inflammatory disease; ^b Includes PPNG, penicillinase-producing Neisseria gonorrhoeae, a form of gonorrhea which is resistant to penicillin; ^c Primary and secondary syphilis only; ^d Early, late, congenital and other; since 2005, the table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report.

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

**TABLE 3B-2
NUMBER OF DEATHS ASSOCIATED WITH SPECIFIED SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR,
ARIZONA, 2009-2019**

Disease	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Gonococcal infections	0	0	0	0	0	0	0	0	0	0	0
Syphilis-Total	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, 2019**

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	10†	*	*	0	10†	0	0	0	0
5-9	*	*	0	10†	0	*	0	0†	0	0	0	0
10-14	15	24	0	39	37	144	0	181	*	0	0	0†
15-19	785	1,040	*	1,826	2,402	7,242	*	9,646	62	42	0	104
20-24	2,109	1,714	*	3,826	5,119	10,701	10	15,830	296	108	0	404
25-29	2,022	1,412	0	3,434	3,317	5,067	*	8,386	398	122	0	520
30-34	1,456	902	*	2,361	1,818	2,331	7	4,156	321	110	0	431
35-39	971	541	0	1,512	1,120	1,140	*	2,263	251	68	0	319
40-44	531	303	*	835	604	618	0	1,222	168	45	0	213
45-49	415	163	0	578	389	305	0	694	144	24	0	168
50-54	319	75	*	395	258	152	0	410	117	12	0	129
55-59	206	49	0	255	162	74	0	236	100	9	0	109
60-64	88	18	0	106	76	33	0	109	45	*	0	50†
65-over	61	10	0	71	58	18	0	76	37	*	0	40†
Total	8,980†	6,260†	10†	15,250†	15,360†	27,830†	20†	43,220†	1,940†	550†	0	2,490†

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^a OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, AND EARLY SYPHILIS
BY AGE AND GENDER, ARIZONA, 2019

Age group	GONORRHEA			CHLAMYDIA			EARLY SYPHILIS		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
0-4	**	**	1.4	**	**	2.1	0.0	0.0	0.0
5-9	**	**	**	0.0	**	**	0.0	0.0	0.0
10-14	6.2	10.3	8.2	15.2	61.5	37.9	**	0.0	**
15-19	323.4	447.9	384.5	989.5	3118.8	2030.9	25.5	18.1	21.9
20-24	820.3	724.4	775.0	1991.0	4522.9	3206.4	115.1	45.6	81.8
25-29	749.8	566.9	662.0	1230.0	2034.3	1616.6	147.6	49.0	100.2
30-34	600.1	399.4	504.0	749.3	1032.2	887.2	132.3	48.7	92.0
35-39	414.8	240.1	329.1	478.4	505.9	492.5	107.2	30.2	69.4
40-44	250.5	144.3	197.9	284.9	294.3	289.6	79.2	21.4	50.5
45-49	192.5	75.1	133.6	180.5	140.6	160.4	66.8	11.1	38.8
50-54	154.6	35.2	94.2	125.0	71.4	97.8	56.7	5.6	30.8
55-59	96.1	21.4	57.6	75.6	32.4	53.3	46.6	3.9	24.6
60-64	44.0	8.0	24.9	38.0	14.6	25.6	22.5	**	11.5
65-over	10.5	1.5	5.6	10.0	2.6	6.0	6.4	**	3.0
Total	251.3	173.1	212.1	429.8	770.0	601.2	54.3	15.1	34.6

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; ^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 2019; 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, 2019**

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA		
	Early			Late			Resistant			Total			Cases	%	Rate
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate			
White Non-Hispanic	755	30.4	19.0	338	23.4	8.5	0	0.0	0.0	3,360	22.0	84.4	7,797	18.0	195.9
Black or African American	276	11.1	78.4	144	10.0	40.9	0	0.0	0.0	2,439	16.0	692.7	4,085	9.5	1160.1
Hispanic or Latino	992	39.9	43.5	606	41.9	26.6	0	0.0	0.0	4,258	27.9	186.8	12,507	28.9	548.7
Asian or Pacific Islander	39	1.6	14.1	16	1.1	5.8	0	0.0	0.0	137	0.9	49.4	504	1.2	181.6
American Indian or Alaska Native	299	12.0	100.0	181	12.5	60.5	0	0.0	0.0	1,076	7.1	359.7	2,353	5.4	786.6
Multi-racial	31	1.2	N/A	13	0.9	N/A	0	0.0	0.0	110	0.7	N/A	180	0.4	N/A
Not Specified	93	3.7	N/A	148	10.2	N/A	0	0.0	N/A	3,869	25.4	N/A	15,794	36.5	N/A
Total	2,485	100.0	34.6	1,446	100.0	20.1	0	N/A	N/A	15,249	100.0	212.1	43,220	100.0	601.2

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 2019; rates per 100,000 population.

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



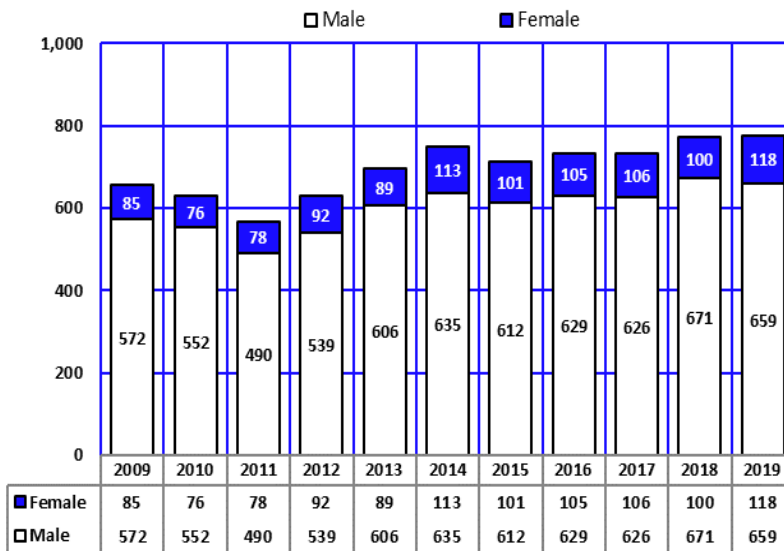
3C.

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

Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2019, 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, 2009-2019

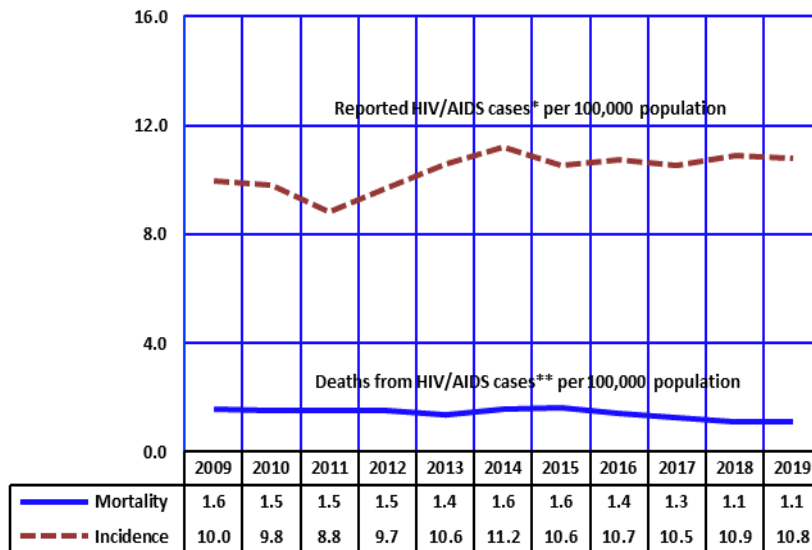


Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 25,045 cases of HIV/AIDS had been diagnosed in the State by the end of 2019 and reported by July 1, 2020 (**Table 3C-1**).

In 2019, males accounted for 84.8 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2019 was 5.6:1 (659/118; **Figure 3C-1, Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of *HIV/AIDS* in 2019 remained similar to previous years. Of the 777 *HIV/AIDS* cases diagnosed in 2019, 449 were among men who reported sexual contact with other men (**Table 3C-4**). Another 65 reported heterosexual contact. An additional 51 reported only injecting drugs. Adults without an indicated risk accounted for 165 of *HIV/AIDS* cases diagnosed in 2019.

Figure 3C-2
Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease by Year, Arizona, 2009-2019



The incidence rate measures the relative risk for *HIV/AIDS* in a population. The incidence rate of *HIV/AIDS* has increased in Arizona by 8.0 percent from 10.0 cases per 100,000 population in 2009 to 10.8/100,000 in 2019 (**Figure 3C-2**; the incidence rates for 2009 – 2019 have been re-computed based on the latest volume of the *HIV/AIDS* data as of 8/3/2020).

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 1.1 both in 2018 and 2019 (**Figure 3C-2**).

Of the 777 *HIV/AIDS* cases diagnosed in 2019, 250 were White non-Hispanic, 327 were Hispanic, 134 were Black, 39 were American Indian, and 14 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, 1981-2019**

Age Group (years)	HIV/AIDS cases
Under 5	130
5-12	62
13-19	613
20-29	7,628
30-39	8,750
40-49	5,133
50 or above	2,711
Missing	18
Total	25,045

**TABLE 3C-2
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER,
ARIZONA, 1981-2008 and 2009-2019**

	1981-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
# Males	15,269	572	552	490	539	606	635	612	629	626	671	659
# Females	2,122	85	76	78	92	89	113	101	105	106	100	118
# Total	17,391	657	628	568	631	695	748	713	734	732	771	777
# Presumed Living	9,267	549	541	499	559	633	700	660	688	695	748	760
# Known dead	8,124	108	87	69	72	62	48	53	46	37	23	17
% Mortality	46.7	16.4	13.9	12.1	11.4	8.9	6.4	7.4	6.3	5.1	3.0	2.2

Note: Due to reporting delays, all numbers are provisional (2019 volume as of 08/03/2020).

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, 1981-2008 AND 2009-2019**

Race/ethnicity	1981-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
White non-Hispanic	10,545	282	309	228	247	277	265	245	247	249	248	250
Black or African American non-Hispanic	1,664	69	60	76	102	112	130	130	137	115	132	134
Hispanic or Latino all races	4,167	244	202	202	212	242	270	253	274	297	322	327
Asian or Pacific Islander non-Hispanic	127	12	10	16	16	9	17	24	16	22	20	14
American Indian or Alaska Native non-Hispanic	555	37	35	41	44	46	57	52	54	46	42	39
Two or more races/ other or unknown race	333	13	12	*	10	9	9	9	6	*	7	13
Total	17,391	657	628	570†	631	695	748	713	734	730†	771	777

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 (2019 volume as of 08/03/2020).

**TABLE 3C-4
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY,
ARIZONA, 1981-2008 AND 2009-2019**

Transmission	1981-2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MSM	10,260	361	393	335	371	428	469	420	446	450	492	449
IV Drug User (IDU)	2,262	53	42	56	52	52	54	53	53	35	49	51
MSM/IDU	1,888	36	45	37	35	35	43	50	32	41	34	44
Hemophilic (Adult)	82	0	0	0	0	0	0	0	0	0	0	0
Heterosexual Contact	1,523	65	69	80	99	71	76	79	64	64	49	65
Transfusion/transplant (Adult)	125	0	0	0	0	0	0	0	0	0	0	0
No indicated risk (Adult)	1,099	138	77	59	66	103	102	105	136	138	140	165
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+	123	*	*	*	8	*	*	*	*	*	7	*
Pediatric (no indicated risk)	9	0	0	0	0	*	*	*	0	*	0	0
Total	17,390†	660†	630†	570†	631	700†	750†	710†	730†	730†	771	780†

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 (2019 volume as of 08/03/2020).

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