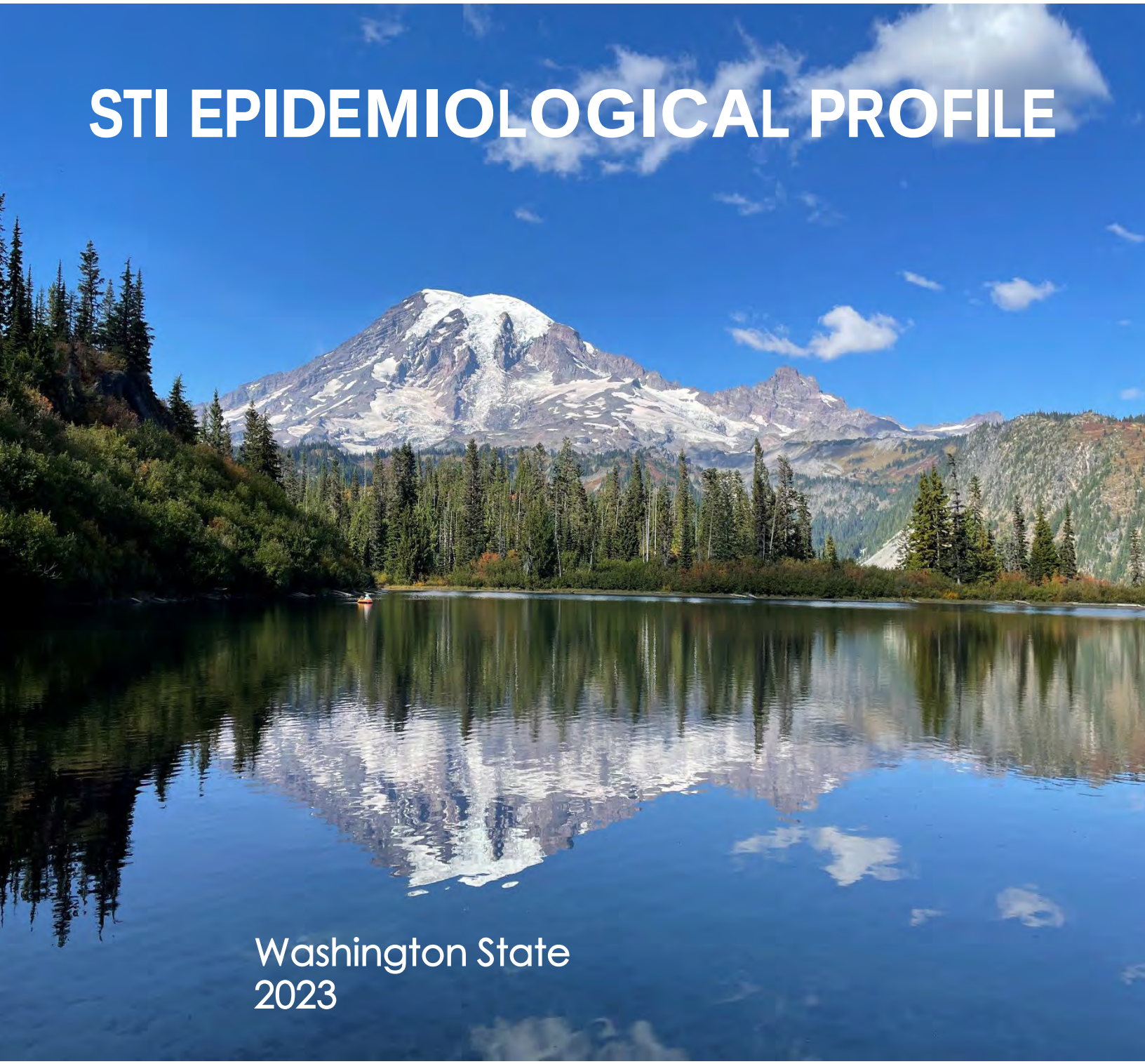
WASHINGTON STATE DEPARTMENT OF HEALTH

STI EPIDEMIOLOGICAL PROFILE



Washington State
2023

Washington State Department of HEALTH

DOH 150-224 June 2023

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ACKNOWLEDGEMENTS

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PREFACE:

ABBREVIATIONS:

AI/AN: American Indian / Alaska Native

CDC: Centers for Disease Control and Prevention

CS: Congenital syphilis

DOH: Washington State Department of Health

FQHC: Federally Qualified Health Center

HIV: Human Immunodeficiency Virus

IDU: Injection drug use

LHJ: Local health jurisdiction

MSM: Gay, bisexual, and other men who have sex with men

MSW: Men who report having sex with women

NHOPI: Native Hawaiian and Other Pacific Islander

PHIMS-STD: Public Health Issue Management System- Sexually Transmitted Disease

PLWH: People living with HIV

P&S: Primary & secondary syphilis

PWID: People who inject drugs

STI: Sexually transmitted infection

WELRS: Washington's electronic laboratory reporting system

WSM: Women who report having sex with men

WSW: Women who report having sex with women

TECHNICAL NOTES AND DATA SOURCES

Healthcare providers and laboratories are required to report confirmed cases of chlamydia (CT), gonorrhea (GC), syphilis, herpes, lymphogranuloma venereum, chancroid, and granuloma inguinale to their local health jurisdictions under Washington Administrative Code Chapter 246-101. Local health jurisdictions then notify the Washington State Department of Health through Public Health Issue Management System- Sexually Transmitted Disease (PHIMS-STD), Washington's core sexually transmitted infection (STI) surveillance data system. PHIMS-STD is the data source for each of the STIs presented in this profile. Starting in 2019, additional chlamydia data from Washington's electronic laboratory reporting system (WELRS) is included when a positive chlamydia laboratory result does not have an associated case report in PHIMS-STD. WELRS data has been added wherever available but is not available for all chlamydia indicators. It is noted within the report which chlamydia indicators also include WELRS data. While this STI surveillance data is valuable for understanding population trends, it is limited in that it only includes people who have been diagnosed with an STI. Many people do not know they have an STI; therefore, all reported counts are likely under-estimates of true population morbidity.

Case counts from PHIMS-STD are reported by calendar year (January 1 – December 31) of diagnosis date. Additional chlamydia cases only entered through WELRS are reported by CDC MMWR year, which may vary slightly from calendar year, but will only be counted within one year's morbidity. For example, the 2021 MMWR year includes cases diagnosed between 01/03/2021 to 01/01/2022. Washington's STI case counts only include cases newly diagnosed among patients living in Washington and excludes out-of-state cases that are diagnosed while patients are visiting Washington.

To protect patient confidentiality, Washington State Department of Health (DOH) follows small number suppression guidelines when presenting data. Excluding total statewide and county counts, non-zero counts less than 10 are not presented. Counts greater than 10 are not presented if they could be used to deduce counts less than 10. Additionally, rates based on numbers less than 17 will not be presented due to statistical instability.

All presented rates are calculated using population estimates available at the time of publication. Population estimates may slightly change over time; as such, future reported rates could vary slightly. 2021 rates are calculated using 2021 population estimates based on 2020 census data, as the Census Bureau had not released final 2021 population estimates at the time of publication.

This report reflects surveillance data received through 03/31/2022. Numbers in future publications may slightly differ as further surveillance data is received or if national or local reporting guidelines are updated.

In discussion of clinical symptoms of each STI, the use of the terms "female" and "male" is in reference to one's sex and does not reflect the wider spectrum of gender identities.

For questions and further information, please contact the STI Surveillance team at STD_Surveillance@doh.wa.gov.

EXECUTIVE SUMMARY

Between 2002 to 2021, Washington State has reported an astounding rise in STIs including chlamydia, gonorrhea, and syphilis. The number of STI cases has generally increased across most populations, but there have been some shifts in the populations experiencing a disproportionate burden of STIs. Alongside changes in population trends, many pre-existing disparities have only widened in recent years as the STI caseload has increased. There are some trends and disparities that span all STIs, while others are more specific to one infection. As such, in-depth epidemiological trends will be presented separately for chlamydia, gonorrhea, and syphilis within this report. A special section titled "Effects of Racism Across STIs" will examine the impacts of racism on access to care and patient outcomes for syphilis and gonorrhea. Washington State Department of Health and Local Health Jurisdiction Disease Intervention Specialists (DIS) are deeply invested in STI case follow-up and investigation, yet there are still great improvements to be made in preventing STIs and improving health equity across populations.

When discussing STI trends in Washington, it is important to recognize that the unprecedented COVID-19 pandemic had wide-reaching impacts on access to medical care and reduced routine screenings in 2020 and 2021. This is further complicated by the difficulties in ascertaining whether or not individuals had a change in sexual behaviors due to social distancing recommendations. Given the COVID-19 pandemic, it is currently unclear whether reported trends in 2020 and 2021 are true trends in STI case incidence.

The DOH STI Surveillance team would like to acknowledge and thank the local health jurisdictions and DIS across the state for their ongoing, diligent efforts to provide appropriate care and follow-up to people infected with an STI, especially during the COVID-19 pandemic. We also want to recognize the many people in clinical facilities statewide who initially screen patients and report positive STI laboratory results and those who treat and care for affected patients. All of this work is extremely valuable for protecting the health of people in Washington and preventing further STI transmission.

For questions or further information about STI surveillance in Washington State, the STI Surveillance team may be contacted via email at STD_surveillance@doh.wa.gov.

BACKGROUND

Located within the stunning Pacific Northwest, Washington State is full of natural beauty and thriving urban areas. Washington's population has risen from an estimated 6.8 million people in 2011 to 7.8 million people in 2021. The most populous counties in Washington are King, Pierce, Snohomish, Spokane, and Clark.

This profile presents information and data for STIs in Washington State. As the inaugural STI Epidemiologic Profile, the presented data will largely focus on recent or emerging trends between 2012 to 2021, while occasionally providing data prior to 2012 for historical context. The purpose of this report is to provide insight into statewide STI trends, focusing particularly on population demographics and STI case outcomes. This is intended to be used by local and state public health staff, community groups, and individuals for educational purposes.

Section 1. Chlamydia

CLINICAL BACKGROUND OF CHLAMYDIA

There are more cases of chlamydia reported than any other STI in Washington and nationally, and it has some of the highest case numbers of any reportable condition. It is caused by the bacterium *Chlamydia trachomatis*.

Symptoms:

Persons infected with chlamydia may be asymptomatic, which is why it is especially important that sexually active individuals are routinely screened for chlamydia. The main infection site is in the genitals/urogenital tract. Cervical infections in people with vaginas may lead to vaginal discharge, bleeding between periods, or painful urination. The urethra is a common site of infection in people with penises, which may cause discharge from the penis, painful urination, or pain and swelling of the testicles. Rectal infections can lead to rectal pain, discharge, or bleeding. Infections also occur, typically asymptomatically, in the throat. In extremely rare cases, chlamydia could present in a conjunctiva/eye infection.

Who should be screened:

All people who are sexually active are at risk of infection with chlamydia. Anyone who is experiencing symptoms or has a sex partner who has recently been diagnosed with an STI should be screened for chlamydia. Due to the often asymptomatic nature of chlamydia, the CDC recommends annual screenings of all sexually active females younger than 25 years. Females older than 25 with risk factors such as new or multiple partners should also be screened. Pregnant people should be tested and treated to prevent complications for their baby.

Although routine screening is not necessary for males, the CDC recommends screening sexually active young males in clinical settings where chlamydia has a high prevalence. Sexually active MSM who have insertive intercourse should be screened for urethral chlamydial infection and screened for rectal infection if they have receptive anal intercourse.

Depending on one's risk factors, health care providers may recommend more frequent screenings.

Prevention and transmission:

Chlamydia can be spread via vaginal, anal, or oral sex with a partner who has chlamydia. The exact incubation period is unknown but likely 7-14 days or longer. If someone has untreated chlamydia, they may be infectious for long periods of time. Pregnant people may also transmit chlamydia to their baby during childbirth. If one has been treated for chlamydia in the past, they are still able to become infected again.

Where feasible for a person, abstinence from sex (not having oral, anal, or vaginal sex) is an effective way to avoid chlamydia or other STIs. However, abstinence from sex is not feasible or appropriate for all people. A person can also effectively avoid STIs through being sexually active only with a partner who is only having sex with them – mutual monogamy – when both partners have either tested negative for STIs or been treated for STIs and then waited the appropriate period after treatment before engaging in sex. Using condoms properly every time during penetrative sex is also a highly effective method of prevention. If one has multiple sexual partners, it is important to speak with each of them about their past behavior (sex and drug use), whether they have been recently screened or treated for STIs, and to encourage them to be tested if they have not. It is recommended that all sexually active people test regularly for STIs, including HIV, in consultation with their partner(s) and healthcare

provider.

Diagnosis:

Chlamydia is diagnosed via laboratory tests. To diagnose genital chlamydia, nucleic acid amplification tests (NAATs) are the most sensitive. Samples are collected from the suspected site of infection. For males, urine is the optimal specimen. For females, vaginal swabs collected by the clinician or patient are the specimen of choice, and urine also provides an effective sample. To screen for rectal or pharyngeal infections, testing is done at the exposure site. A positive laboratory result at any of these sites confirms a chlamydia diagnosis.

Complications of untreated chlamydia:

Untreated chlamydia may lead to serious, permanent health problems for females and males. In females, chlamydia may cause Pelvic Inflammatory Disease (PID). This can result in damage to the uterus and fallopian tubes, which can lead to pain, infertility, or an ectopic pregnancy. PID can also cause perihepatitis, also called "Fitz-Hugh-Curtis Syndrome." Babies of pregnant people with chlamydia are at risk of pre-term delivery, pneumonia, and conjunctivitis. People with untreated infection may experience reactive arthritis and are also at higher risk for acquiring HIV infection.

Treatment:

Chlamydia can be cured through antibiotics. A patient may be prescribed a single dose or a seven-day course of antibiotics, with options including azithromycin and doxycycline. In either case, a patient should not have sex until seven days after their antibiotics are completed to avoid spreading the infection. All medication must be taken to cure an infection, although it cannot repair any long-term damage one may already have from chlamydia.

After treatment, it is important to be retested three months later to ensure the infection has cleared. It is common to become repeatedly infected with chlamydia, especially for females if their sex partners do not receive appropriate treatment. Females that are repeatedly infected with chlamydia are at higher risk for long-term reproductive health complications.

Treatment of partners:

If someone becomes infected with chlamydia, it is important that their recent sex partners are informed, so they can also receive the appropriate treatment. Recent partners typically include anyone the patient has had vaginal, oral, or anal sex with in the 60 days before symptom onset or diagnosis.

In Washington and some other states, healthcare providers may give extra medication to a patient to provide to their sex partner(s) in what is known as "Expedited Partner Therapy" ("EPT"). Partners who receive EPT should still seek medical care and be tested for infection three months after the completion of the prescription.

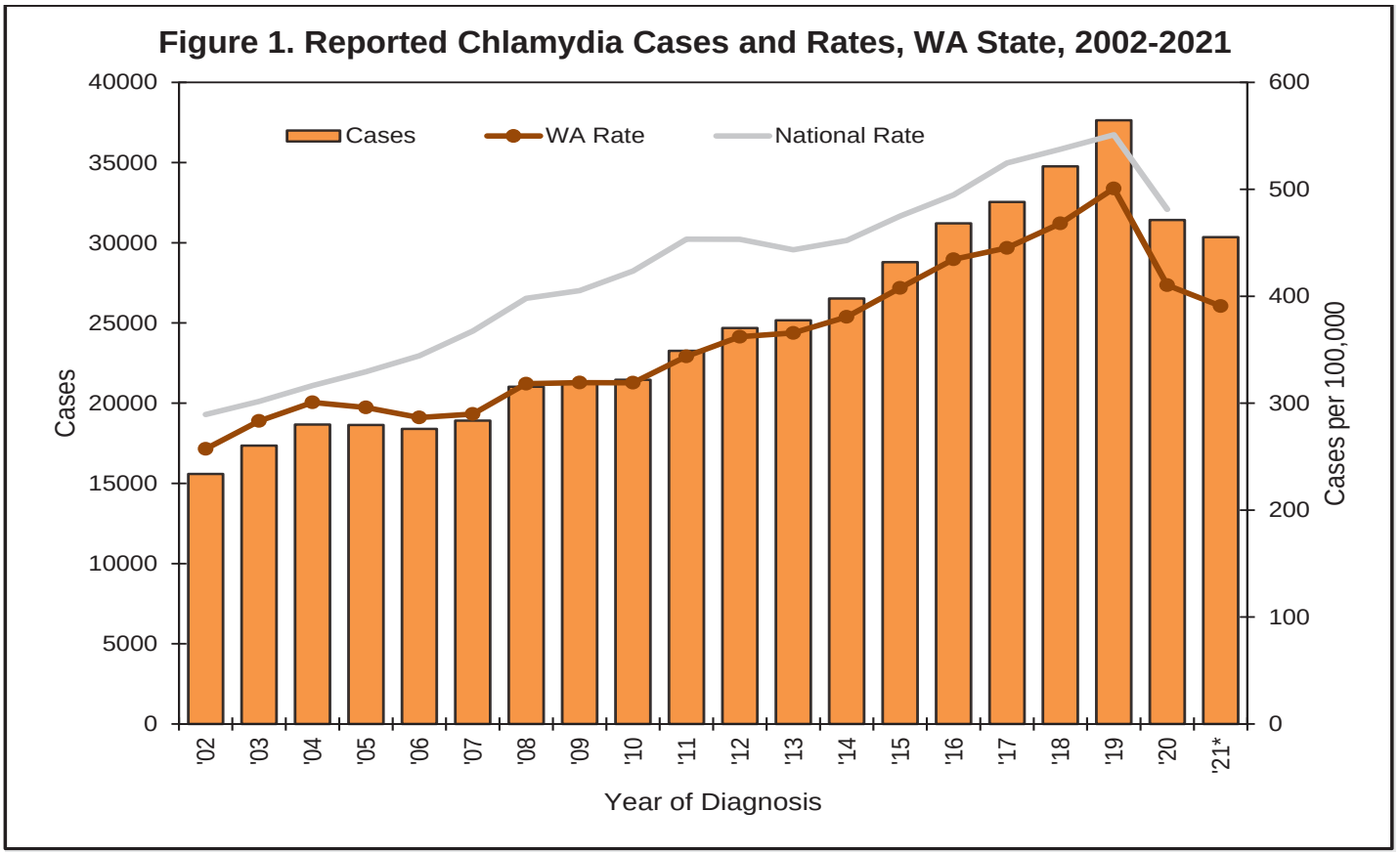
Further Information: A detailed fact sheet can be found through the CDC: Detailed STD Facts - Chlamydia (cdc.gov)

CHLAMYDIA IN WASHINGTON STATE

SUMMARY OF TRENDS:

- **Between 2002 to 2021, the number and rate of chlamydia cases reported in Washington State has greatly increased.**
- **Between 2012 to 2021, chlamydia rates were consistently highest among cisgender females, persons aged 15-to-24 years, and non-Hispanic Black persons.**
- **Reported case counts were highest within King, Pierce, Snohomish, Spokane, and Clark counties.**
- **More than half of chlamydia cases in Washington were diagnosed as asymptomatic, emphasizing the importance of routine screenings when an individual is sexually active.**

The statewide reported chlamydia case counts and incidence rate estimates between 2002 to 2021 are presented in Figure 1 and written in Table A. Reported chlamydia cases and rates in Washington State steadily rose from 2002 to 2019; case counts more than doubled between those years. From 2019 to 2021, there was a decrease in reported chlamydia cases and rates. However, due to the COVID-19 pandemic's impact on access to medical care and reduced routine screenings in 2020 and 2021, it is unclear whether reported decreases in 2021 and 2020 are true decreases. Washington's rate of chlamydia has consistently remained lower than the national rate of chlamydia reported by the CDC, also shown in Figure 1 (source: CDC).



*The 2021 national rate was not available at the time of publication.

Table A. Reported Chlamydia Cases and Rates, WA State, 2002-2021

Year of Diagnosis	Cases	Cases per 100,000
2002	15,586	257.2
2003	17,359	283.3
2004	18,672	300.7
2005	18,645	296.0
2006	18,400	286.6
2007	18,913	289.9
2008	21,027	318.2
2009	21,299	319.2
2010	21,459	319.1
2011	23,267	343.8
2012	24,688	362.1
2013	25,164	365.6
2014	26,525	380.7
2015	28,796	407.8
2016	31,215	434.5
2017	32,544	445.2
2018	34,769	468.1
2019	37,641	440.3
2020	31,423	410.4
2021	30,352	390.8

Table B presents the number of chlamydia cases and rate per 100,000 people by year and county between 2017 and 2021. Trends in reported chlamydia cases over time varied by county. Considering all chlamydia cases between 2017 and 2021, King County has had the highest number of cases, followed by Pierce, Snohomish, Spokane, and Clark. Higher numbers in these counties are expected, given that these are the most populous counties in the state.

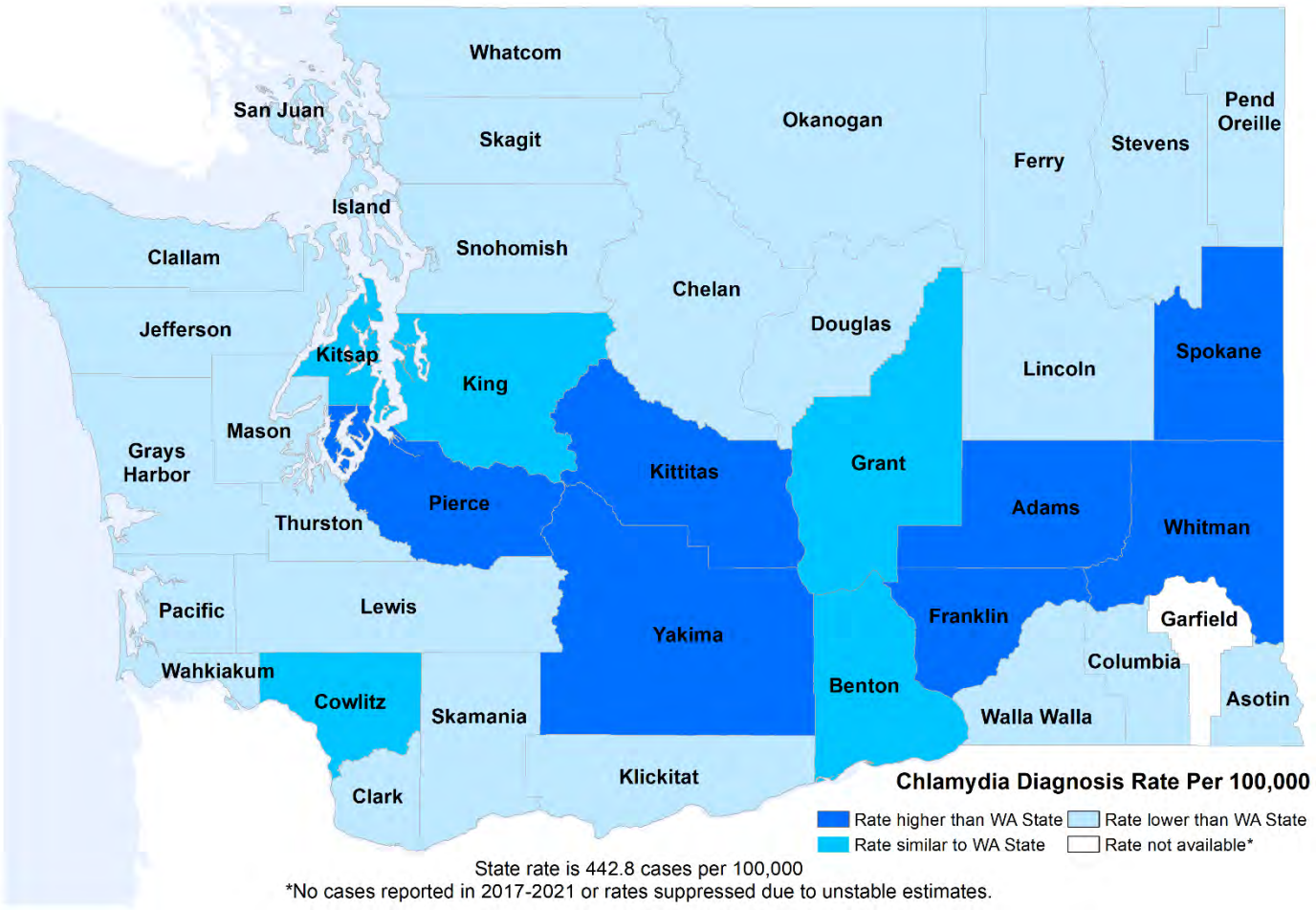
Table B. Chlamydia Cases and Rates by County, 2017-2021

County	2017 Cases	2017 Rates	2018 Cases	2018 Rates	2019 Cases	2019 Rates	2020 Cases	2020 Rates	2021 Cases	2021 Rates
Adams	93	468.0	93	464.5	116	575.7	80	391.2	127	607.7
Asotin	77	345.4	60	267.6	67	297.5	69	304.8	61	271.1
Benton	907	468.7	914	463.0	1084	537.2	980	476.4	981	468.5
Chelan	273	355.3	284	365.0	286	364.7	266	333.9	282	352.5
Clallam	198	266.7	194	258.2	186	244.7	134	174.5	154	198.1
Clark	1867	396.4	1968	410.4	2089	427.6	1860	372.6	1925	375.2
Columbia	9	+	4	+	8	+	3	+	8	+
Cowlitz	480	453.3	499	465.0	564	517.7	467	422.6	411	368.6
Douglas	157	379.0	180	427.4	159	371.3	156	356.6	178	408.7
Ferry	22	284.2	12	+	13	+	10	126.4	11	+
Franklin	523	579.0	542	585.7	725	765.7	630	651.1	651	661.9
Garfield	1	+	1	+	0	0.0	0	0.0	3	+
Grant	344	359.7	383	393.4	466	471.9	394	393.5	511	506.9
Grays Harbor	220	301.5	289	392.6	297	400.5	248	331.9	213	280.1
Island	248	299.6	194	231.3	232	273.5	203	237.3	184	211.3
Jefferson	53	169.0	47	148.8	64	200.6	47	146.0	42	126.9
King	9796	454.8	10477	478.4	11549	518.8	8290	366.7	7499	327.9
Kitsap	1102	417.0	1188	444.7	1241	459.5	1092	401.2	1062	382.4
Kittitas	240	536.6	232	508.8	278	597.0	209	434.2	184	406.9
Klickitat	65	300.1	56	254.8	69	307.6	58	254.7	63	273.9
Lewis	288	371.9	277	353.4	307	386.3	332	413.7	273	330.1
Lincoln	14	+	12	+	26	237.2	24	217.2	15	+
Mason	232	367.1	238	371.8	247	380.1	269	409.7	196	298.1
Okanogan	103	244.6	122	287.1	144	337.0	122	282.9	107	252.7
Pacific	46	216.5	33	154.1	42	194.1	44	201.5	32	136.6
Pend Oreille	40	299.2	30	221.6	26	189.2	23	166.1	22	163.3
Pierce	5435	632.4	5945	681.6	6304	709.7	5566	618.0	5383	579.9
San Juan	12	+	19	113.0	20	116.6	17	98.0	11	+
Skagit	482	388.4	469	370.7	496	383.9	433	331.9	384	295.4
Skamania	22	188.2	21	176.6	30	248.8	12	+	17	144.7
Snohomish	2619	331.8	2693	334.5	2935	358.5	2603	313.4	2382	284.3
Spokane	2340	468.2	2648	521.3	2660	516.3	2467	472.1	2562	472.6
Stevens	98	220.2	108	239.8	97	212.9	83	180.7	91	194.8
Thurston	1142	412.4	1203	427.1	1203	420.9	1226	421.3	920	308.9
Wahkiakum	5	+	3	+	9	+	6	+	3	+
Walla Walla	196	319.2	216	349.5	317	509.6	219	350.0	275	442.8
Whatcom	708	327.3	837	379.9	883	391.9	726	318.4	752	332.3
Whitman	447	919.0	495	1005.9	436	869.7	321	635.9	401	899.1
Yakima	1641	648.6	1783	700.6	2117	827.1	1813	702.2	1976	765.6

+ For any nonzero counts less than seventeen, rates are not included due to statistical instability.

Map 1 shows aggregate chlamydia rates from 2017 to 2021 by county as compared to the statewide rate. For this five-year time frame, rates in the following counties were higher than the statewide rate: Adams, Franklin, Kittitas, Pierce, Spokane, Whitman, and Yakima. Garfield has been excluded due to small numbers.

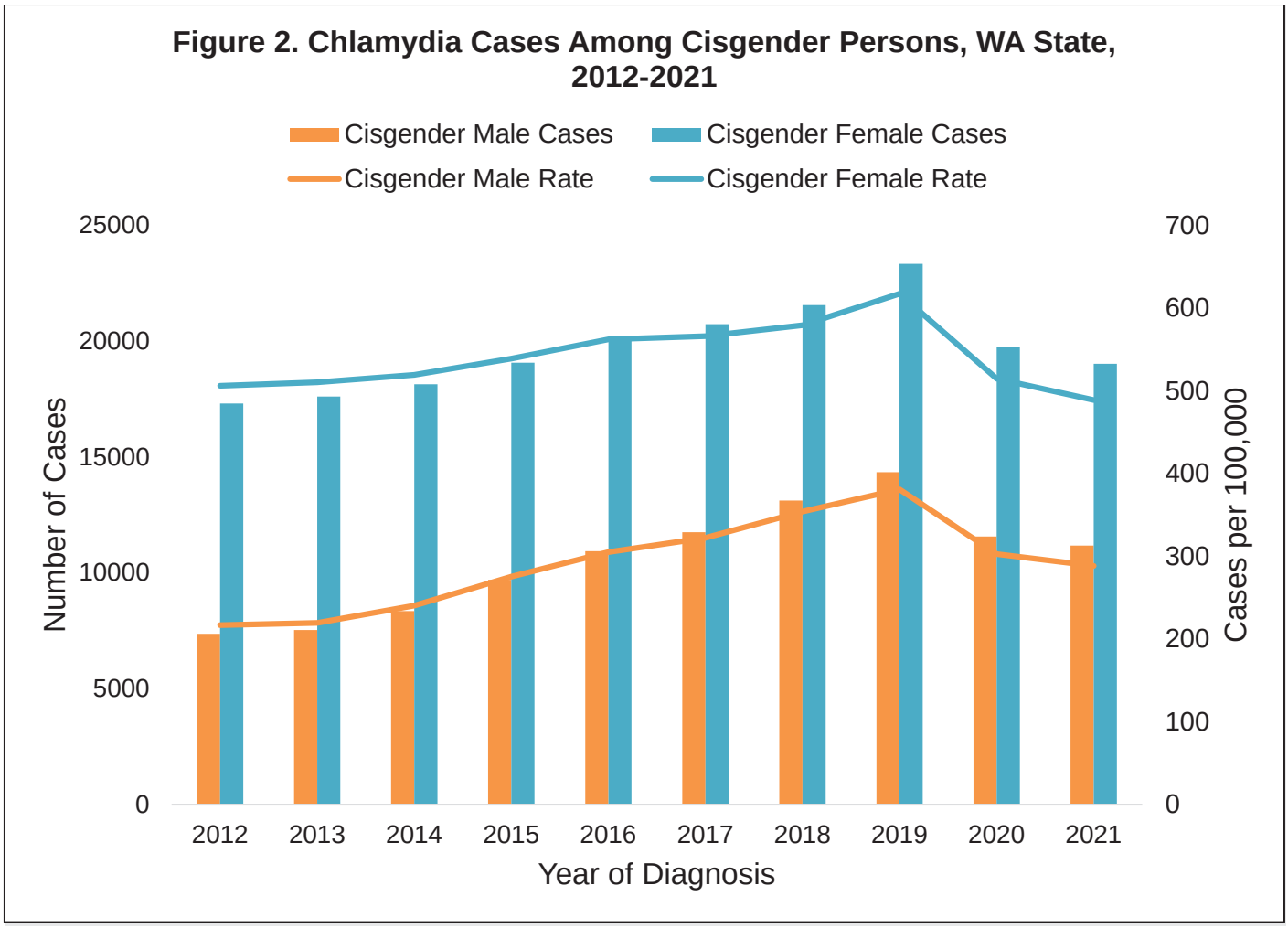
Map 1. Chlamydia Rates by County Versus State Rate, Aggregate 2017-2021



CHLAMYDIA DISTRIBUTION BY GENDER

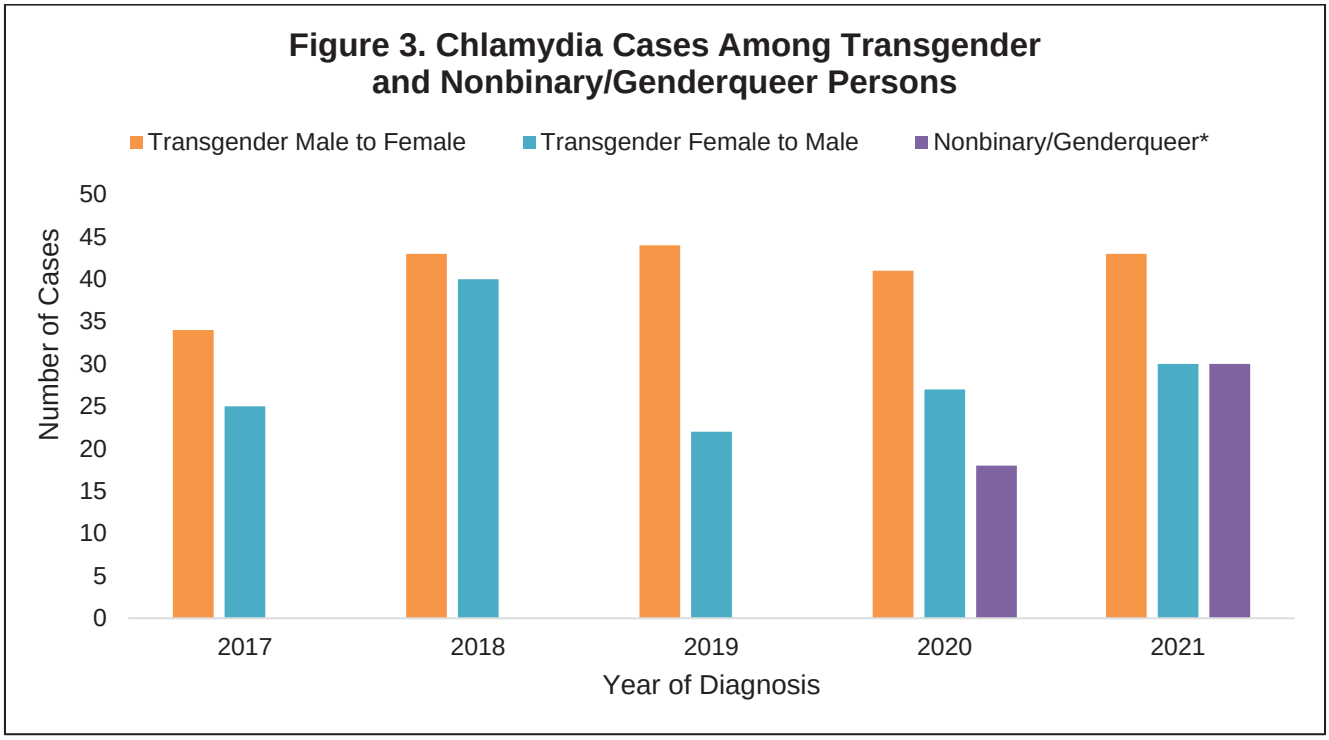
Figures 2 and 3 show chlamydia cases by gender in Washington from 2012 to 2021, and this data is also presented in Table C. Chlamydia cases have consistently been highest among cisgender females. This may be partly due to higher screenings among pregnancy-capable people during childbearing age, per CDC recommendations. Figure 2 shows that the rate of chlamydia increased among both cisgender females and cisgender males from 2012 to a peak in 2019, then decreased from 2019 to 2021. However, it is unclear whether these are true decreases or due to changes in routine screening resulting from the COVID-19 pandemic.

Figure 2. Chlamydia Cases Among Cisgender Persons, WA State, 2012-2021



Data source: PHIMS-STD and WELRS

Figure 3 shows the number of chlamydia cases among transgender and nonbinary/genderqueer persons. Due to small numbers, data for transgender people is not presented prior to 2017; data for nonbinary/genderqueer people is also not available prior to 2020. Rates for transgender and nonbinary/genderqueer people are not presented due to small numbers and limited population data. Transgender and nonbinary/genderqueer cases represented less than 1% of all chlamydia cases between 2017 to 2021.



Data source: PHIMS-STD and WELRS

* Due to small numbers, data for transgender people is not presented prior to 2017; data for nonbinary/genderqueer people is also not available prior to 2020.

Table C. Chlamydia Cases by Gender, WA State, 2012-2021

Year of Diagnosis	Cisgender Male Cases	Cisgender Male Rate	Cisgender Female Cases	Cisgender Female Rate	Transgender Male to Female Cases	Transgender Female to Male Cases	Nonbinary/Genderqueer Cases
2012	7369	216.9	17308	506.1	+	+	*
2013	7535	219.6	17610	510.2	+	+	*
2014	8354	240.4	18143	519.3	+	+	*
2015	9701	275.4	19072	538.8	+	+	*
2016	10933	305.1	20239	562.2	27	14	*
2017	11755	322.3	20728	565.9	34	25	*
2018	13120	354.0	21555	579.3	43	40	*
2019	14346	380.9	23334	617.3	44	22	*
2020	11568	302.7	19739	514.7	41	27	18
2021	11181	288.5	19023	488.8	43	30	30

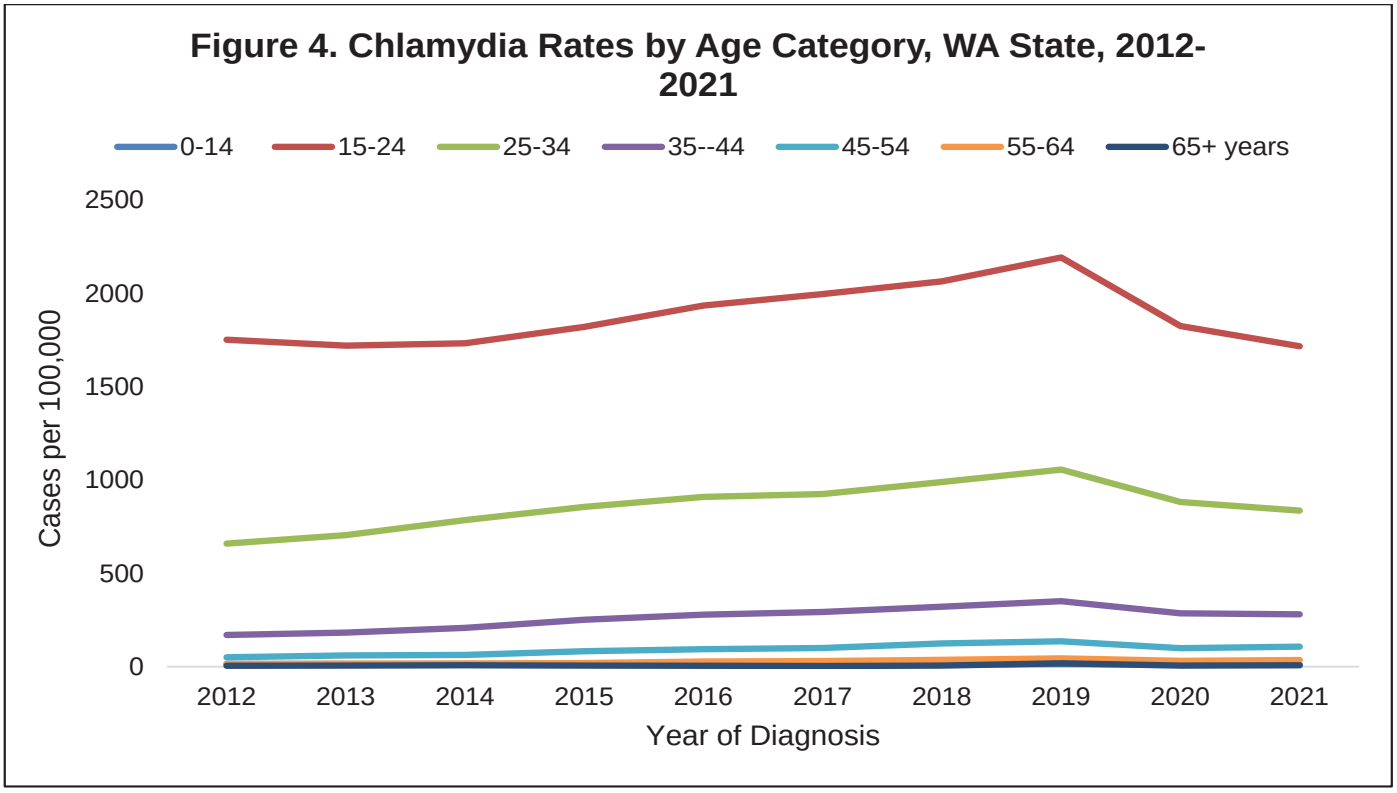
+ Data has been suppressed to protect patient confidentiality due to small numbers.

*Data is not available prior to 2020.

Data source: PHIMS-STD and WELRS

CHLAMYDIA DISTRIBUTION BY AGE

Figure 4 presents chlamydia rates by age category for Washington from 2012 to 2021. Case counts and rates by age category are additionally presented in Table D. Each year, rates have been substantially higher among people aged 15-to-24 years as compared to all other age categories. Within people aged 15-to-24 years, case rates are highest among cisgender females. Rates have consistently been lowest among people aged 65+ years.



Data source: PHIMS-STD and WELRS

Table D. Chlamydia Case Counts and Rates (per 100,000 people) by Age Category (in years), WA State, 2012-2021

Year of Diagnosis	Ages 0-14 Cases	Ages 0-14 Rate	Ages 15-24 Cases	Ages 15-24 Rate	Ages 25-34 Cases	Ages 25-34 Rate	Ages 35-44 Cases	Ages 35-44 Rate	Ages 45-54 Cases	Ages 45-54 Rate	Ages 55-64 Cases	Ages 55-64 Rate	Ages 65+ Cases	Ages 65+ Rate
2012	199	15.2	16065	1752.4	6241	659.7	1538	169.9	486	50.3	117	13.3	42	4.7
2013	182	13.9	15820	1721.2	6717	704.8	1661	183.0	578	60.5	149	16.6	57	6.1
2014	171	12.9	16034	1734.0	7594	785.7	1894	208.3	601	63.2	157	17.2	74	7.5
2015	158	11.8	16930	1821.6	8379	857.1	2301	251.8	791	83.3	180	19.4	57	5.5
2016	176	13.0	18177	1936.1	9083	910.3	2574	279.2	892	93.7	257	27.1	56	5.2
2017	187	13.6	18882	1998.0	9440	925.5	2759	293.6	951	100.3	287	29.9	39	3.5
2018	170	12.2	19603	2066.0	10302	989.8	3096	321.7	1173	124.8	355	36.6	70	6.0
2019	191	13.6	20989	2193.7	11223	1056.6	3464	351.1	1268	136.1	434	44.5	222	18.1
2020	166	11.7	17630	1826.3	9519	882.7	2887	286.4	921	99.0	305	31.3	73	5.7
2021	150	10.7	16657	1717.9	9167	836.8	2916	280.8	1009	107.3	353	36.1	98	7.3

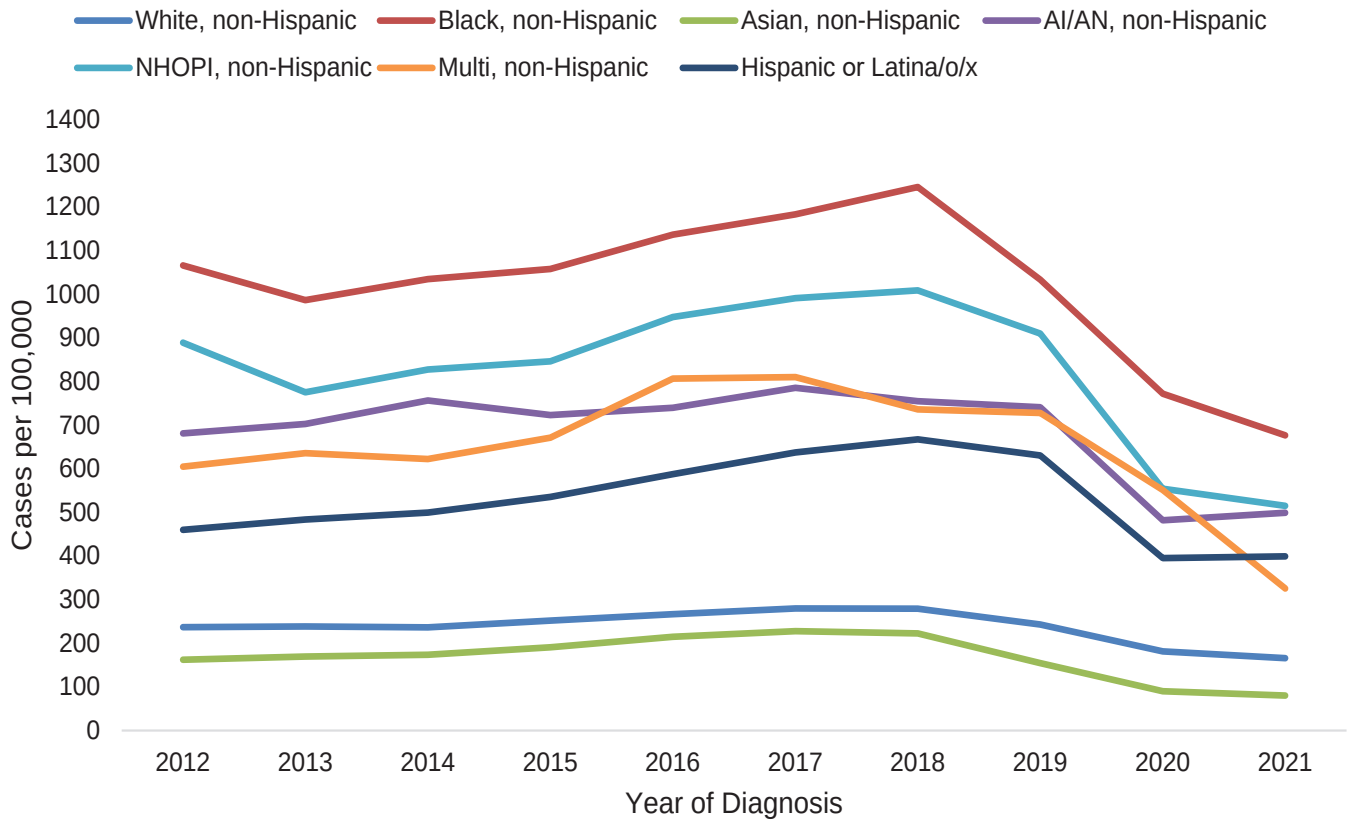
Data source: PHIMS-STD and WELRS

CHLAMYDIA DISTRIBUTION BY RACE AND ETHNICITY

Figure 5 shows chlamydia rates by self-reported race and ethnicity for 2012 to 2021. Communities of color and those with a Hispanic or Latina/o/x ethnicity continued to experience disproportionate rates of chlamydia, which is a product of systemic racism. Black (non-Hispanic) persons had the highest chlamydia rate each year statewide and nationally (source: CDC). Additionally, chlamydia rates each year among Native Hawaiian and Other Pacific Islander (non-Hispanic), American Indian/ Alaska Native (non-Hispanic), Multi-race (non-Hispanic), and Hispanic or Latina/o/x persons were all much higher than White (non-Hispanic) and Asian (non-Hispanic) persons. In 2021, Black (non-Hispanic) persons were 4.1 times more likely to report chlamydia than White (non-Hispanic) persons. NHOPI (non-Hispanic), AI/AN (non-Hispanic), and Hispanic or Latina/o/x persons were 3.1, 3.0, and 2.4 times more likely to report chlamydia than White (non-Hispanic) persons, respectively.

The rates across each race/ethnicity category decreased from 2018 to 2020 and continued to decrease or remained steady into 2021. However, this should be interpreted with caution, as the percent of chlamydia cases without any race or ethnicity reported increased during this time frame from 16.3% to 41.6%. With such high levels of missing race/ethnicity data after 2018, it is likely that the resulting rates are under-reporting true rates in each population. In consideration of the importance of reporting a patient's race/ethnicity to better understand true population trends, WAC Chapter 246-101 requires laboratories, health care providers, and health care facilities to report a patient's race, ethnicity, and preferred language for notifiable conditions including chlamydia starting January 1, 2023.

Figure 5. Chlamydia Rates by Race/Ethnicity, WA State, 2012-2021



Data source: PHIMS-STD and WELRS

Table E presents the chlamydia case counts and rates by race/ethnicity, along with the number of cases with an unknown race/ethnicity.

Table E. Chlamydia Cases and Rates (per 100,000 people) by Race/Ethnicity, WA State, 2012-2021

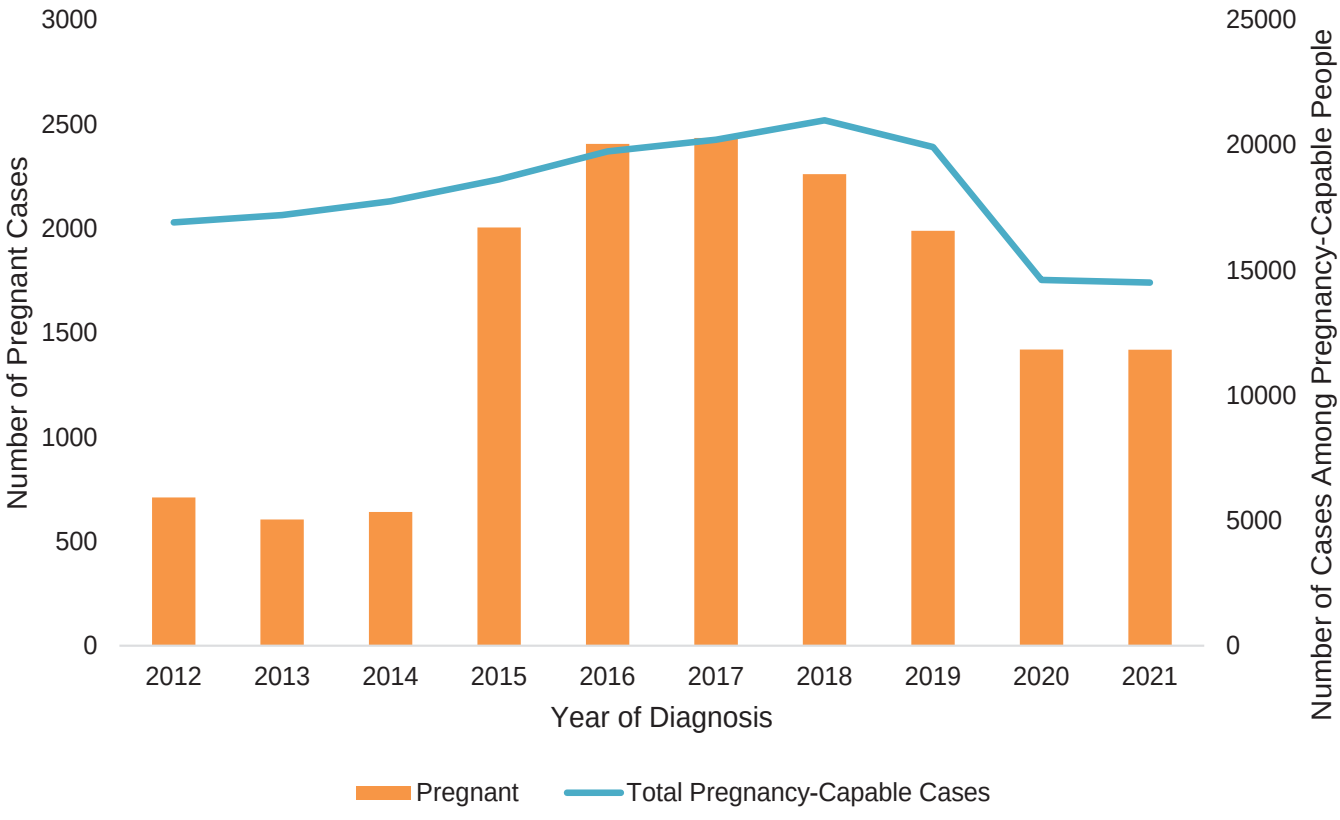
Race/Ethnicity Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
White, non-Hispanic Cases	11619	11717	11673	12494	13344	14120	14171	12404	9297	8201
White, non-Hispanic Rate	236.9	238.4	236.5	251.8	266.7	279.8	279.2	243.1	181.4	165.9
Black, non-Hispanic Cases	2525	2380	2561	2685	2981	3209	3501	3019	2333	2061
Black, non-Hispanic Rate	1066.0	986.7	1034.6	1057.9	1136.4	1183.0	1245.7	1033.6	771.9	676.6
Asian, non-Hispanic Cases	798	858	914	1045	1234	1379	1428	1053	648	600
Asian, non-Hispanic Rate	162.1	169.7	173.8	190.8	214.9	227.8	222.5	154.4	90.2	80.2
AI/AN, non-Hispanic Cases	611	632	685	658	678	727	704	698	458	459
AI/AN, non-Hispanic Rate	681.1	702.5	756.4	723.2	739.9	785.5	754.8	740.9	481.9	499.0
NHOPI, non-Hispanic Cases	361	325	362	384	449	490	520	489	309	333
NHOPI, non-Hispanic Rate	888.9	775.2	827.3	846.2	947.6	990.8	1008.8	909.9	554.0	515.0
Multi, non-Hispanic Cases	1564	1705	1730	1928	2394	2491	2343	2386	1858	1658
Multi, non-Hispanic Rate	604.7	635.6	622.1	671.3	806.5	810.1	735.9	727.9	551.2	325.5
Hispanic or Latina/o/x Cases	3662	3968	4233	4687	5332	5979	6448	6274	4042	4408
Hispanic or Latina/o/x Rate	460.2	483.7	499.6	535.5	587.5	637.5	667.4	630.5	395.2	399.2
Unknown Race/Ethnicity Cases	3548	3579	4367	4915	4803	4150	5654	11469	12557	12632

CHLAMYDIA AMONG PREGNANT AND PREGNANCY-CAPABLE PEOPLE

Figure 6 presents chlamydia cases from 2012 to 2021 among pregnant and pregnancy-capable people, defined as people with vaginas aged 15-to-44 years. It is especially important that this population receives screenings for chlamydia and appropriate treatment, if necessary, as chlamydia complications can harm one's reproductive health. From 2012 to 2018, the number of chlamydia cases among pregnancy-capable people increased, followed by a sharp decrease into 2020 and little change into 2021. Although the number of cases among pregnancy-capable people has generally followed an increasing trend, the proportion of all chlamydia cases that are among pregnancy-capable people has actually decreased from 68% in 2012 to 48% in 2021. This can partly be attributed to an increase in cases among cisgender men.

Figure 6 also shows the sharp rise in cases reporting pregnancy from 2014 to 2017, followed by a decrease through 2021. A person who is pregnant and has chlamydia infection is at higher risk of an early birth, and their baby is also at higher risk of health complications. Therefore, it is important that pregnant people are screened for chlamydia and other STIs.

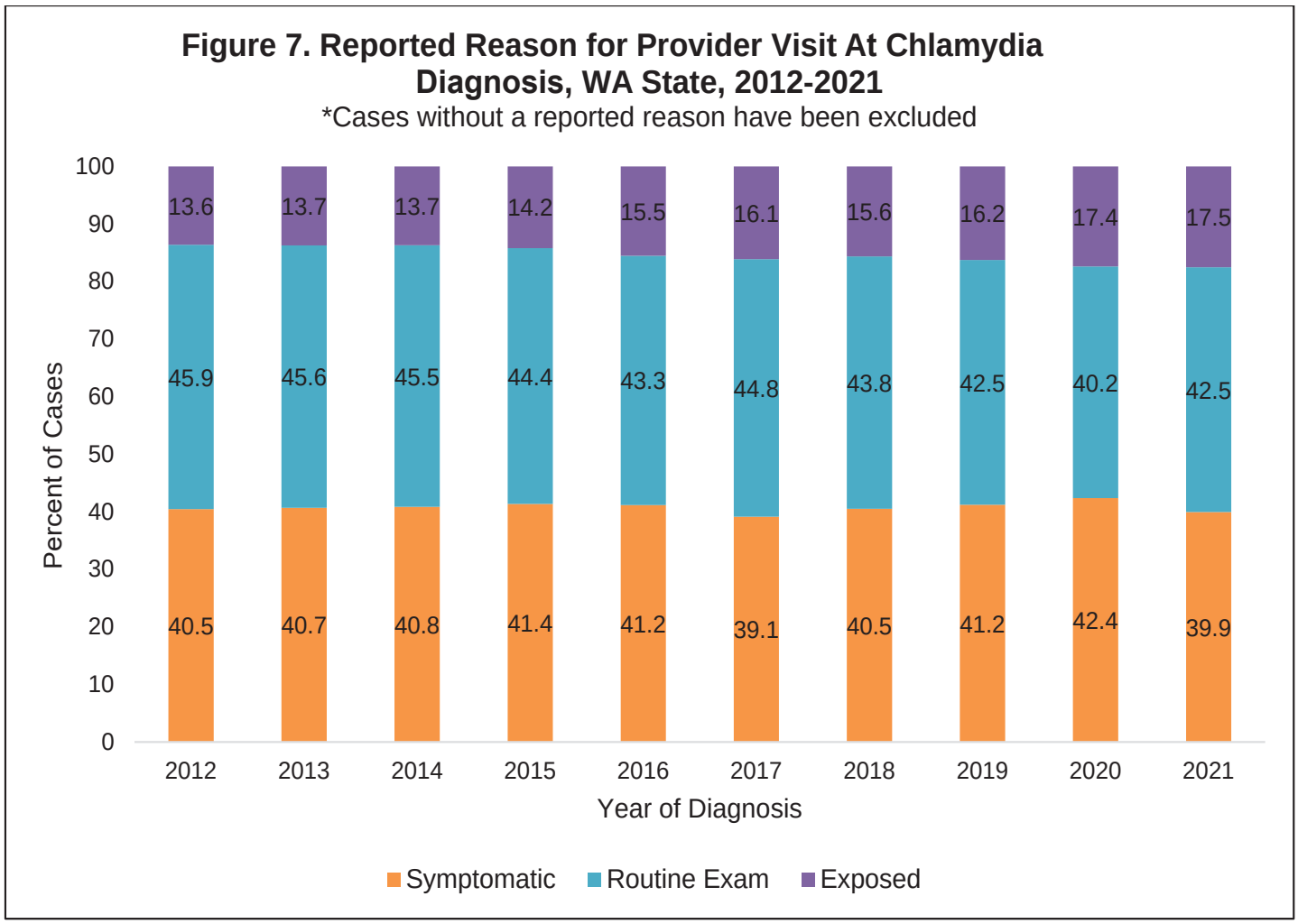
Figure 6. Chlamydia Cases Among Pregnancy-Capable and Pregnant People, WA, 2012-2021



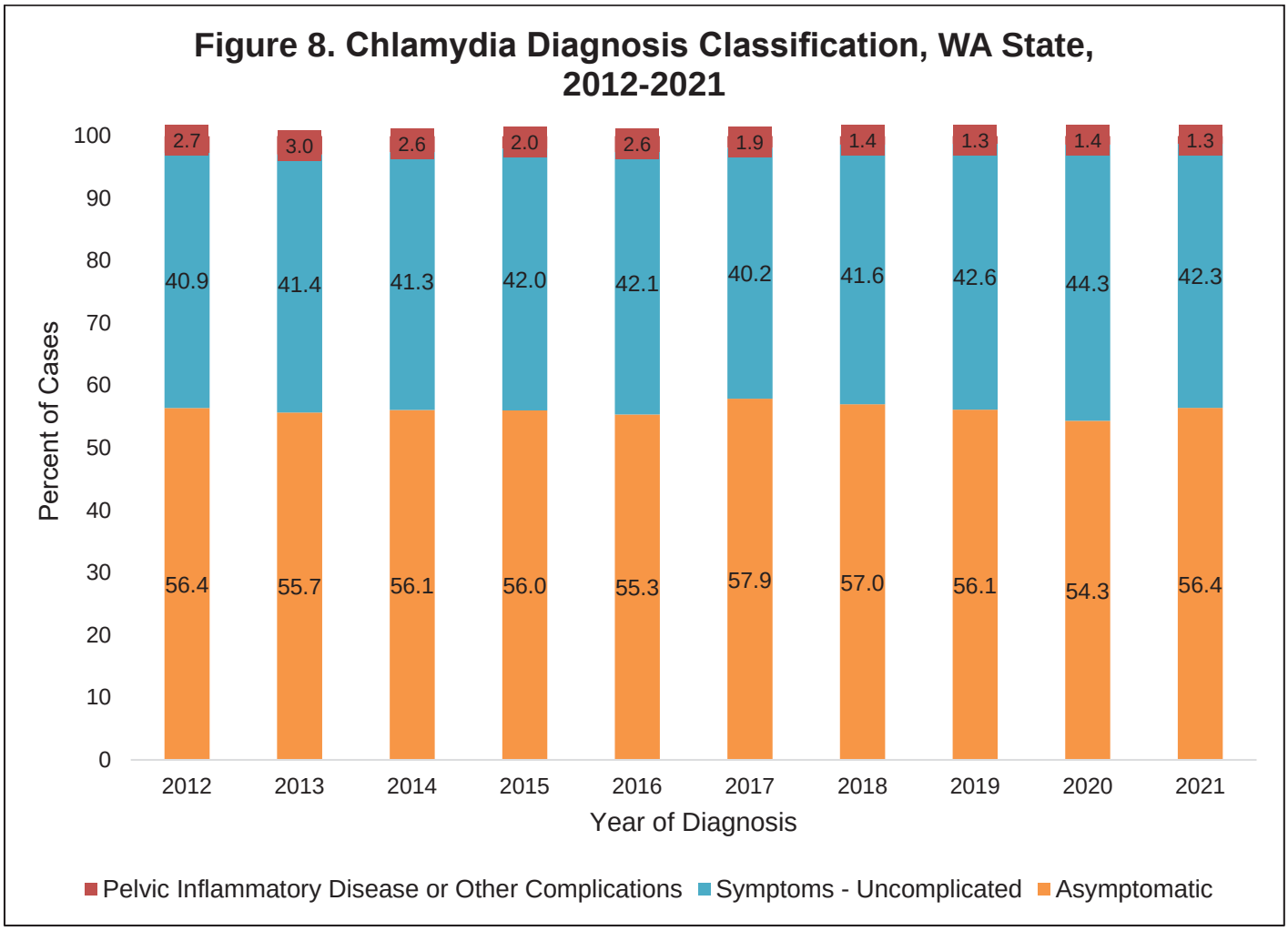
CHLAMYDIA: DIAGNOSIS AND ACCESSING OF CARE

Chlamydia case report data can give context into why and how patients are typically diagnosed with chlamydia.

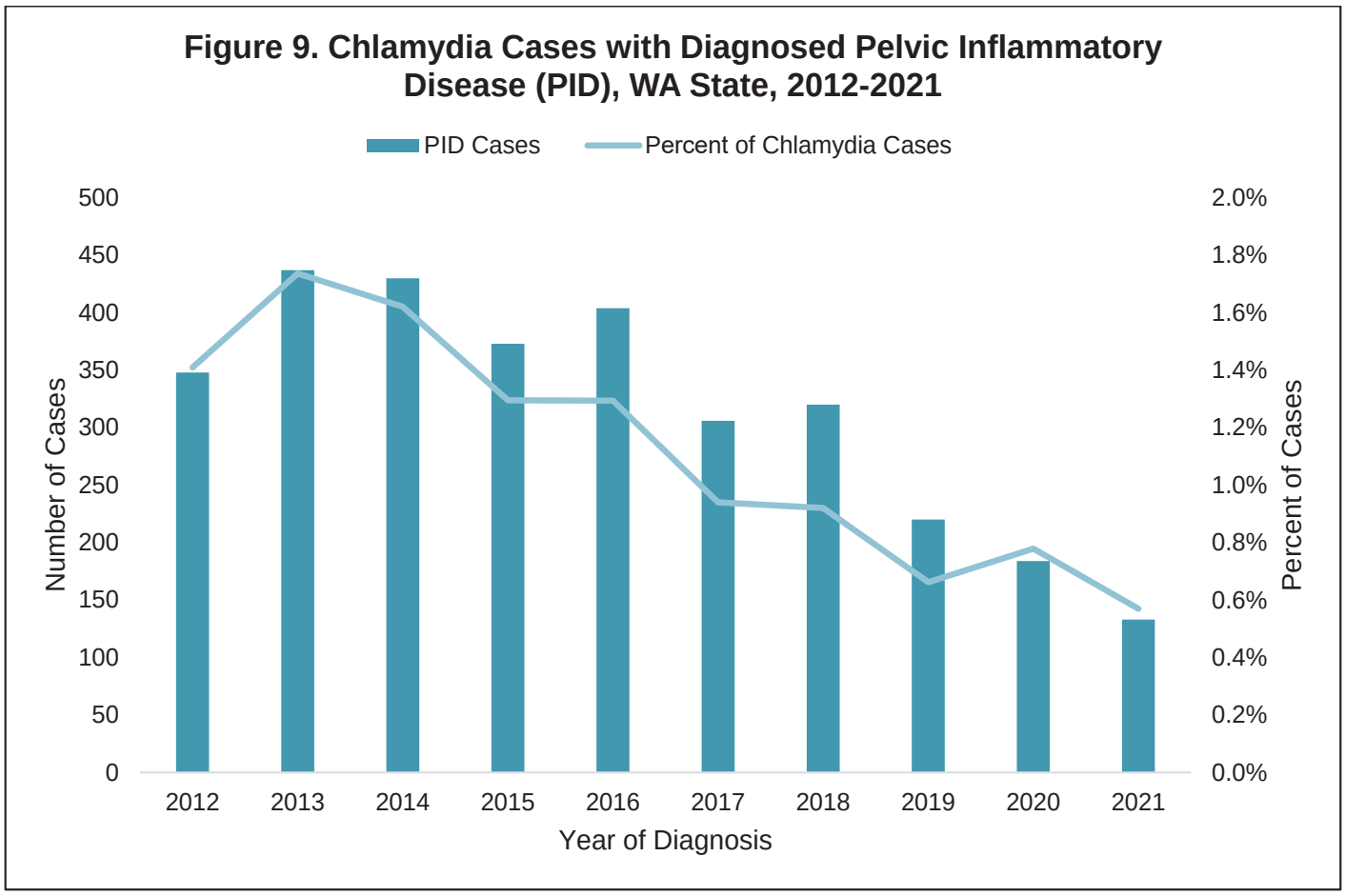
Figure 7 presents the reported reason for provider visit at the time of chlamydia diagnosis from 2012 to 2021. Reasons for provider visit are classified into three categories: an individual is symptomatic, has been exposed to chlamydia, or is visiting for a routine exam. Overall, the percent of visits for each reason has remained stable over these ten years. For most years, individuals were most likely to visit a provider for a routine exam, and some years individuals were most likely to visit because they experienced symptoms. 2020 had the lowest percent of visits for routine exams and the highest percent of symptomatic exams, likely resulting from fewer screenings due to the COVID-19 pandemic.



Each chlamydia case report includes a diagnosis classification about the nature of the case and one's clinical presentation. Figure 8 shows that between 2012 to 2021, the majority of diagnosed chlamydia cases each year were asymptomatic. This highlights the importance of routine screenings when one is sexually active, regardless of whether they have symptoms. By contrast, just over 40% of patients diagnosed with chlamydia every year did experience symptoms. Although most symptomatic cases were uncomplicated, between 1.3% to 3.0% of cases each year had complications such as Pelvic Inflammatory Disease.



Looking further into Pelvic Inflammatory Disease (PID), Figure 9 presents chlamydia cases that also had a documented PID diagnosis. The number of PID cases peaked in 2013, when 1.7% of chlamydia cases had PID. This decreased to just under 0.6% of chlamydia cases in 2021. When chlamydia cases are discovered and treated early after infection, there is a low risk of PID or other complications. More information about PID can be found on the CDC website: STD Facts - Pelvic Inflammatory Disease (cdc.gov).



Section 2. Gonorrhea

CLINICAL BACKGROUND OF GONORRHEA

Gonorrhea is the second most reported sexually transmitted infection nationally and in Washington. It is caused by the bacterium *N. gonorrhoeae*.

Symptoms:

Many people infected with gonorrhea are asymptomatic, which is why routine screenings for infection among sexually active people are so important. Females may experience symptoms of pain or discomfort when urinating, bleeding between periods, or increased vaginal discharge. Since symptoms are often mild and nonspecific, they may be confused for other conditions, such as a vaginal infection. Males that present with symptoms may experience pain or discomfort when urinating or have urethral discharge that typically occurs within two weeks after infection. They also may have testicular or scrotal swelling and pain.

If one has a rectal infection, they may be asymptomatic or have symptoms of anal discharge, soreness, itching, bleeding, or painful bowel movements. If one has a pharyngeal infection, they may feel a sore throat but often will not have any symptoms.

Who should be screened:

All people who are sexually active are at risk of infection with gonorrhea. Anyone who is experiencing symptoms should be screened immediately. One should also see a provider if they have a partner who has recently been diagnosed with any STI.

The CDC recommends that every sexually active female below the age of 25 should receive annual gonorrhea screenings. They also recommend older females receive screenings if they have a new sex partner or multiple partners. Depending upon risk factors, a health care provider may recommend more frequent screening. If someone does have gonorrhea, they should be screened for additional STIs.

Prevention and transmission:

Gonorrhea is spread through sexual contact with an infected partner's penis, vagina, mouth, or anus. The incubation period is typically 2-7 days, but it may be longer when symptoms occur. People can be infectious for long periods of time if they have untreated gonorrhea. It can also be spread from mother to baby through childbirth. If one has been treated for gonorrhea in the past, they still can become infected again.

Where feasible for a person, abstinence from sex (not having oral, anal, or vaginal sex) is an effective way to avoid gonorrhea or other STIs. However, abstinence from sex is not feasible or appropriate for all people. A person can also effectively avoid STIs through being sexually active only with a partner who is only having sex with them – mutual monogamy – when both partners have either tested negative for STIs or been treated for STIs and then waited the appropriate period after treatment before engaging in sex. Using condoms properly every time during penetrative sex is also a highly effective method of prevention. If one has multiple sexual partners, it is important to speak with each of them about their past behavior (sex and drug use), whether they have been recently screened or treated for STIs, and to encourage them to be tested if they have not. It is recommended that all sexually active people test regularly for STIs, including HIV, in consultation with their partner(s) and healthcare provider.

Diagnosis:

Gonorrhea is diagnosed through laboratory testing. Nucleic acid amplification testing (NAAT) can be used to diagnosis urogenital cases and requires either a urine or urethral sample for males or a vaginal or endocervical sample for females. Gonorrhea cultures can also be used for diagnosis, and they require endocervical or urethral swab specimens; due to strict incubation requirements for cultures, non-cultures are typically used for screening. Separate diagnostic tests for rectal and oral gonorrhea are available for clinical use.

A case is considered probable if there is demonstration of gram-negative intracellular diplococci in a urethral smear obtained from a male or an endocervical smear from a female. A case is defined as confirmed if a patient has laboratory isolation of typical gram-negative, oxidase-positive diplococcic by culture from a clinical specimen or demonstration of *N. gonorrhoeae* in a clinical specimen by detection of antigen or nucleic acid via nucleic acid amplification or hybridization with a nucleic acid probe.

Complications of untreated gonorrhea:

Untreated gonorrhea can cause serious and irreversible health problems for all people.

For females, if gonorrhea spreads into the uterus or fallopian tubes, it can cause pelvic inflammatory disease (PID). PID symptoms may be mild or very severe and range from abdominal pain to fever. PID can lead to complications of chronic pelvic pain and internal abscesses. It can also cause severe damage that leads to infertility or increases one's risk of an ectopic pregnancy.

Pregnant people may transmit gonorrhea to their baby during birth, which can result in blindness, joint infection, or a life-threatening blood infection for the newborn.

For males, gonorrhea can become complicated by epididymitis, which can lead to infertility in rare cases.

For all people, untreated gonorrhea can spread into the blood and cause life-threatening disseminated gonococcal infection (DGI). This is typically indicated by arthritis, inflammation of a tendon and its sheath (tenosynovitis), and/or dermatitis. People with untreated gonorrhea are also at greater risk of acquiring or spreading HIV.

Treatment:

Gonorrhea is treatable and curable with medication. As of 2022, the CDC recommends one 500 mg intramuscular dose of ceftriaxone to treat gonorrhea. As an alternative, cefixime may be used; however, this can only be used if the patient reports no oral sexual exposure. Due to increasing antibiotic resistance in Washington, use of azithromycin alone is not recommended. Fluoroquinolones are also not recommended anymore due to an increased prevalence of quinolone-resistant *N. gonorrhoae*. If chlamydial infection has not been excluded, a treatment of doxycycline twice daily for seven days should be administered. For genital or rectal infections, the CDC recommends follow-up testing to ensure the infection has cleared if someone's symptoms persist for more than a few days after they've received treatment. If someone has a pharyngeal infection, a test-of-cure is necessary between 7-14 days after treatment to ensure the infection has cleared in the throat.

An individual infected with gonorrhea and each of their sex partners must avoid any form of sex until their treatment is completed, and they no longer experience symptoms; otherwise, individuals are at higher risk of re-infection. All people should be re-screened three months after their initial treatment to ensure it has been successful and additionally since reinfection is common.

If someone is diagnosed with gonorrhea, it is important that they tell all recent sex partners so they may receive treatment themselves and avoid transmitting the infection to others. In Washington, health care providers are able to give medication to partners of infected individuals if partners are unable to be tested or see a health care provider.

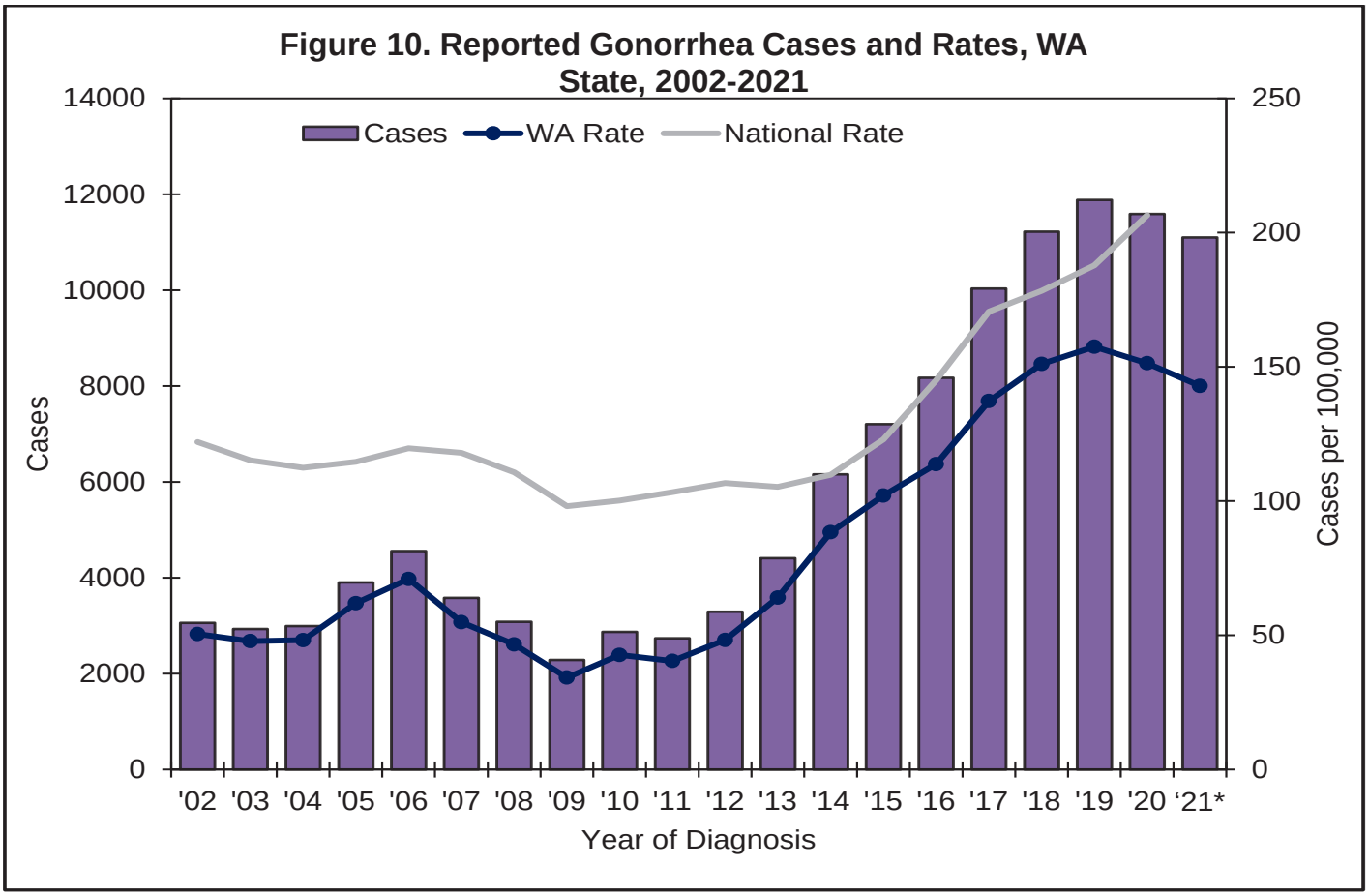
For Further Information: A detailed fact sheet can be found through the CDC: **Detailed STD Facts - Gonorrhea (cdc.gov)**

GONORRHEA IN WASHINGTON STATE

SUMMARY OF TRENDS:

- **Between 2002 to 2021, the number and rate of gonorrhea cases reported in Washington State has greatly increased.**
- **Between 2012 to 2021, gonorrhea rates have consistently been highest among cisgender males, non-Hispanic Black persons, and, since 2015, persons aged 25-to-34 years.**
- **Men who have sex with men (MSM) represented a disproportionate percent of gonorrhea cases between 2012 and 2021.**
- **Reported case counts were highest within King, Pierce, Spokane, Snohomish, and Clark counties.**

The statewide number of reported gonorrhea cases and incidence rate estimates between 2002 to 2021 are presented in Figure 10 and written in Table F. When comparing 2002 to 2021, gonorrhea cases have more than tripled. The reported number of gonorrhea cases and rates in Washington state varied between 2002 and 2011, steadily increased through 2019, then decreased into 2021. However, it is unclear whether these are true decreases in infection or reflective of COVID-19's impact on decreasing access to medical care and reductions in routine screenings. Washington's rate of gonorrhea has consistently been lower than the national rate of gonorrhea reported by the CDC, also shown in Figure 10.



*The 2021 national rate was not available at the time of publication.

Table F. Reported Gonorrhea Case Counts and Rates per 100,000, WA State, 2002-2021

Year of Diagnosis	Cases	Rate per 100,000
2002	3,058	50.5
2003	2,930	47.8
2004	2,992	48.2
2005	3,901	61.9
2006	4,556	71.0
2007	3,580	54.9
2008	3,080	46.6
2009	2,284	34.2
2010	2,870	42.7
2011	2,737	40.4
2012	3,290	48.3
2013	4,408	64.0
2014	6,159	88.4
2015	7,206	102.0
2016	8,172	113.8
2017	10,034	137.3
2018	11,221	151.1
2019	11,883	157.5
2020	11,588	151.4
2021	11,098	142.9

Table G presents the number of gonorrhea cases and rates per 100,000 people by year and county from 2017 through 2021. Trends in reported gonorrhea cases varied by county. Considering all gonorrhea cases between 2017 and 2021, King County has had the highest number of cases, followed by Pierce, Spokane, Snohomish, and Clark. Higher numbers in these counties are expected, given that these are the most populous counties in the state.

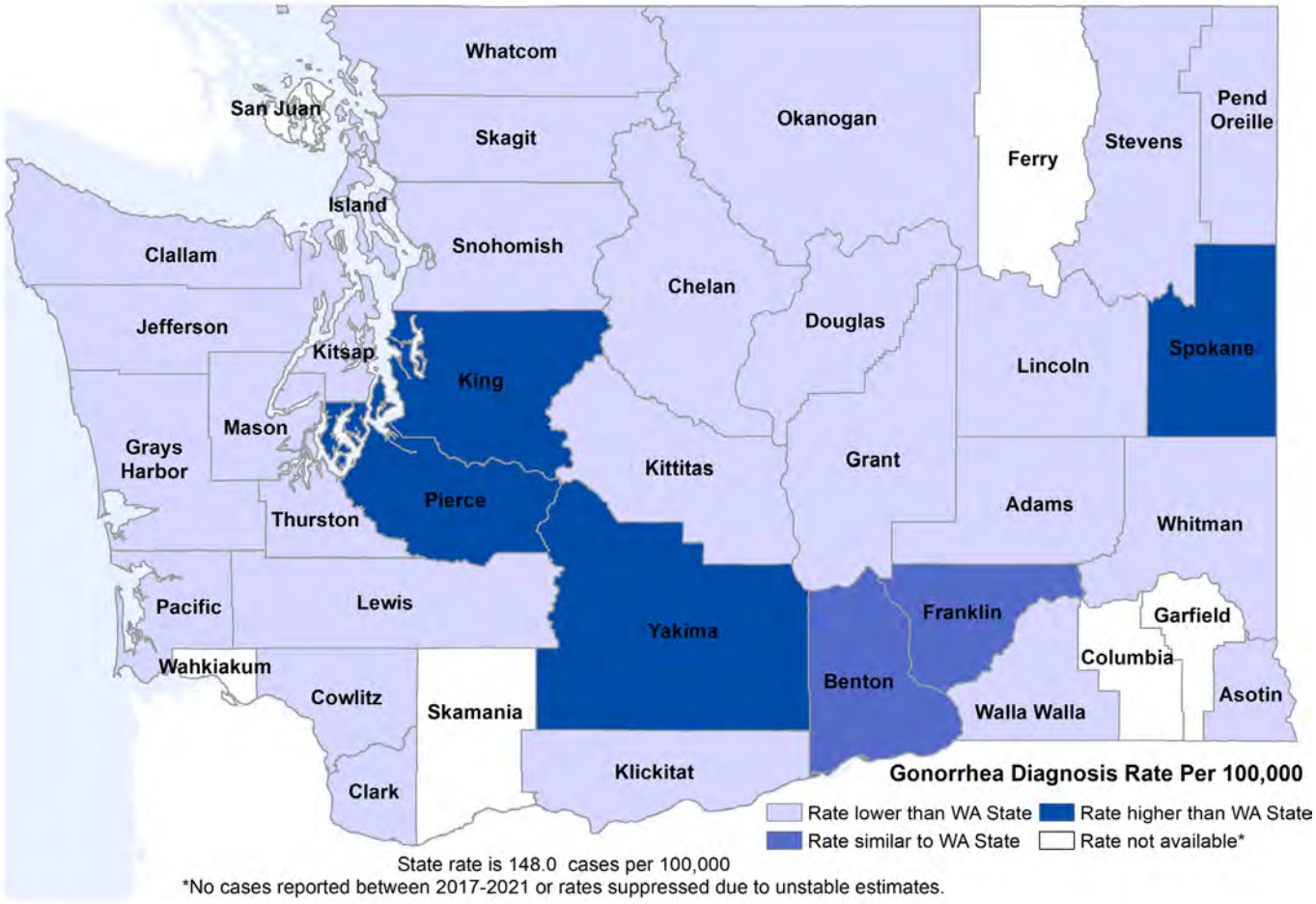
Table G. Gonorrhea Cases and Rates by County, 2017 to 2021

County	2017 Cases	2017 Rate	2018 Cases	2018 Rate	2019 Cases	2019 Rate	2020 Cases	2020 Rate	2021 Cases	2021 Rate
Adams	19	95.6	23	114.9	11	+	10	+	22	105.3
Asotin	31	139.1	6	+	24	106.6	26	114.8	17	75.6
Benton	218	112.7	241	122.1	248	122.9	379	184.2	337	160.9
Chelan	29	37.7	45	57.8	38	48.5	40	50.2	37	46.3
Clallam	6	+	21	28.0	29	38.2	9	+	29	37.3
Clark	510	108.3	655	136.6	553	113.2	676	135.4	638	124.3
Columbia	4	+	2	+	3	+	1	+	1	+
Cowlitz	109	102.9	134	124.9	101	92.7	73	66.1	84	75.3
Douglas	9	+	33	78.3	26	60.7	25	57.1	20	45.9
Ferry	2	+	2	+	7	+	2	+	3	+
Franklin	130	143.9	124	134.0	141	148.9	172	177.8	184	187.1
Garfield	0	0.0	1	+	1	+	0	0.0	0	0.0
Grant	116	121.3	110	113.0	97	98.2	127	126.8	112	111.1
Grays Harbor	45	61.7	48	65.2	72	97.1	83	111.1	77	101.2
Island	38	45.9	37	44.1	42	49.5	31	36.2	29	33.3
Jefferson	11	+	8	+	5	+	10	+	4	+
King	4180	194.1	4435	202.5	4703	211.2	4276	189.1	4310	188.5
Kitsap	275	104.0	307	114.9	241	89.2	259	95.2	260	93.6
Kittitas	16	+	30	65.8	29	62.3	19	39.5	18	39.8
Klickitat	3	+	11	+	18	80.2	8	+	14	+
Lewis	42	54.2	54	68.9	50	62.9	50	62.3	67	81.0
Lincoln	2	+	3	+	7	+	6	+	1	+
Mason	39	61.7	70	109.3	45	69.3	32	48.7	56	85.2
Okanogan	11	+	13	+	46	107.7	41	95.1	25	59.0
Pacific	9	+	5	+	4	+	4	+	7	+
Pend Oreille	4	+	9	+	1	+	11	+	4	+
Pierce	1773	206.3	1922	220.4	2133	240.1	2204	244.7	1786	192.4
San Juan	3	+	2	+	2	+	0	0.0	1	+
Skagit	60	48.3	109	86.2	117	90.6	136	104.3	99	76.2
Skamania	1	+	2	+	5	+	1	+	1	+
Snohomish	743	94.1	874	108.6	761	93.0	795	95.7	799	95.4
Spokane	693	138.7	760	149.6	1074	208.4	898	171.8	879	162.1
Stevens	15	+	24	53.3	32	70.2	25	54.4	20	42.8
Thurston	253	91.4	288	102.2	279	97.6	304	104.5	262	88.0
Wahkiakum	3	+	1	+	0	0.0	0	0.0	1	+
Walla Walla	21	34.2	48	77.7	78	125.4	60	95.9	48	77.3
Whatcom	147	68.0	171	77.6	159	70.6	189	82.9	216	95.4
Whitman	32	65.8	38	77.2	34	67.8	23	45.6	34	76.2
Yakima	432	170.8	555	218.1	667	260.6	583	225.8	596	230.9

+ For any counts less than seventeen, rates are not included due to statistical instability.

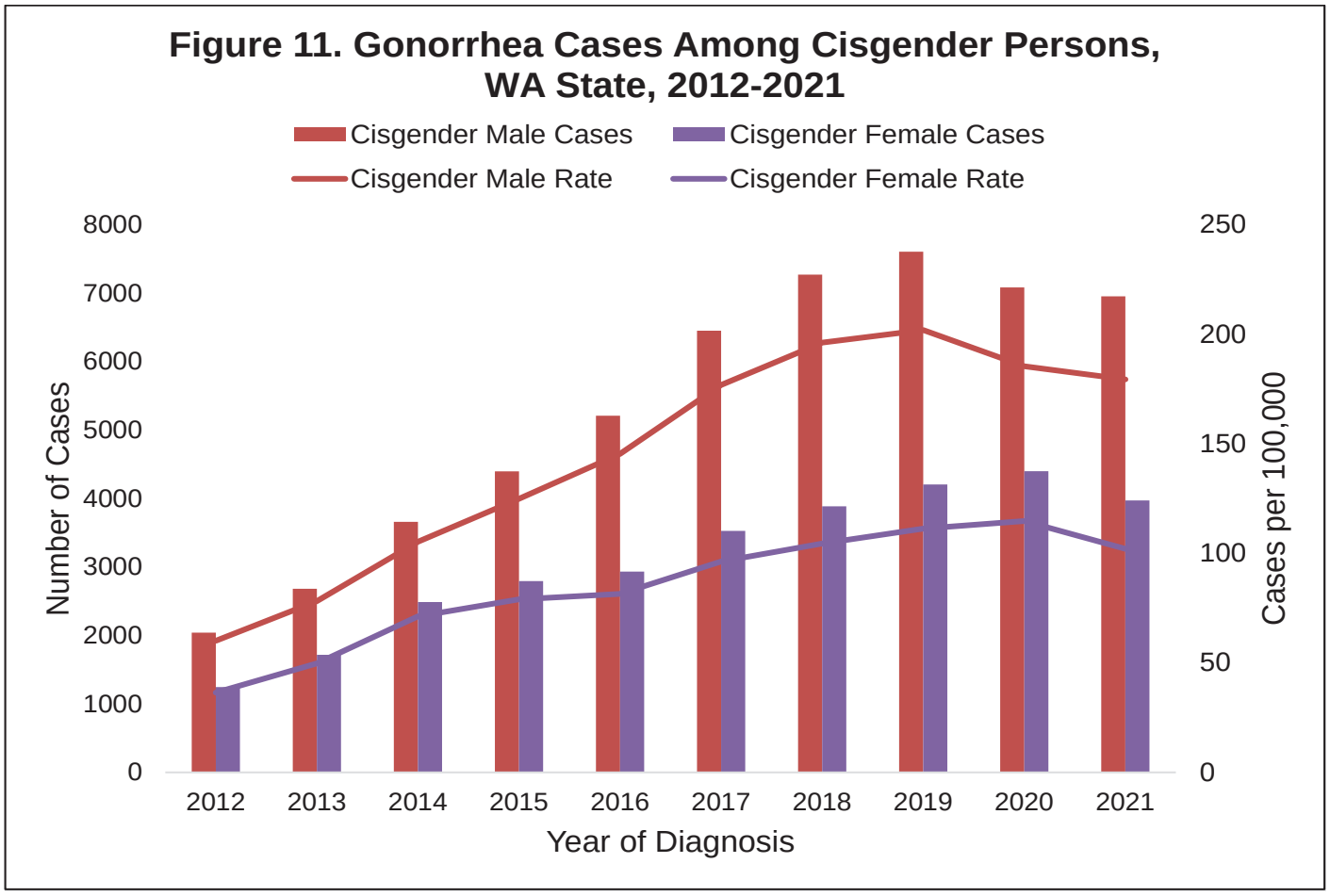
Map 2 shows aggregate gonorrhea rates from 2017 to 2021 by county as compared to the statewide rate. For this five-year time frame, King, Pierce, Spokane, and Yakima all had higher rates than the statewide rate. On the other hand, there were several counties in which rates could not be stably calculated due to low numbers of gonorrhea diagnoses (less than 17 cases).

Map 2. Gonorrhea Rates by County Versus State Rate, Aggregate 2017-2021



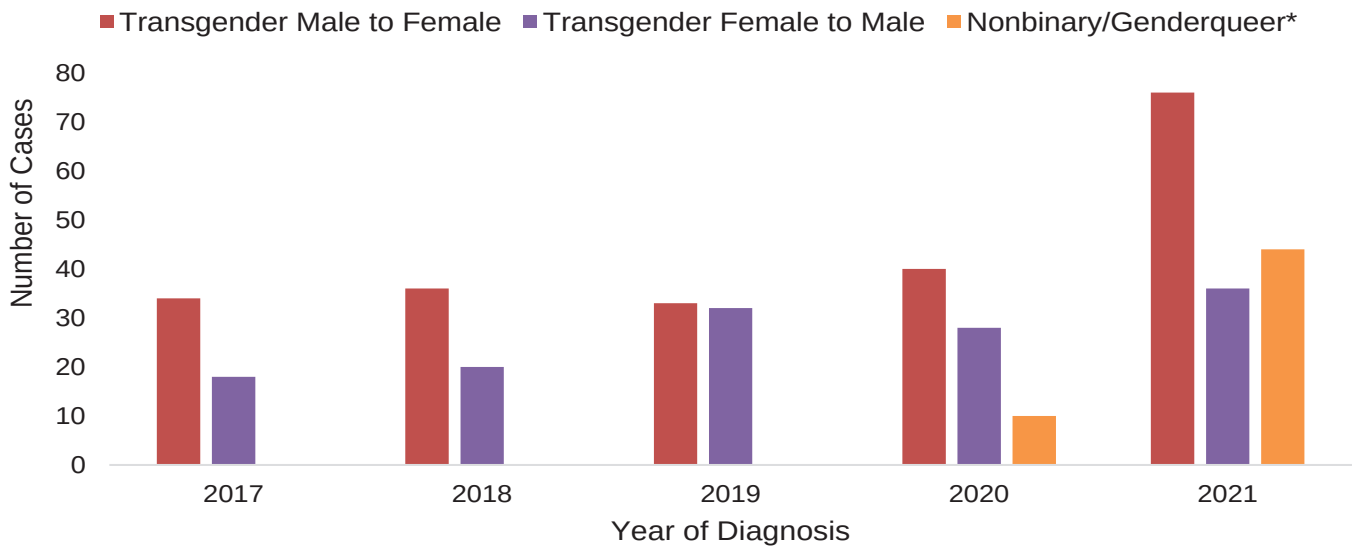
GONORRHEA DISTRIBUTION BY GENDER

Figures 11 and 12 show gonorrhea case counts by gender in Washington from 2012 to 2021, and this data is also presented in Table H. Gonorrhea cases overall have consistently been highest among cisgender males. Figure 11 shows that the rate of gonorrhea increased among both cisgender females and cisgender males from 2012 to 2019, then decreased or remained steady from 2019 to 2021. However, it is unclear whether these are true decreases or due to changes in routine screening resulting from the COVID-19 pandemic.



Cases among transgender and nonbinary/genderqueer persons are presented in Figure 12, with a notable jump in cases among transgender male to female individuals from 2020 to 2021. Due to small numbers, data for transgender people is not presented prior to 2017; data for nonbinary/genderqueer people is also not available prior to 2020. Rates for transgender and nonbinary/genderqueer people are not presented due to small numbers and limited population data.

Figure 12. Gonorrhea Cases Among Transgender and Nonbinary/Genderqueer Persons, WA State, 2017-2021



* Due to small numbers, data for transgender people is not presented prior to 2017; data for nonbinary/genderqueer people is also not available prior to 2020.

Table H. Gonorrhea Cases by Gender, WA State, 2012-2021

Year of Diagnosis	Cisgender Male Cases	Cisgender Male Rate	Cisgender Female Cases	Cisgender Female Rate	Transgender Male to Female Cases	Transgender Female to Male Cases	Nonbinary/ Genderqueer Cases
2012	2042	60.1	1246	36.4	+	+	*
2013	2682	78.2	1717	49.7	+	+	*
2014	3660	105.3	2488	71.2	+	+	*
2015	4399	124.9	2796	79.0	+	+	*
2016	5212	145.4	2934	81.5	14	12	*
2017	6452	176.9	3528	96.3	34	18	*
2018	7272	196.2	3887	104.5	36	20	*
2019	7606	202.0	4206	111.3	33	32	*
2020	7086	185.4	4401	114.8	40	28	10
2021	6955	179.5	3973	102.1	76	36	44

+ Data has been suppressed to protect patient confidentiality due to small numbers.
*Data is not available prior to 2020.

GONORRHEA DISTRIBUTION BY AGE

Figure 13 presents gonorrhea rates by age category from 2012 to 2021. Case counts and rates by age category are additionally presented in Table I. Since 2015, the highest gonorrhea rates have been among people aged 25-to-34 years, followed by people aged 15-to-24 years and then people aged 35-to-44 years. Rates were lowest for people aged 65+ and were suppressed for this age group from 2012-2013 due to small numbers. Rates were also suppressed for 2012-2013 for people aged 0-to-14 years due to small numbers. Within each age category, rates varied by gender. In 2021, rates among people aged 25-to-34 years were highest among cisgender males, while rates among people aged 15-to-24 years were highest among cisgender females.

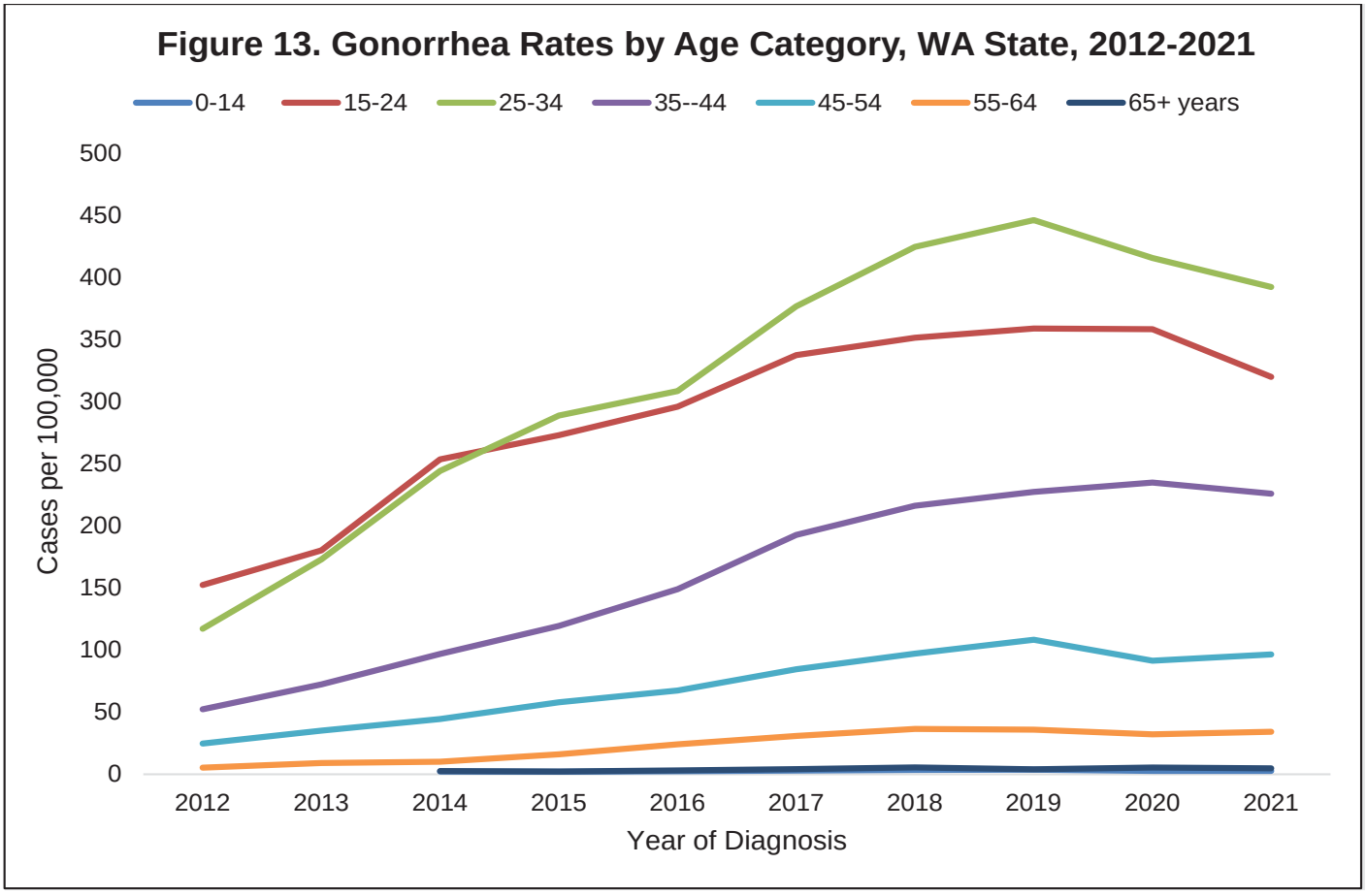


Table I. Gonorrhea Case Counts and Rates (per 100,000 people) by Age Category (in Years), WA State, 2012-2021

Year of Diagnosis	Ages 0-14 Cases	Ages 0-14 Rate	Ages 15-24 Cases	Ages 15-24 Rate	Ages 25-34 Cases	Ages 25-34 Rate	Ages 35-44 Cases	Ages 35-44 Rate	Ages 45-54 Cases	Ages 45-54 Rate	Ages 55-64 Cases	Ages 55-64 Rate	Ages 65+ Cases	Ages 65+ Rate
2012	+	+	1398	152.5	1109	117.2	474	52.4	239	24.8	47	5.3	+	+
2013	+	+	1658	180.4	1650	173.1	657	72.4	336	35.2	81	9.0	+	+
2014	29	2.2	2346	253.7	2362	244.4	881	96.9	423	44.5	92	10.1	26	2.6
2015	27	2.0	2539	273.2	2825	289.0	1092	119.5	551	58.0	149	16.0	23	2.2
2016	34	2.5	2781	296.2	3080	308.7	1374	149.1	642	67.5	228	24.1	33	3.1
2017	41	3.0	3191	337.7	3845	377.0	1812	192.8	802	84.6	296	30.8	47	4.2
2018	48	3.4	3337	351.7	4422	424.9	2082	216.3	913	97.2	354	36.5	65	5.5
2019	52	3.7	3436	359.1	4742	446.5	2244	227.5	1010	108.4	350	35.9	49	4.0
2020	38	2.7	3461	358.5	4485	415.9	2369	235.0	851	91.5	314	32.2	70	5.5
2021	38	2.7	3104	320.1	4301	392.6	2347	226.0	908	96.5	335	34.3	65	4.8

GONORRHEA DISTRIBUTION BY RACE AND ETHNICITY

Figure 14 presents gonorrhea rates by race and ethnicity for 2012 to 2021, and case counts and rates are written in Table J. Communities of color and those with a Hispanic or Latina/o/x ethnicity continued to experience disproportionate rates of gonorrhea, which is a product of systemic racism. Black (non-Hispanic) persons have had the highest gonorrhea rate by far each of these years in Washington, which is also seen at the national level. Additionally, rates each year among AI/AN (non-Hispanic), Multi-race (non-Hispanic), NHOPI (non-Hispanic), and Hispanic or Latina/o/x persons are all notably higher than White (non-Hispanic) and Asian (non-Hispanic) persons. Although the rates have varied by year, they have all increased when comparing 2012 to 2021. In 2021, Black (non-Hispanic) persons were 6.7 times more likely to report gonorrhea than White (non-Hispanic) persons. AI/AN (non-Hispanic), NHOPI (non-Hispanic), and Hispanic or Latina/o/x persons were 3.3, 3.2, and 1.7 times more likely to report gonorrhea than White (non-Hispanic) persons, respectively. For more information on racial/ethnic disparities caused by racism, see the special section "Effects of Racism Across STIs" on page 85.

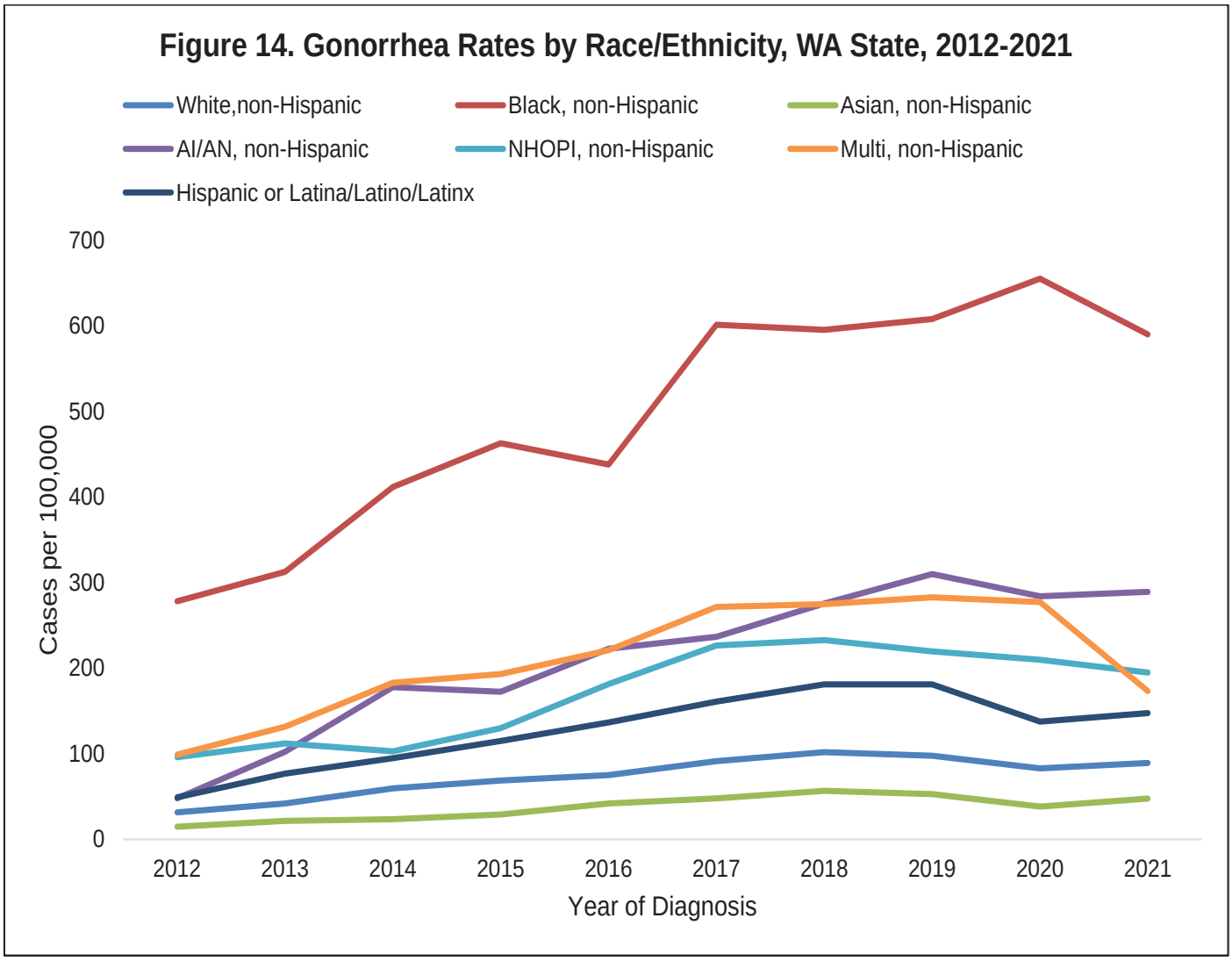


Figure 14. Gonorrhea Rates by Race/Ethnicity, WA State, 2012-2021

Table J. Gonorrhea Cases and Rates (per 100,000 people) by Race/Ethnicity, WA State, 2012-2021

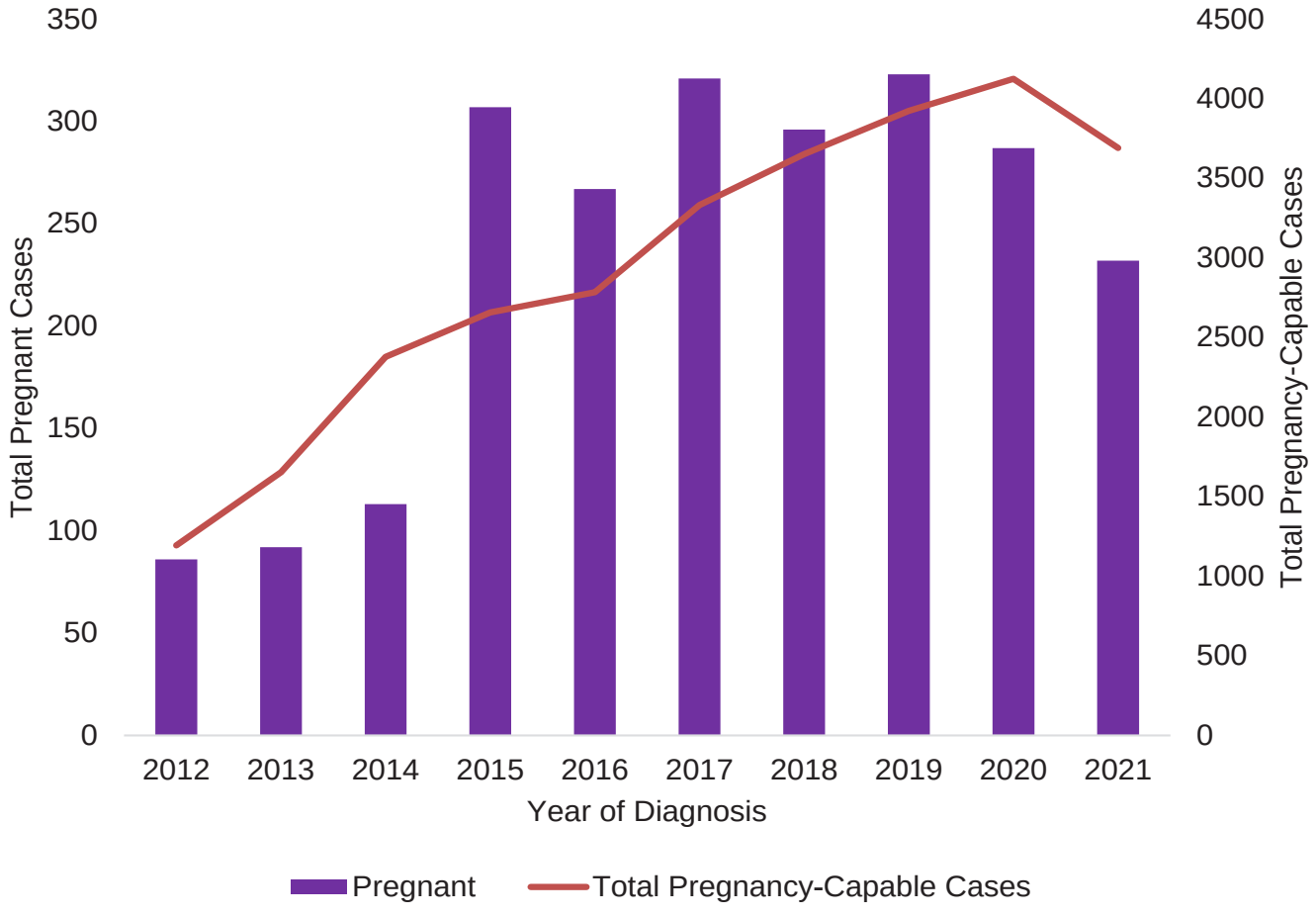
Race/Ethnicity Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
White, non-Hispanic Cases	1549	2066	2939	3410	3762	4615	5173	4985	4255	4410
White, non-Hispanic Rate	31.6	42.0	59.6	68.7	75.2	91.5	101.9	97.7	83.0	89.2
Black, non-Hispanic Cases	659	754	1019	1175	1149	1631	1673	1776	1980	1797
Black, non-Hispanic Rate	278.2	312.6	411.6	463.0	438.0	601.3	595.3	608.0	655.1	589.9
Asian, non-Hispanic Cases	73	109	124	159	241	290	364	360	275	357
Asian, non-Hispanic Rate	14.8	21.6	23.6	29.0	42.0	47.9	56.7	52.8	38.3	47.7
AI/AN, non-Hispanic Cases	43	92	161	157	204	219	257	292	270	266
AI/AN, non-Hispanic Rate	47.9	102.3	177.8	172.6	222.6	236.6	275.5	310.0	284.1	289.2
NHOPI, non-Hispanic Cases	39	47	45	59	86	112	120	118	117	126
NHOPI, non-Hispanic Rate	96.0	112.1	102.8	130.0	181.5	226.5	232.8	219.6	209.8	194.9
Multi, non-Hispanic Cases	256	353	509	555	656	835	875	927	935	882
Multi, non-Hispanic Rate	99.0	131.6	183.0	193.2	221.0	271.5	274.8	282.8	277.4	173.2
Hispanic or Latina/o/x Cases	391	631	803	1006	1240	1509	1749	1802	1407	1629
Hispanic or Latina/o/x Rate	49.1	76.9	94.8	114.9	136.6	160.9	181.0	181.1	137.6	147.5
Unknown Race/Ethnicity Cases	280	356	559	685	834	823	1010	1623	2349	1631

GONORRHEA AMONG PREGNANT AND PREGNANCY-CAPABLE PEOPLE

In line with trends for gonorrhea cases overall, gonorrhea cases among pregnancy-capable and pregnant people have increased from 2012 to 2021, shown in Figure 15. Pregnancy-capable is defined as a person with a vagina aged 15-to-44 years old. Cases among pregnancy-capable people more than tripled between 2012 to 2020 before decreasing into 2021 as total gonorrhea cases also decreased. Although the number of cases among pregnancy-capable people has changed over time, each year they have steadily represented around 1/3rd of gonorrhea cases. In 2021, over 33% of reported gonorrhea cases were among pregnancy-capable people.

The number of cases among pregnant people has varied between 2015 to 2021 but was still significantly higher in 2021 than in 2012. It is especially important that pregnant people diagnosed with gonorrhea are treated, as untreated gonorrhea can lead to serious health complications for one's baby.

Figure 15. Gonorrhea Cases Among Pregnancy-Capable People and Pregnant Persons, WA State, 2012-2021



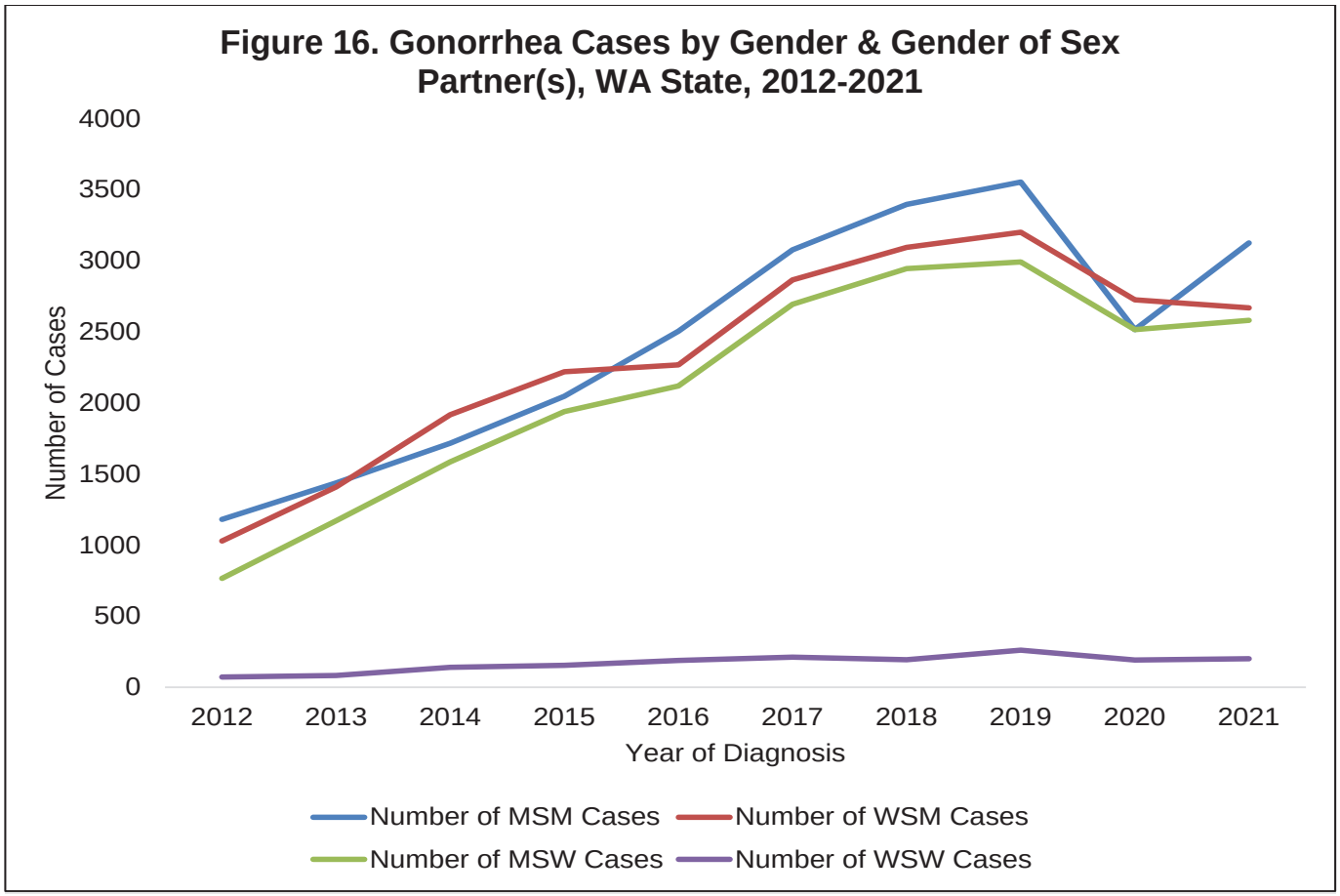
GONORRHEA BY RISK INDICATORS

Examining gonorrhea by different risk indicators provides further insight into populations that may be more vulnerable to infection.

Gender and gender of sex partner(s)

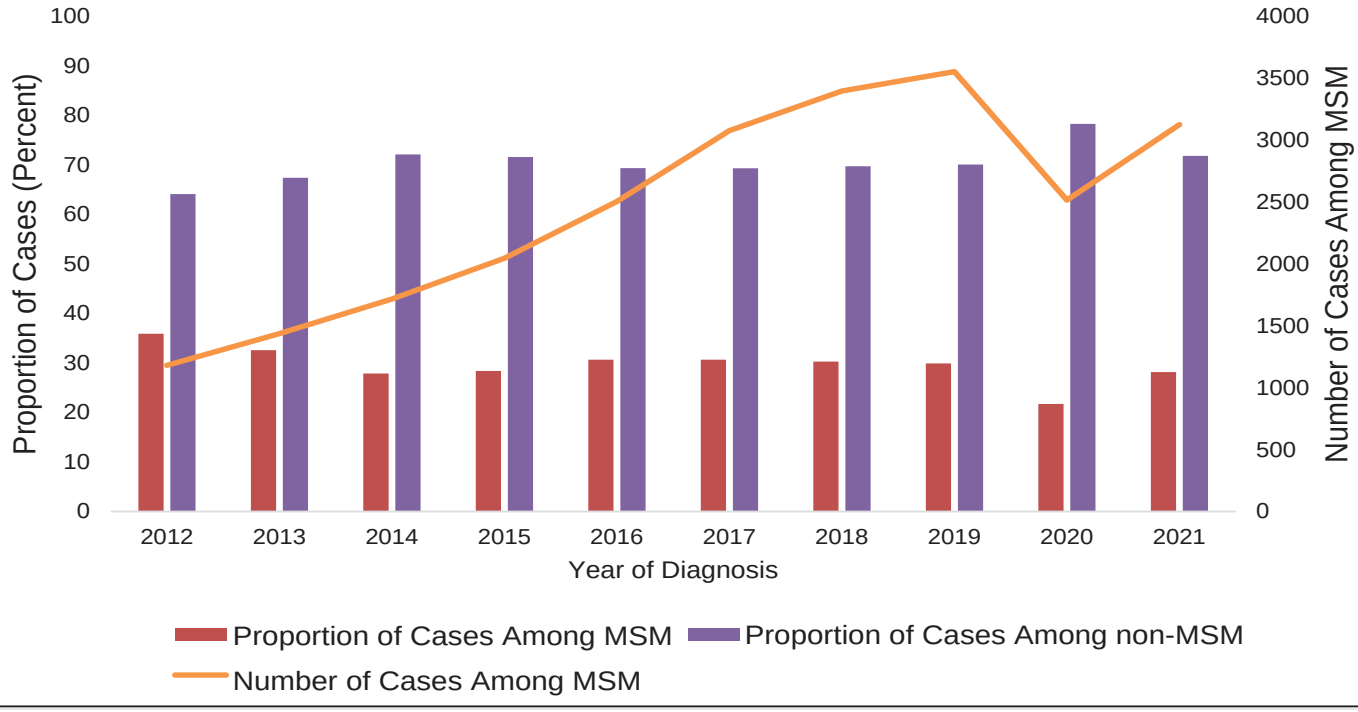
First, an individual's self-reported gender and gender of their sex partner(s) can play a role in their likelihood of being infected with gonorrhea. Four categories are presented here: men who have sex with men (MSM); men who have sex with women (MSW); women who have sex with men (WSM); and women who have sex with women (WSW). This does not encompass all possible categories. Notably, transgender and nonbinary/genderqueer individuals are not reported separately, due to small numbers. An individual may be included in multiple categories if they identify with more than one.

Figure 16 presents the number of gonorrhea cases by categories of gender/gender of sex partner(s) from 2012 through 2021. In each of these categories, there has been a rise in cases from 2012 to 2021. All of them declined from 2019 to 2020, potentially from fewer STI case interviews during the COVID-19 pandemic, which are important for reporting partners who can then be screened and treated as necessary. When comparing to estimated population levels, MSM had disproportionately high levels of gonorrhea; cases within the other categories shown were closer in line with expected proportions given the statewide population distribution. For aggregate 2012 to 2021 data, MSM had the highest percent of cases (29%), followed by WSM (28%), MSW (25%), and WSW (2%). Regardless of one's gender and the gender of their sex partner(s), anyone who is sexually active is still at risk for gonorrhea and is recommended to take appropriate preventive and screening measures.



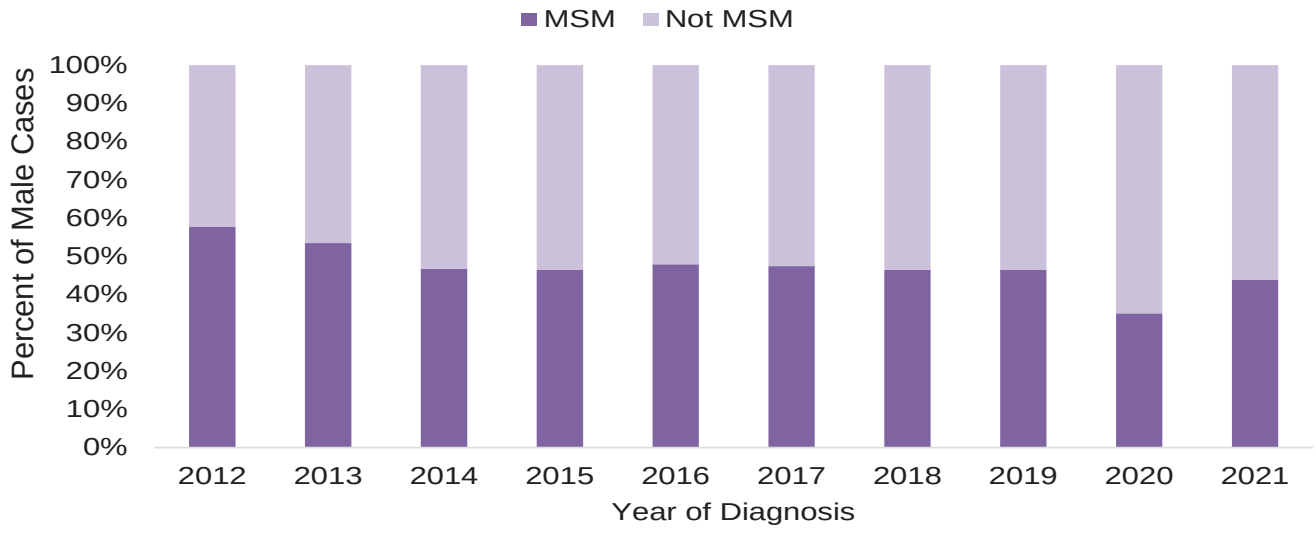
Focusing specifically on MSM, Figure 17 displays trends in gonorrhea cases among MSM versus non-MSM from 2012 to 2021, which has varied over this time period. Between 2012 to 2021, MSM have composed anywhere from 22% of total gonorrhea cases (in 2020) to 36% of cases (in 2012), despite only making up around 4% of Washington's population. Although the proportion of gonorrhea cases among MSM versus non-MSM has varied each year, the number of cases among MSM has still grown and nearly tripled from 2012 to 2021 as gonorrhea cases have increased overall.

Figure 17. Gonorrhea Cases Among MSM versus non-MSM, WA State, 2012-2021



When looking at gonorrhea cases solely among male-identifying people in Figure 18, it is again evident that MSM cases have been disproportionately higher than non-MSM. Although the percent of MSM was not as high in 2021 as in 2012, MSM still represented over 40% of male gonorrhea cases in 2021.

Figure 18. MSM Among Male Gonorrhea Cases, WA State, 2012-2021



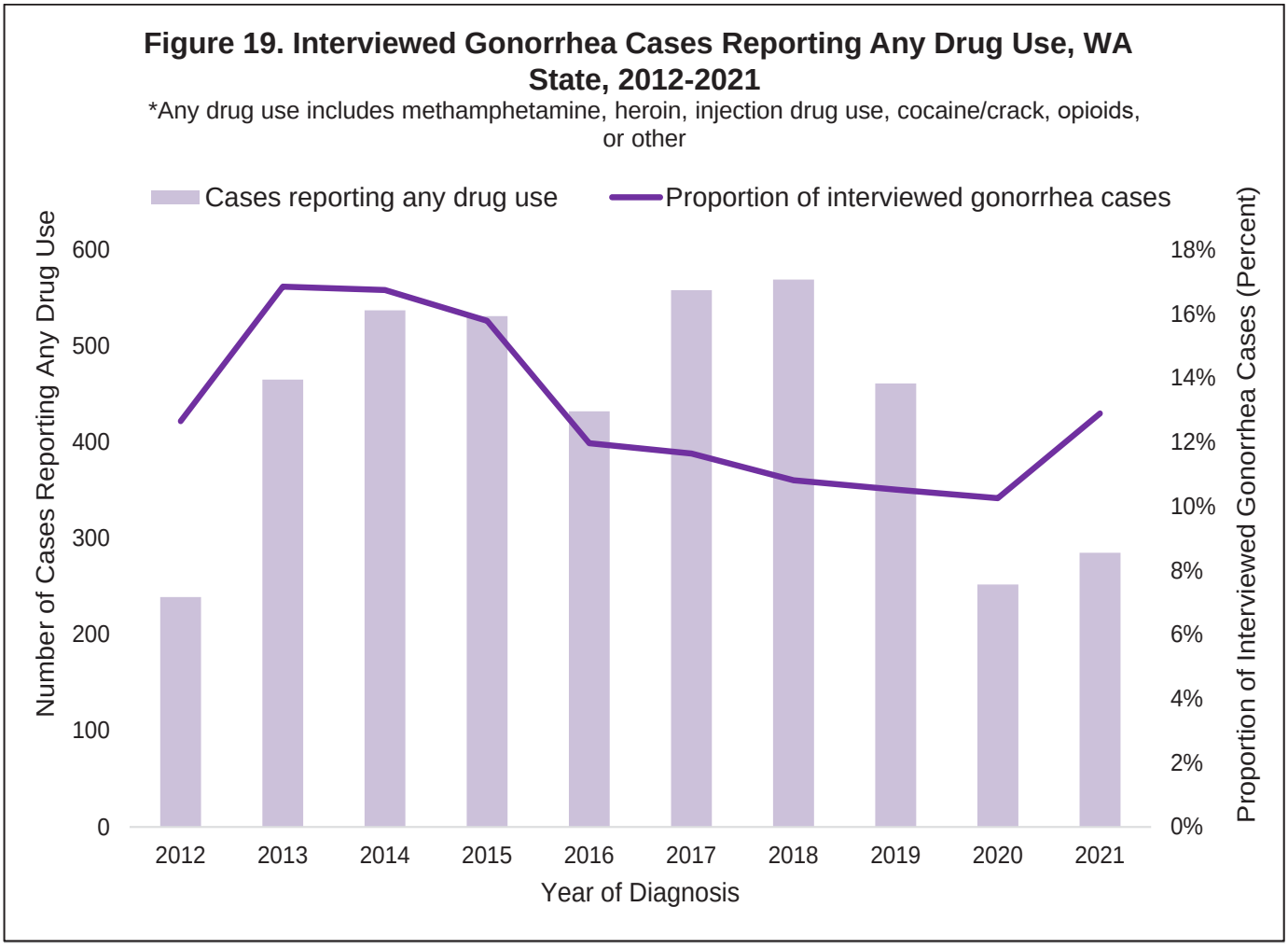
Use of drugs

Use of drugs is another factor that may place individuals at higher vulnerability for gonorrhea infection.

Figure 19 presents the number and proportion of interviewed gonorrhea cases reporting any drug use. Any drug use includes methamphetamine, heroin, injection drug use, cocaine/crack, opioids, or other drugs. Injection drug use refers to a method of consumption and not necessarily a type of drug, although it is often associated with heroin, opioids, or methamphetamine. This reporting is limited to interviewed cases because this information is only collected during interview. The percent of interviewed gonorrhea cases reporting any drug use peaked in 2013 at over 17% and has mainly declined in the years since. In 2021, 13% of interviewed gonorrhea cases reported any drug use. This may be under-reported, since patients might be hesitant to disclose drug use for a variety of reasons.

Figure 19. Interviewed Gonorrhea Cases Reporting Any Drug Use, WA State, 2012-2021

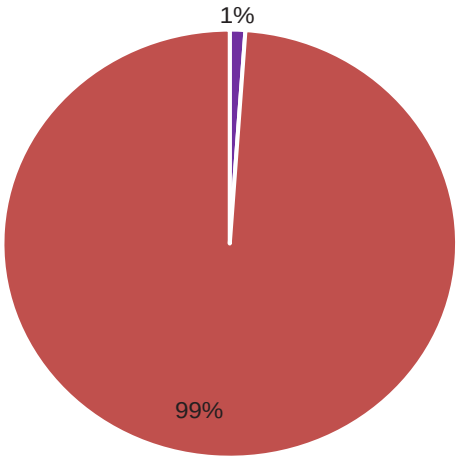
*Any drug use includes methamphetamine, heroin, injection drug use, cocaine/crack, opioids, or other



Experiencing homelessness

Another indicator that someone may be more vulnerable to gonorrhea is whether they are experiencing homelessness. People experiencing homelessness are disproportionately impacted by STIs and face additional challenges with accessing care. From 2020 to 2021, 1% of gonorrhea cases were among people who reported experiencing homelessness in the three months prior to their diagnosis (Figure 20). Of the people that reported experiencing homelessness, most are in urban areas. Data prior to 2020 is not available since this was added to reporting in 2020.

Figure 20. Gonorrhea Cases Reporting Experiencing Homelessness in WA, 2020-2021



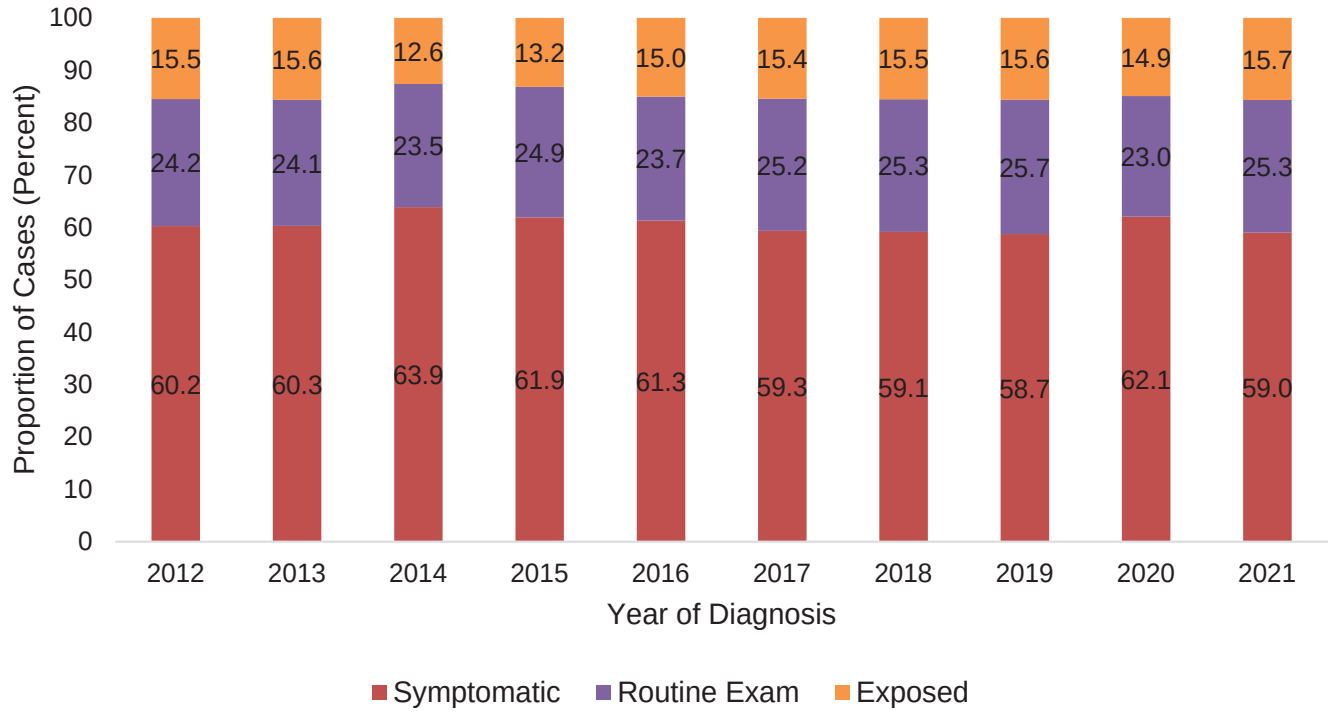
GONORRHEA: DIAGNOSIS AND ACCESSING OF CARE

Trends in gonorrhea diagnosis and patient access to care can give helpful context into why patients are seeking care and the barriers they may face in this process.

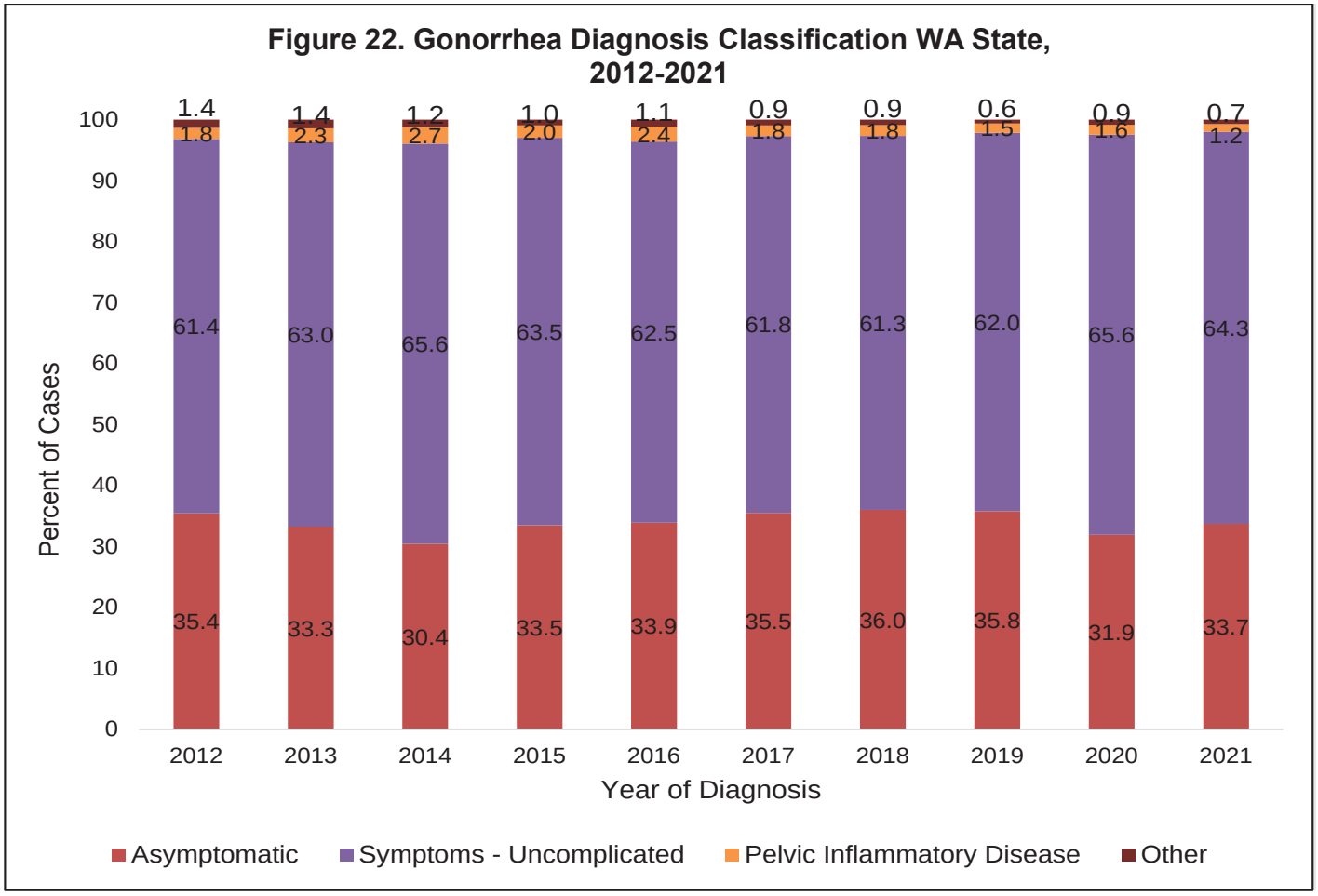
Most people diagnosed with gonorrhea reported being symptomatic as their reason for the provider visit in which they were screened for gonorrhea. This has remained consistent from 2012 to 2021 when including all cases that had a reported reason for visit, viewed in Figure 21. The second most common reason for a provider visit was a routine exam, at which typically about 1 in 4 gonorrhea cases were diagnosed each year. This highlights the importance of routinely screening for gonorrhea if you are sexually active, even if you do not have symptoms. Finally, each year around 1 in 8 cases were screened and diagnosed because of a known exposure.

Figure 21. Reported Reason for Provider Visit At Gonorrhea Diagnosis, WA State, 2012-2021

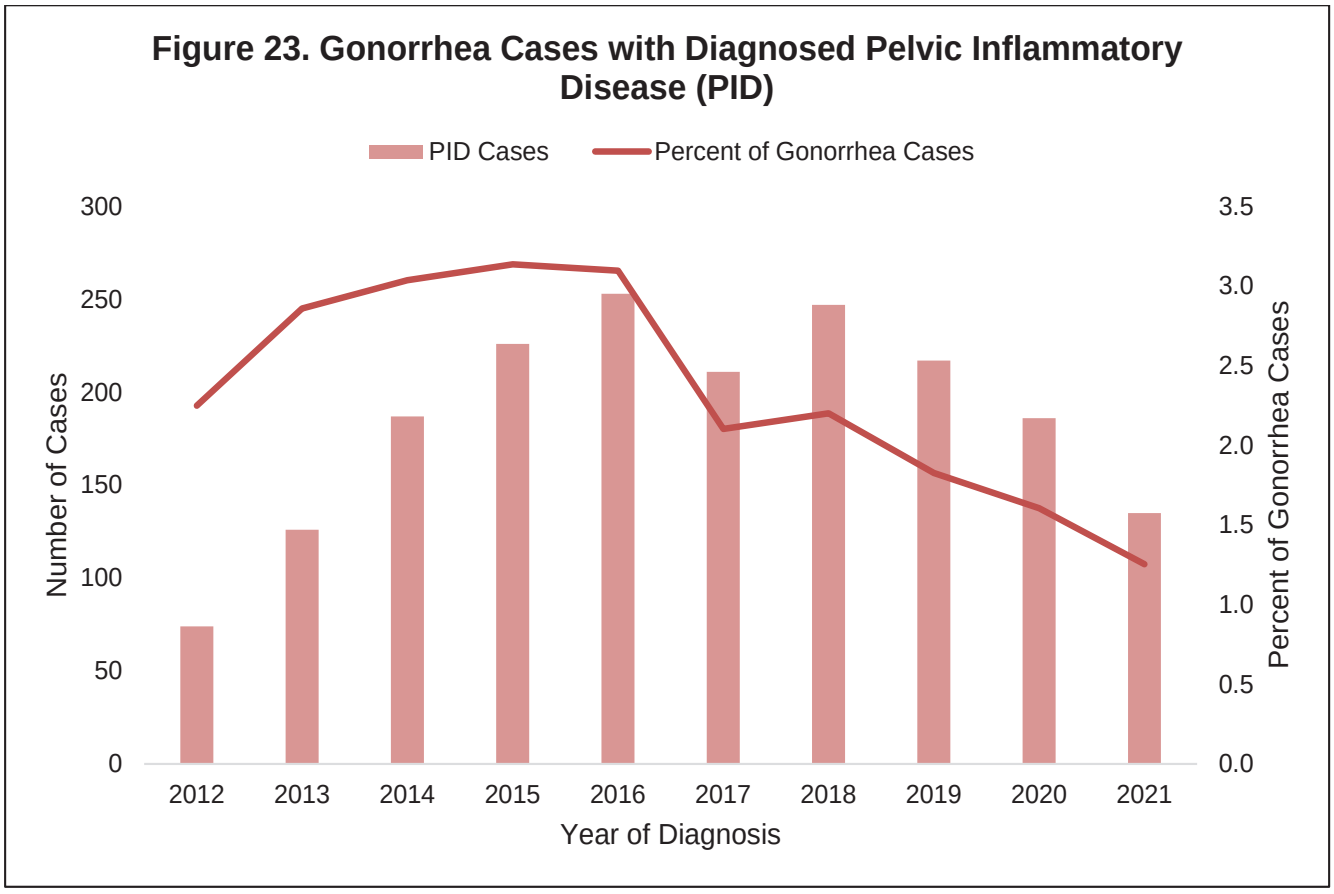
*Cases without a reported reason have been excluded



The majority of gonorrhea cases from 2012 to 2021 were classified as having uncomplicated symptoms (Figure 22). An average of 1 in 3 cases were diagnosed as being asymptomatic, again supporting the importance of gonorrhea screenings when one is sexually active even if they do not notice symptoms. Between 2 to 3.9% of cases each year were diagnosed with pelvic inflammatory disease or another complication, such as disseminated gonococcal infection.

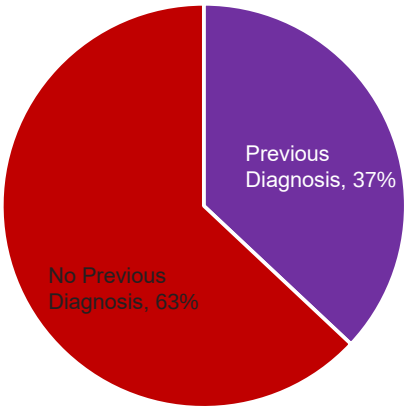


Examining Pelvic Inflammatory Disease (PID) specifically, there has been a decrease in PID cases among people diagnosed with gonorrhea between 2018 to 2021 after cases had generally risen between 2012 to 2016 (Figure 23). In 2021, 1% of gonorrhea cases were diagnosed with PID. One can reduce their risk of developing PID by receiving routine gonorrhea screenings so an infection can be caught in the early stages before complications develop. More information about PID can be found on the CDC website: STD Facts - Pelvic Inflammatory Disease (cdc.gov).



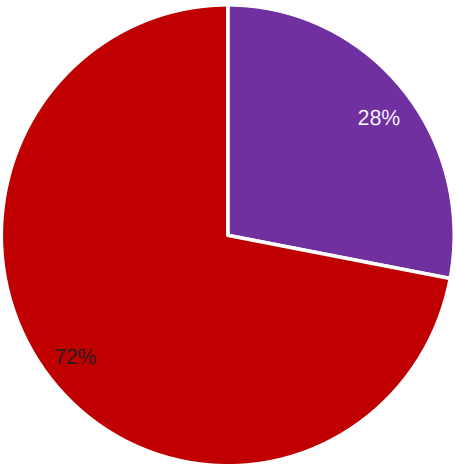
People who have been previously diagnosed with an STI are more vulnerable to another infection. Figure 24 shows that among all patients diagnosed with gonorrhea in Washington from 2012 to 2021, more than 1 in 3 had previously been diagnosed with an STI of chlamydia, gonorrhea, and/or syphilis. Even if a patient has had an STI before, it is important that they continue to screen if they are at risk for infection again.

Figure 24. Gonorrhea Cases with a Previous STI Diagnosis, WA State, 2012-2021



Individuals diagnosed with gonorrhea should also be screened for chlamydia and syphilis, as having one STI may increase the likelihood for multiple infections. Between 2012-2021, 28% of gonorrhea infections were also co-infected with chlamydia and/or syphilis at the time of their gonorrhea diagnosis (Figure 25).

Figure 25. Gonorrhea Cases Co-infected with Another STI at Time of Diagnosis, WA State, 2012-2021



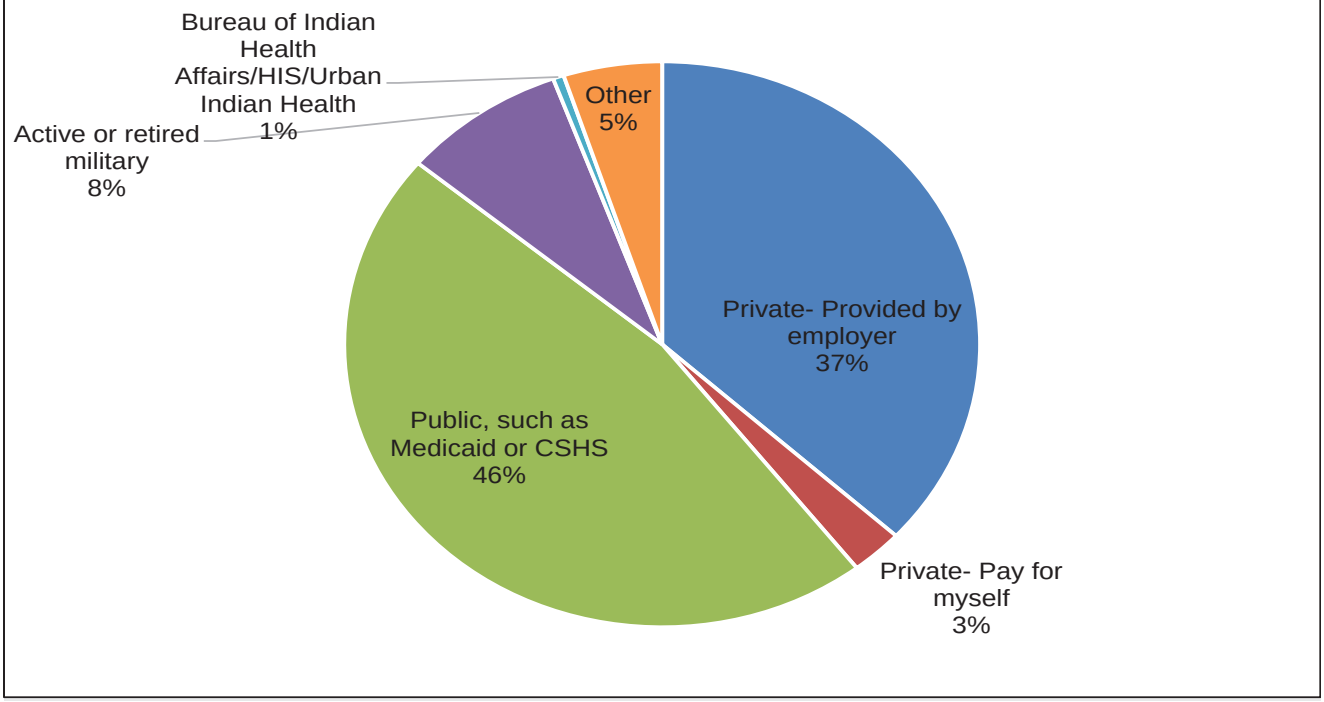
Gonorrhea screenings can be conducted in a wide variety of healthcare facilities. Table K shows which healthcare facility types were utilized the most for gonorrhea screenings and diagnosis from 2017 to 2021. In Washington, people diagnosed with gonorrheal infection have most commonly been screened at a hospital emergency room/urgent care facility, closely followed by a private physician's office/HMO (health maintenance organization). The finding that hospital ERs/urgent care facilities were the number one setting for patients to be screened and diagnosed with gonorrhea speaks to barriers that patients may face in accessing routine screenings in a non-urgent setting. Furthermore, patients seeking care in hospital ERs/urgent care facilities reported a much higher rate of experiencing symptoms (77%) than all other facility types.

Table K. Top Healthcare Facility Types for Gonorrhea Diagnosis, WA State, Aggregate 2017-2021	Percent of GC Cases Diagnosed at Facility Type
Hospital ER/Urgent Care Facility	24.0%
Private Physician/HMO	23.8%
Family Planning	10.8%
Community Health Center/FQHC	9.7%
Hospital - other than ER	7.7%
STD Clinic	6.6%

Among people diagnosed with gonorrhea who report their type of insurance, the largest proportion have been enrolled in a public insurance program (Figure 26), followed by a private insurance provided by the employer. Many insurance programs will cover routine chlamydia and/or gonorrhea screening, depending upon an individual's risk factors.

Figure 26. Reported Insurance Type Among Gonorrhea Cases, WA State, Aggregate 2017-2021

*Cases without a documented insurance type have been removed

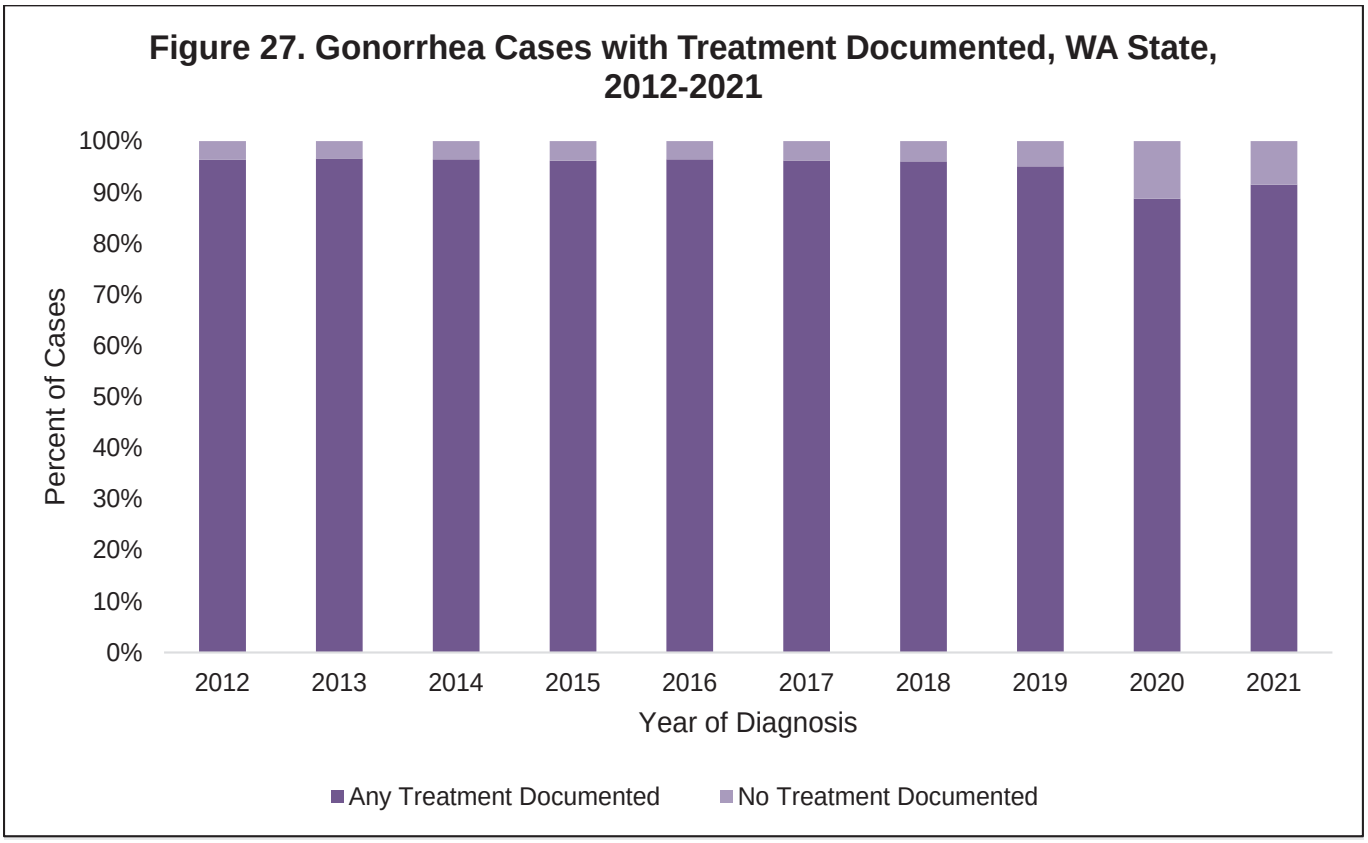


GONORRHEA: CASE TREATMENT, INTERVENTION, AND FOLLOW-UP

Trends in gonorrhea case treatment, intervention, and follow-up can highlight areas of success as well as those in need of improvement.

Treatment

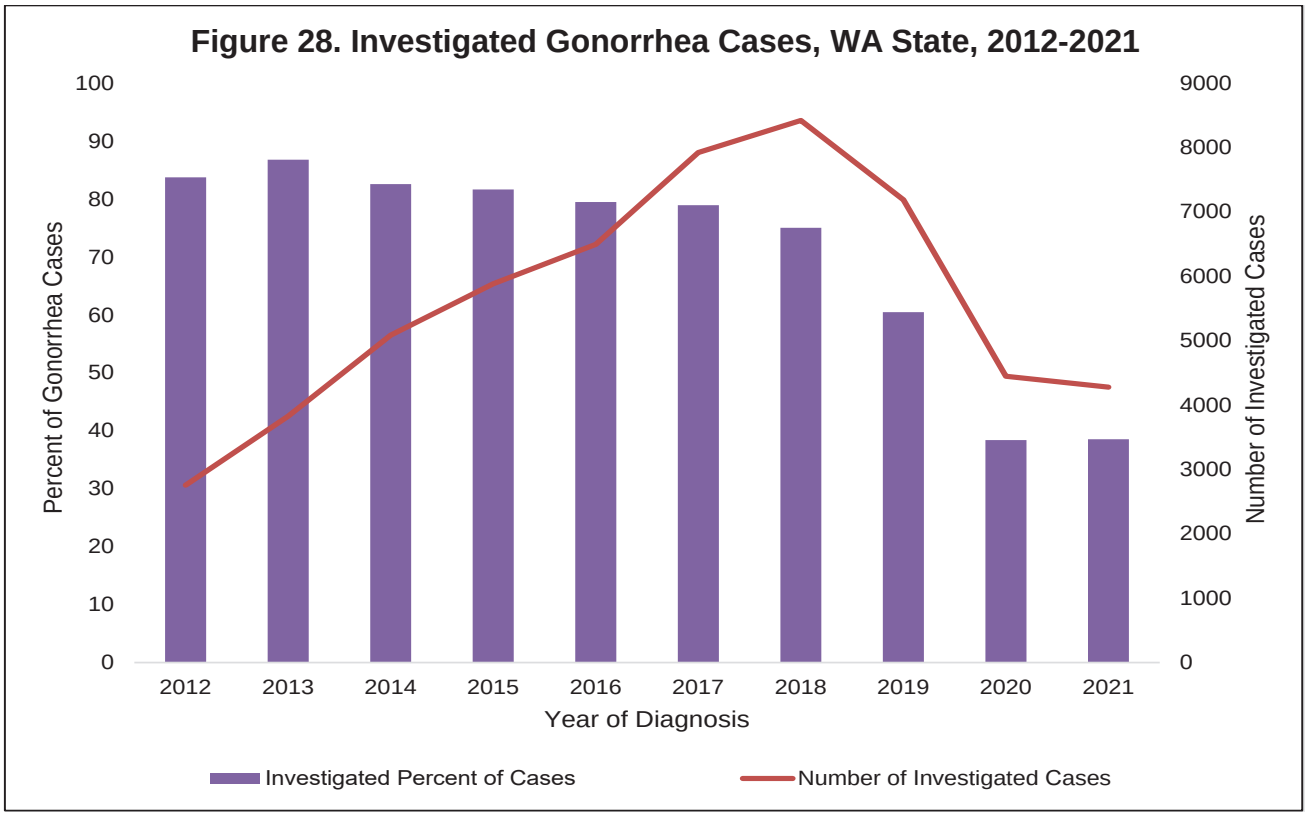
Proper treatment can cure gonorrhea infection, and it prevents an individual from transmitting it to another partner. Figure 27 shows the percent of Washington's gonorrhea cases that had treatment documented between 2012 to 2021. Treatment for gonorrhea cases tends to be high, and more than 90% of cases received treatment each year. Treatment was lowest in 2020 and only slightly improved to 91% in 2021, which is likely a result of disruptions to care due to the COVID-19 pandemic.



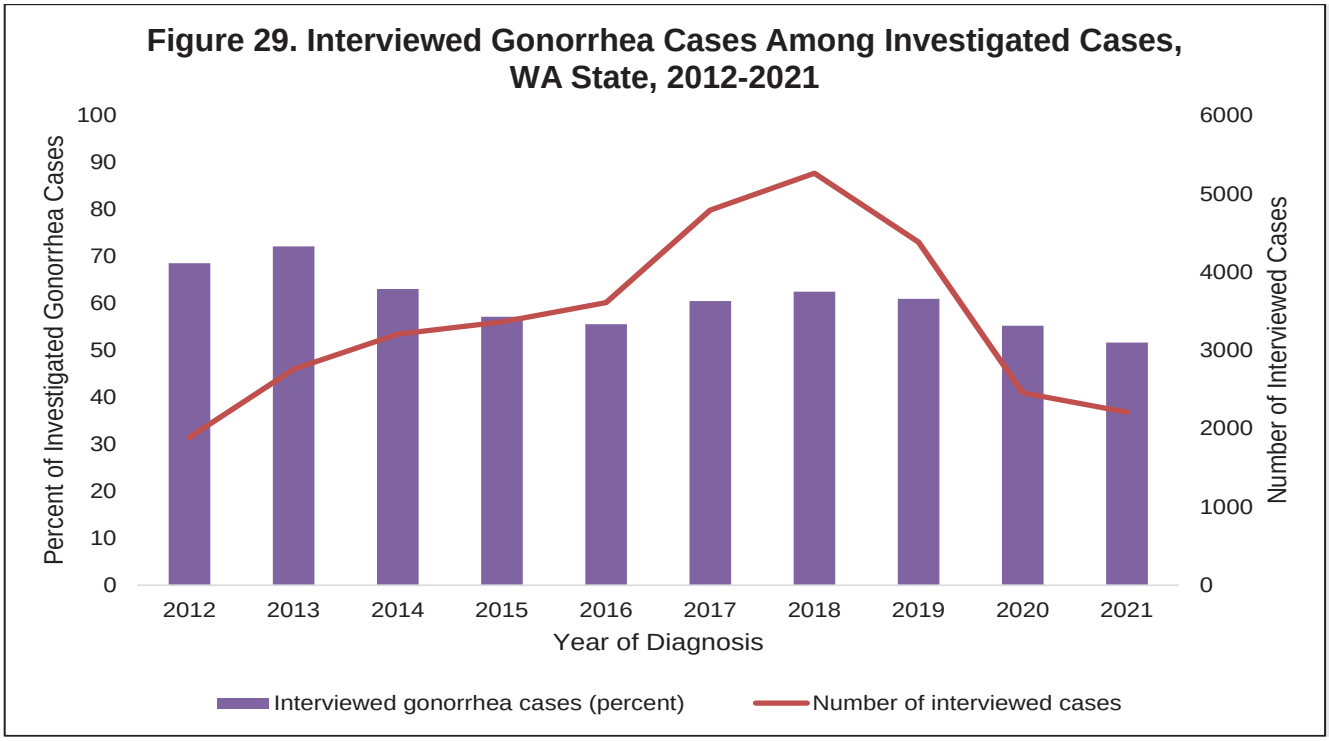
Intervention and Follow-up

After a patient is diagnosed with gonorrhea or another notifiable STI, DIS from DOH and LHJs connect with them for follow-up, which is valuable for the health of the patient and the community.

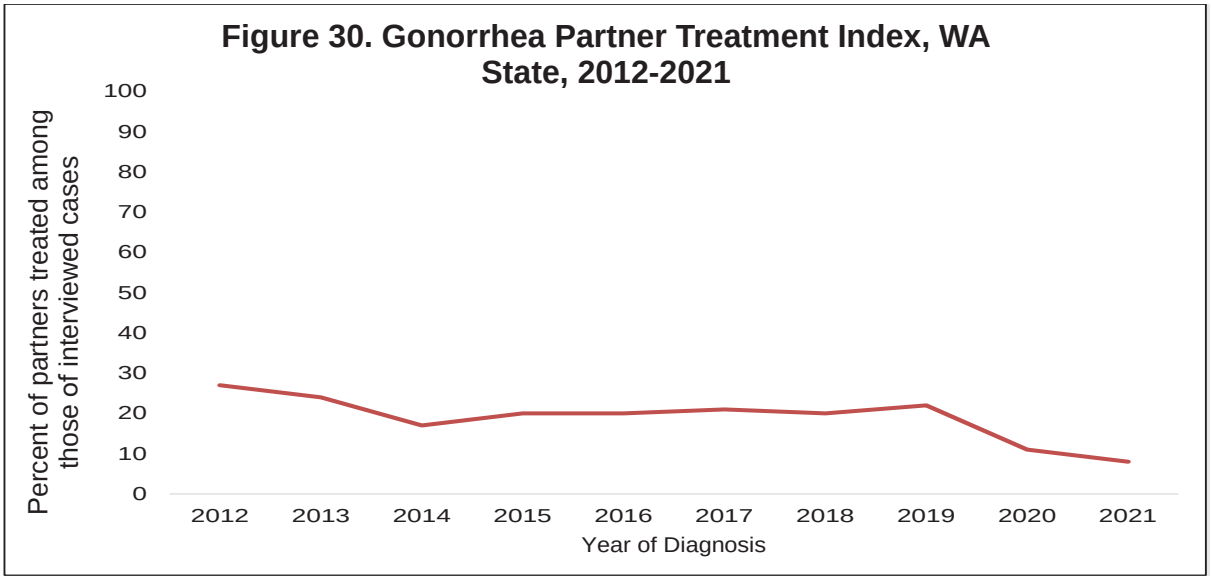
DIS will first investigate a case through contacting the original patient. Figure 28 shows the proportion of gonorrhea cases investigated from 2012 through 2021 in Washington and the total number of investigated gonorrhea cases. Here, investigated means there were one to three contact attempts after the patient's diagnosis and/or a complete or partial patient interview on record. The proportion of investigated gonorrhea cases has decreased from over 80% in 2012 to less than 40% in 2021. The number of investigated gonorrhea cases increased from 2,755 in 2012 to 8,420 in 2018, then decreased to 4,278 in 2021. The decreases in number and proportion of investigated cases is partly due to the large increase in the total number of gonorrhea cases and other STIs that need follow-up during this time frame. As the numbers of cases have risen, staff have prioritized cases among more vulnerable populations for investigation.



Once a patient has been contacted, DIS aim to interview the patient. These interviews help to gain a better understanding of the populations impacted by STIs in Washington and to ensure patients and their identified partners receive appropriate care. All patient information is kept strictly confidential and used for the purpose of assisting them and their sexual partners. Figure 29 shows the percent of gonorrhea cases interviewed among investigated cases from 2012 to 2021. The rate of interviews has varied from a high of 72% in 2013 to a low of 52% in 2021. Although the percent of cases interviewed reached a low in 2021, the number of interviewed cases in 2021 (2,210) was still higher than in 2012 (1,889).



Through interviewing original patients, DIS can identify partners and connect them with screening and/or treatment. Figure 30 shows the percent of partners treated among those of the interviewed original patients. This decreased from 2012 to 2014, was steady or rising until 2019 and then fell through 2021. Although it is understandable that patients may have hesitations in naming their sexual partners, this is very important for the health of their partners and the public. By continuing to treat people with gonorrhea or any STI, we curb the spread of infection and reduce the risk and associated complications of infection for everyone.



Section 3. Syphilis

CLINICAL BACKGROUND OF SYPHILIS

Syphilis is an infection caused by the bacterium *Treponema Pallidum*. It typically progresses in stages and can lead to serious health consequences if left untreated or passed down to a person's baby. Cases of syphilis have been rising in the United States and Washington since the early 2000s.

Stages and Symptoms:

Each of the stages of syphilis are described in detail below. In March of 2020, Washington's surveillance system was updated to reflect the Council of State and Territorial Epidemiologist's (CSTE) 2018 syphilis case definition and stages. Cases previously classified as Late Latent are now included within the Unknown Duration or Late Syphilis stage.

Primary Infection: The primary stage of syphilis infection is usually marked by the appearance of a single sore (chancre), but there may be multiple sores. The time between infection and the onset of symptoms can range from 10 to 90 days (average 21 days). The chancre is usually firm, round, small, and painless. It appears at the spot where syphilis entered the body, generally the genitalia or anus. A primary lesion may also appear in or around the mouth, or, rarely, in other extragenital places depending on exposure. Lymphadenopathy (swollen lymph nodes) often develops in proximity to the primary lesion. The chancre lasts 1 to 5 weeks (average 3 weeks), and it heals without treatment. However, if appropriate treatment is not administered, the infection progresses to the secondary stage. A person is highly infectious during this stage.

Secondary Infection: Skin rash and mucous membrane lesions characterize the secondary stage. This stage typically starts with the development of a rash on one or more areas of the body. The rash usually does not cause itching. Rashes associated with secondary syphilis can appear as the chancre is healing or several weeks after the chancre has healed. The characteristic rash of secondary syphilis may appear as rough, red, or reddish-brown spots both on the palms of the hands and the bottoms of the feet. However, rashes with a different appearance may occur on other parts of the body, sometimes resembling rashes caused by other diseases. Sometimes rashes associated with secondary syphilis are so faint that they are not noticed. In addition to rashes, symptoms of secondary syphilis may include fever, swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue. Mucous patches on mucous membranes, such as in the mouth or vagina, may also appear, as may wart-like lesions called condyloma lata. The signs and symptoms of secondary syphilis will resolve with or without treatment, but without treatment, the infection will progress to the latent and late stages of disease.

Latent Stage: Syphilis infection is referred to as latent when symptoms are not present. This may occur between primary and secondary phases of the disease, or after secondary symptoms have disappeared. Without treatment, the infected person will continue to have syphilis even though there are no signs or symptoms; infection remains in the body. Latent syphilis is divided into two stages: early non-primary non-secondary and unknown duration or late.

a. Early Non-Primary Non-Secondary (formerly "Early Latent"): This stage applies when an individual is asymptomatic and the earliest date of infection or exposure can be determined to have occurred within a year of diagnosis. In some instances, earliest date of infection can be inferred from a documented negative serologic test result before the current diagnosis, or from onset of documented signs of primary or secondary syphilis.
b. Unknown Duration or Late: This stage applies when an individual is asymptomatic and either the time of infection cannot be determined with certainty or the infection occurred more than 12 months prior to diagnosis. If the case remains untreated, late syphilis can persist for the remainder of the person's life.

Congenital Syphilis:

If a pregnant person has syphilis, it may spread to their unborn baby in a case of congenital syphilis. Untreated syphilis puts one at high risk of a still birth. If a baby is born alive and with syphilis, they could experience serious health complications within a few weeks after birth. If they are not treated, they are susceptible to developmental delays, seizures, and death as a newborn. If a baby is born to someone who tested positive for syphilis during their pregnancy, the baby should receive a thorough exam and congenital syphilis screening.

All pregnant people should be screened for syphilis at their first prenatal visit. If one is at risk for getting syphilis during their pregnancy, they should also be screened again during the third trimester and at delivery. Risk factors for syphilis infection include but are not limited to: sex with multiple partners, sex in conjunction with drug use or transactional sex, use of methamphetamine or heroine, and unstable housing. Although any person may have these risk factors, it is especially important that a pregnant person with these risk factors is re-screened for syphilis at the third trimester.

If a pregnant person tests positive for syphilis, penicillin therapy is extremely effective in treating the infection and preventing transmission to the baby.

Complications:

In any stage of infection, syphilis can enter the nervous system, visual system, and auditory or vestibular system. Signs and symptoms of neurologic manifestations may include: severe headache; muscle weakness; paralysis or trouble with movements; numbness; changes in mental status, such as confusion or issues focusing; or memory issues. Ocular manifestations may cause eye pain or redness; light sensitivity; changes in vision, such as blurry vision; or floating spots in one's vision, known as "floaters". Otic manifestations may lead to hearing loss; ringing in the ears ("tinnitus"); balance difficulties; or dizziness or vertigo.

Late clinical manifestations typically only occur after many years of infection. These manifestations may include inflammatory lesions of the cardiovascular system, skin, bone, or other tissue. In rare cases, other internal structures may be involved. Neurological effects such as general paresis and tabes dorsalis are also late clinical manifestations. People with primary and secondary syphilis are also at higher risk of acquiring other STIs or HIV, as syphilis sores allow for easier transmission.

Who should be screened:

Any person who is sexually active and has symptoms suggestive of syphilis should be tested. One should also be tested if they have an oral, anal, or vaginal sex partner who has recently been diagnosed with syphilis. Since risk factors vary by individuals, individuals should discuss their risk factors with a health care provider. The CDC recommends routinely screening people who are at higher risk, including sexually active men who have sex with men, sexually active people who are living with HIV, and sexually active people who are taking PrEP for HIV prevention. All pregnant people should also be screened to prevent transmitting syphilis to their baby.

Prevention and Transmission:

Syphilis spreads through direct contact with a chancre, which may be located on or near the vagina, anus, rectum, mouth, or lips. Syphilis is transmissible whenever a lesion is present, regardless of stage of infection. This transmission can occur during vaginal, anal, or oral sex.

Where feasible for a person, abstinence from sex (not having oral, anal, or vaginal sex) is an effective way to avoid syphilis or other STIs. However, abstinence from sex is not feasible or appropriate for

all people. A person can also effectively avoid STIs through being sexually active only with a partner who is only having sex with them – mutual monogamy – when both partners have either tested negative for STIs or been treated for STIs and then waited the appropriate period after treatment before engaging in sex. Using condoms properly every time during penetrative sex is also a highly effective method of prevention. If one has multiple sexual partners, it is important to speak with each of them about their past behavior (sex and drug use), whether they have been recently screened or treated for STIs, and to encourage them to be tested if they have not. It is recommended that all sexually active people test regularly for STIs, including HIV, in consultation with their partner(s) and healthcare provider.

Diagnosis:

Syphilis can be diagnosed through laboratory testing. Treponemal tests detect the antibodies specific to syphilis, which often remain detectable even after treatment. There are a variety of treponemal tests, ranging from TPPA, rapid treponemal assays, chemiluminescence immunoassays, immunoblots, and EIAs (enzyme immunoassays) that can be used as screening tests. A positive treponema result is followed by a nontreponemal test with titer to confirm a diagnosis and advise patient treatment.

Babies born to someone with a syphilis infection should receive a nontreponemal test. If that is reactive, there are a variety of evaluations that can be done to examine the newborn for evidence of congenital syphilis.

Treatment:

Treatment guidelines for syphilis depend upon the stage of infection. The CDC recommends adolescents or adults with primary, secondary, or early non-primary non-secondary syphilis receive one dose of benzathine penicillin intramuscularly. This is increased to three doses at weekly intervals if infection is in the unknown duration or late stage. If infection has progressed to neurosyphilis, ocular syphilis, or otosyphilis, then it is recommended one receives aqueous crystalline penicillin intravenously every four hours or continuously for 10-14 days. For people allergic to penicillin, there are alternatives, and it is important to receive clinical and laboratory follow-up to ensure the infection responds appropriately to treatment.

These medications can treat a syphilis infection, yet they may not heal damage already caused by syphilis. To avoid further spreading the infection, people who are being treated for syphilis should not have sex until their sores are completely healed. They should also notify their sex partners, so they may also receive testing and treatment if needed.

People who have received treatment for syphilis may also experience reinfection or treatment failure. In this situation, they likely will have persistent or recurring signs or symptoms along with a continuous fourfold increase in their nontreponemal test titer.

For Further Information: A detailed fact sheet can be found through the CDC: **STD Facts - Syphilis (Detailed) (cdc.gov)**

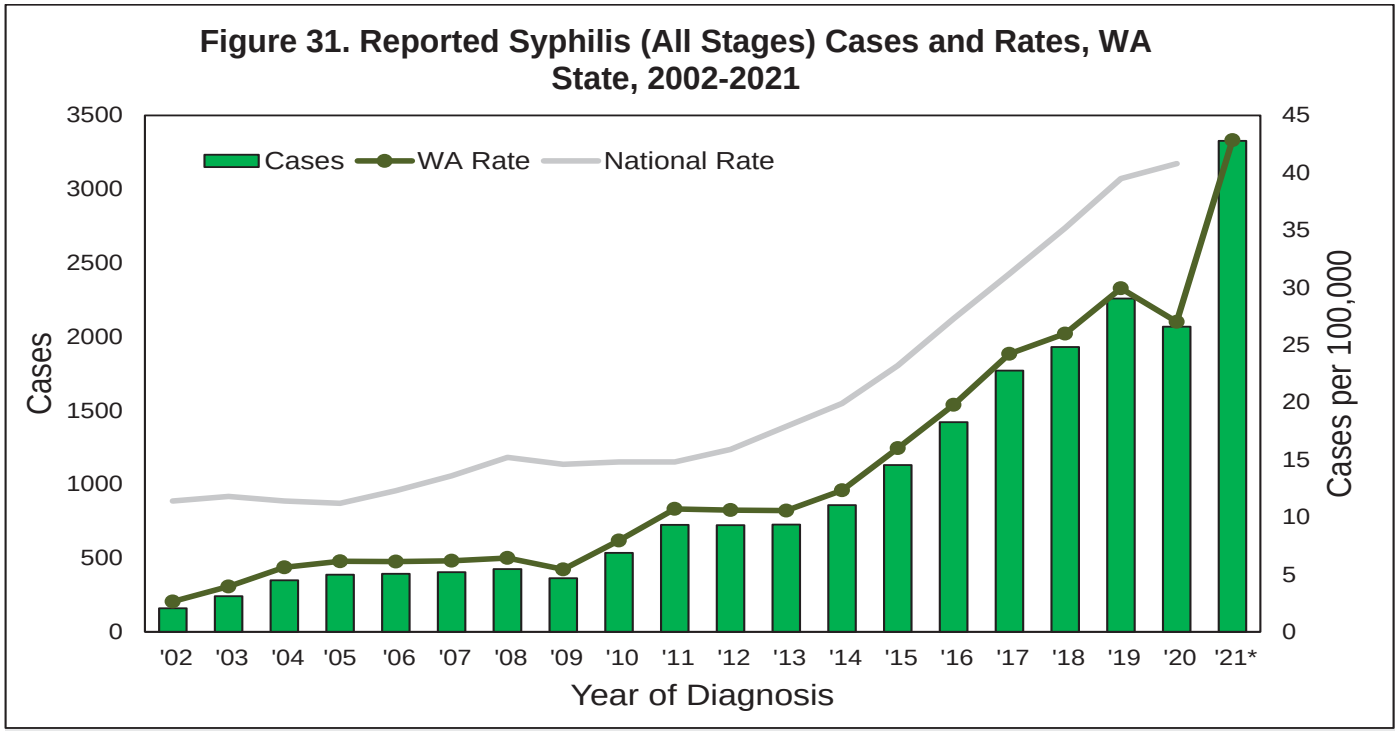
SYPHILIS IN WASHINGTON STATE

SUMMARY OF TRENDS:

- **Between 2002 to 2021, reported syphilis cases in Washington greatly increased for all stages of syphilis. Cases in 2021 reached an unprecedented high level for our state.**
- **Between 2012 to 2021, syphilis rates have consistently been highest among cisgender males, non-Hispanic Black persons, and, since 2014, persons aged 25-to-34 years.**
- **Syphilis rates among non-Hispanic American Indian/Alaska Native and non-Hispanic Native Hawaiian and Other Pacific Islander persons greatly increased between 2016 to 2021.**
- **MSM represented a disproportionate percent of syphilis cases between 2012 and 2021. Through 2020, most syphilis cases were among MSM. This changed in 2021 when most cases were among non-MSM, partly due to great increases in cases among pregnancy-capable persons.**
- **Congenital syphilis cases have dramatically increased, especially between 2020 and 2021.**
- **Reported case counts were highest within King, Pierce, Spokane, Snohomish, and Yakima counties.**

The statewide number of reported syphilis cases and incidence rate estimates between 2002 to 2021 are presented in Figure 31 and written in Table L. Syphilis cases remained at steady low levels from 2002 to 2009, then generally followed an increasing trend into 2021. Syphilis cases rose the most dramatically between 2020 to 2021, increasing by 60%. Syphilis cases in 2021 were over 20 times greater than in 2002. With these drastic increases in syphilis infection, there have been shifts into new populations, along with worsening disparities when comparing populations. Washington's rate of syphilis has consistently been lower than the national rate of syphilis reported by the CDC, as shown in Figure 31.

Figure 31. Reported Syphilis (All Stages) Cases and Rates, WA State, 2002-2021



*The 2021 national rate was not available at the time of publication.

Table L. Reported Syphilis (All Stages) Cases and Rates per 100,000, WA State, 2002-2021

Year of Diagnosis	Number of Cases	Cases per 100,000
2002	160	2.6
2003	242	3.9
2004	349	5.6
2005	387	6.1
2006	393	6.1
2007	404	6.2
2008	425	6.4
2009	363	5.4
2010	535	8.0
2011	725	10.7
2012	723	10.6
2013	727	10.6
2014	859	12.3
2015	1,130	16.0
2016	1,421	19.8
2017	1,771	24.2
2018	1,930	26.0
2019	2,259	29.9
2020	2,068	27.0
2021	3,328	42.8

Table M presents the number of syphilis cases and rates per 100,000 people by year and county from 2017 through 2021. Trends in reported syphilis cases varied by county. For these five years, total cases were highest in King, Pierce, Spokane, Snohomish, and Yakima.

Table M. Syphilis Cases and Rates by County, WA State, 2017-2021

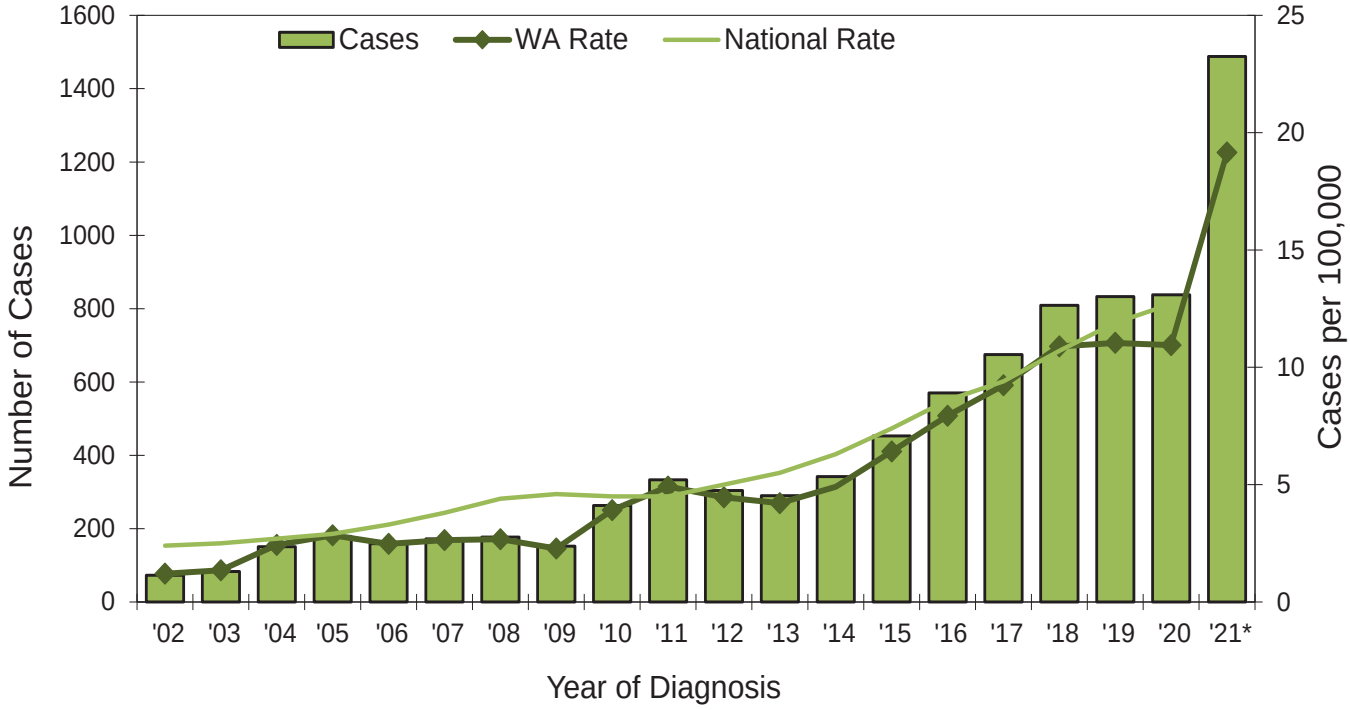
County	2017 Cases	2017 Rate	2018 Cases	2018 Rate	2019 Cases	2019 Rate	2020 Cases	2020 Rate	2021 Cases	2021 Rate
Adams	2	+	1	+	5	+	4	+	3	+
Asotin	3	+	1	+	0	0.0	2	+	0	0.0
Benton	21	10.9	18	9.1	43	21.3	55	26.7	101	48.2
Chelan	13	+	6	+	10	+	5	+	14	+
Clallam	11	+	6	+	6	+	2	+	11	+
Clark	79	16.8	84	17.5	124	25.4	140	28.0	153	29.8
Columbia	0	0.0	1	+	0	0.0	0	0.0	2	+
Cowlitz	37	34.9	55	51.3	37	34.0	21	19.0	32	28.7
Douglas	0	0.0	3	+	3	+	1	+	10	+
Ferry	0	0.0	0	0.0	0	0.0	0	0.0	1	+
Franklin	9	+	18	19.5	34	35.9	35	36.2	43	43.7
Garfield	0	0.0	14	+	21	945.9	0	0.0	0	0.0
Grant	13	+	0	0.0	23	23.3	21	21.0	30	29.8
Grays Harbor	6	+	23	31.2	5	+	25	33.5	41	53.9
Island	3	+	5	+	0	0.0	4	+	9	+
Jefferson	1	+	3	+	0	0.0	3	+	2	+
King	864	40.1	913	41.7	997	44.8	860	38.0	1342	58.7
Kitsap	33	12.5	36	13.5	44	16.3	26	9.6	50	18.0
Kittitas	3	+	0	0.0	3	+	2	+	7	+
Klickitat	1	+	2	+	0	0.0	0	0.0	5	+
Lewis	9	+	9	+	12	+	13	+	23	27.8
Lincoln	0	0.0	1	+	0	0.0	2	+	0	0.0
Mason	29	45.9	29	45.3	40	61.6	33	50.3	39	59.3
Okanogan	2	+	7	+	3	+	4	+	16	+
Pacific	2	+	1	+	5	+	5	+	4	+
Pend Oreille	2	+	2	+	0	0.0	1	+	3	+
Pierce	179	20.8	202	23.2	260	29.3	277	30.8	521	56.1
San Juan	1	+	0	0.0	3	+	2	+	3	+
Skagit	3	+	16	+	11	+	21	16.1	32	24.6
Skamania	0	0.0	0	0.0	1	+	0	0.0	2	+
Snohomish	154	19.5	142	17.6	151	18.4	159	19.1	259	30.9
Spokane	196	39.2	215	42.3	287	55.7	191	36.5	261	48.1
Stevens	1	+	6	+	5	+	6	+	3	+
Thurston	25	9.0	31	11.0	51	17.8	57	19.6	80	26.9
Wahkiakum	1	+	0	0.0	0	0.0	1	+	0	0.0
Walla Walla	7	+	8	+	4	+	7	+	24	38.6
Whatcom	20	9.2	15	+	26	11.5	28	12.3	28	12.4
Whitman	5	+	7	+	4	+	5	+	3	+
Yakima	36	14.2	50	19.6	41	16.0	50	19.4	171	66.3

+ For any counts less than 17, rates are not included due to statistical instability.

In addition to presenting data on all stages of syphilis, this section also shows data for syphilis cases diagnosed solely in primary and secondary stages (P&S). P&S syphilis cases represent more recently acquired infections than later staged cases that may have been acquired over a year before the diagnosis date; therefore, examining P&S syphilis cases separately can add perspective into emerging syphilis trends each year. P&S syphilis cases are also more transmissible than cases diagnosed at a later syphilitic stage and therefore of higher priority for case follow-up.

Trends for P&S syphilis cases are similar to trends for all stages of syphilis. Between 2020 to 2021, the combined rate for both primary and secondary syphilis nearly doubled, an increase shown in Figure 32 and Table N. Washington's rate of P&S syphilis has consistently been lower than the national rate of P&S syphilis cases as reported by the CDC, shown in Figure 32.

Figure 32. Reported Primary & Secondary Syphilis Cases and Rates, WA State, 2002-2021



*The 2021 national rate was not available at the time of publication.

Table N. Reported Primary & Secondary Syphilis Cases and Rates per 100,000, WA State, 2002-2021

Year of Diagnosis	Number of Cases	Cases per 100,000
2002	73	1.2
2003	83	1.4
2004	151	2.4
2005	179	2.8
2006	159	2.5
2007	172	2.6
2008	177	2.7
2009	152	2.3
2010	263	3.9
2011	333	4.9
2012	304	4.5
2013	290	4.2
2014	342	4.9
2015	453	6.4
2016	570	7.9
2017	675	9.2
2018	809	10.9
2019	833	11.0
2020	838	10.9
2021	1,488	19.2

Figure 33 and Table O present Washington's syphilis case counts by stage from 2012 to 2021. Catching syphilis as early as possible is important for preventing progression of the infection, potential complications, and limiting transmission to others. Primary and secondary staged syphilis are the most common stages at diagnosis each year. Syphilis across all stages has gone up from 2012 to 2021, with the most significant increase noted from 2020 to 2021. Between these two years, primary and secondary syphilis cases increased by over 75%.

Please note that PHIMS-STD was updated in March 2020 to reflect CSTE's 2018 syphilis case definition. This change includes cases previously classified as *Late Latent*, which are now included in the *Unknown or Late Duration Syphilis* case count.

Figure 33. Syphilis Cases by Stage, WA State, 2012-2021

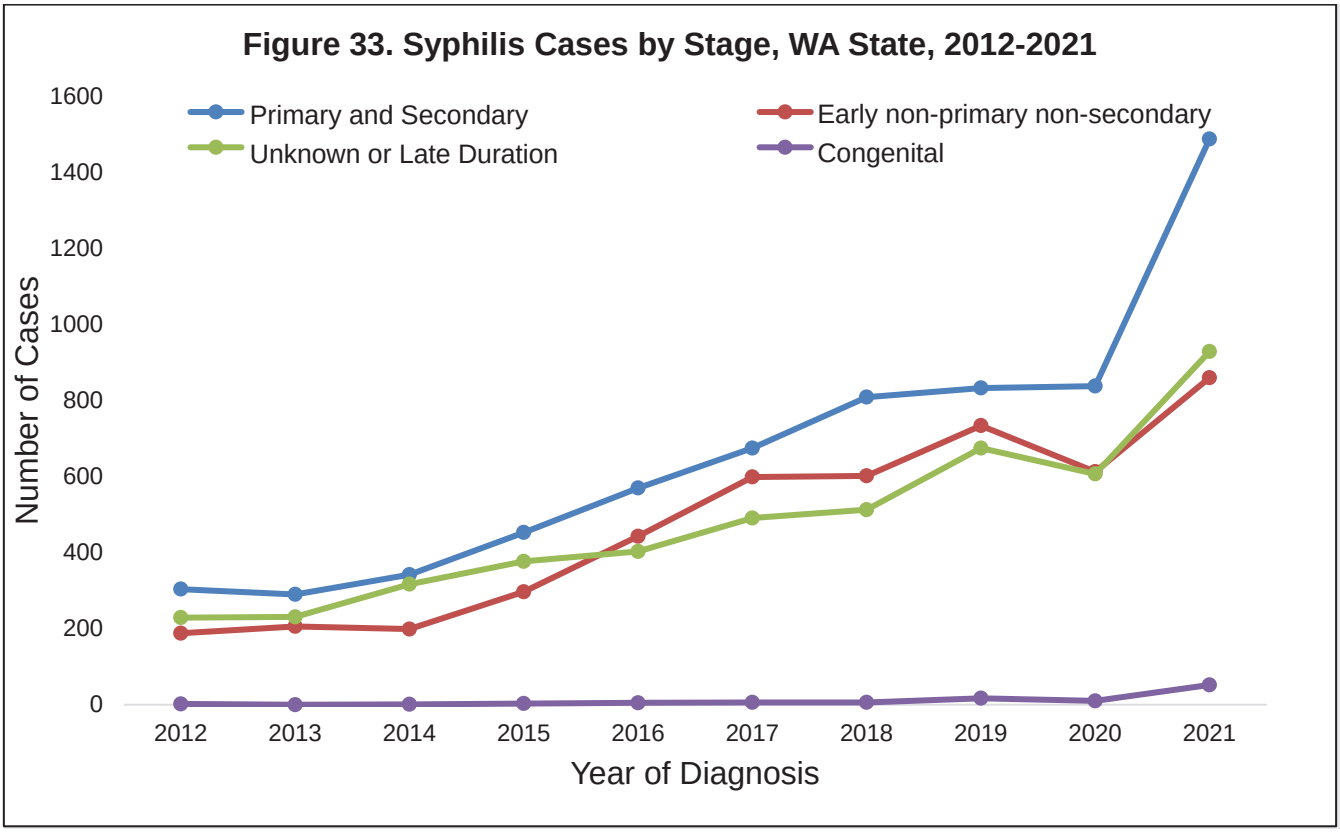


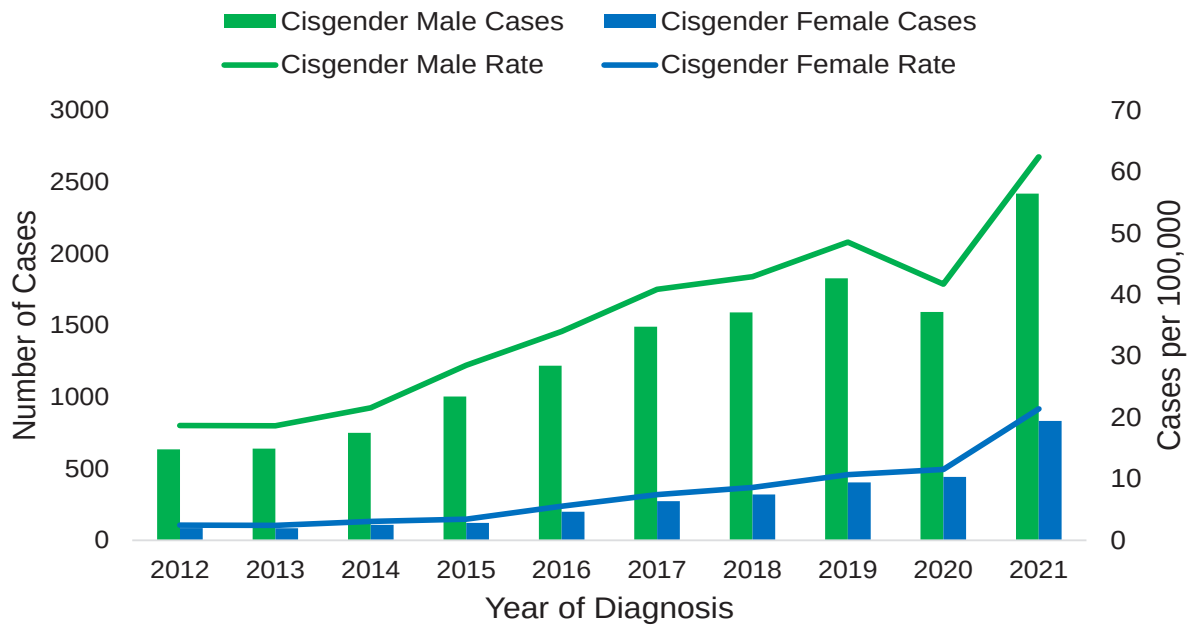
Table O. Syphilis Cases by Stage at Diagnosis, WA State, 2012-2021

Year of Diagnosis	Primary and Secondary	Early non-primary non-secondary	Unknown or Late Duration	Congenital
2012	304	188	229	2
2013	290	206	231	0
2014	342	199	317	1
2015	453	297	377	3
2016	570	443	403	5
2017	675	599	491	6
2018	809	602	513	6
2019	833	734	675	17
2020	838	613	607	10
2021	1488	860	929	53

SYPHILIS DISTRIBUTION BY GENDER

Cases and rates among cisgender persons are displayed in Figure 34 and Table P. Cases among transgender and nonbinary/genderqueer persons are presented in Figure 35 and Table P. When stratifying by gender, syphilis cases have historically been highest among cisgender males. This is partly due to men who have sex with men (MSM) being more vulnerable to syphilis infection, which is discussed on page 63. Although syphilis cases were still much higher among cisgender males than cisgender females as of 2021, they have been rising more rapidly among cisgender females. From 2020 to 2021, cases among cisgender females rose by 88%, whereas cases among cisgender males rose by 50%.

Figure 34. Syphilis (All Stages) Cases Among Cisgender Persons, WA State, 2012-2021



Prior to 2020, data for nonbinary/genderqueer people was not available; due to small numbers, cases among nonbinary/genderqueer and transgender persons are presented together in Figure 35. In 2021, 2% of all syphilis cases were among nonbinary and genderqueer persons.

Figure 35. Syphilis Cases (All Stages) Among Transgender and Nonbinary/Genderqueer Persons, WA State, 2018-2021

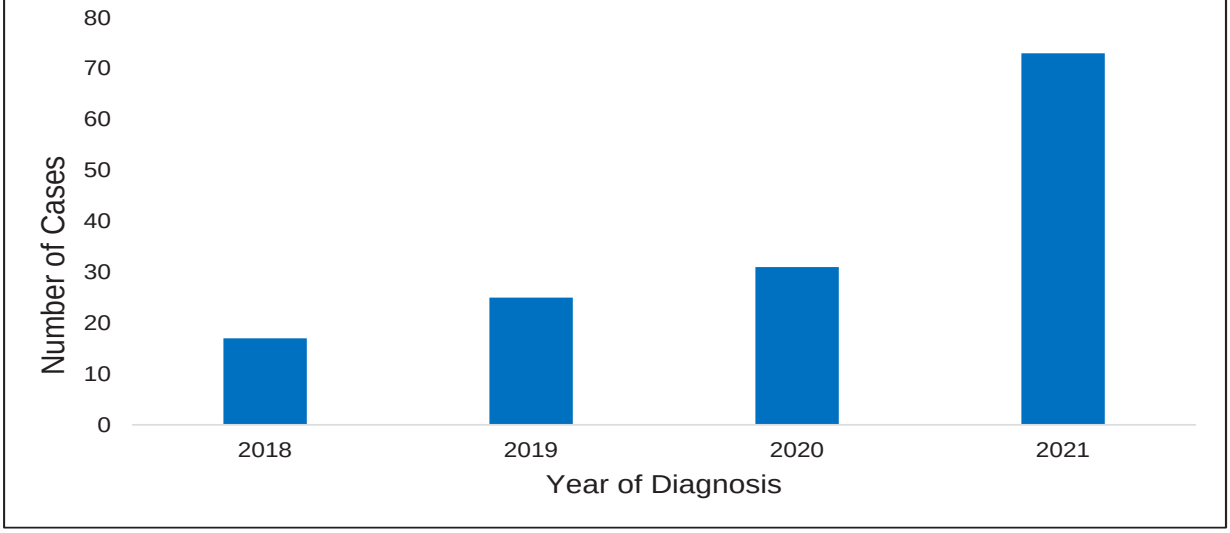
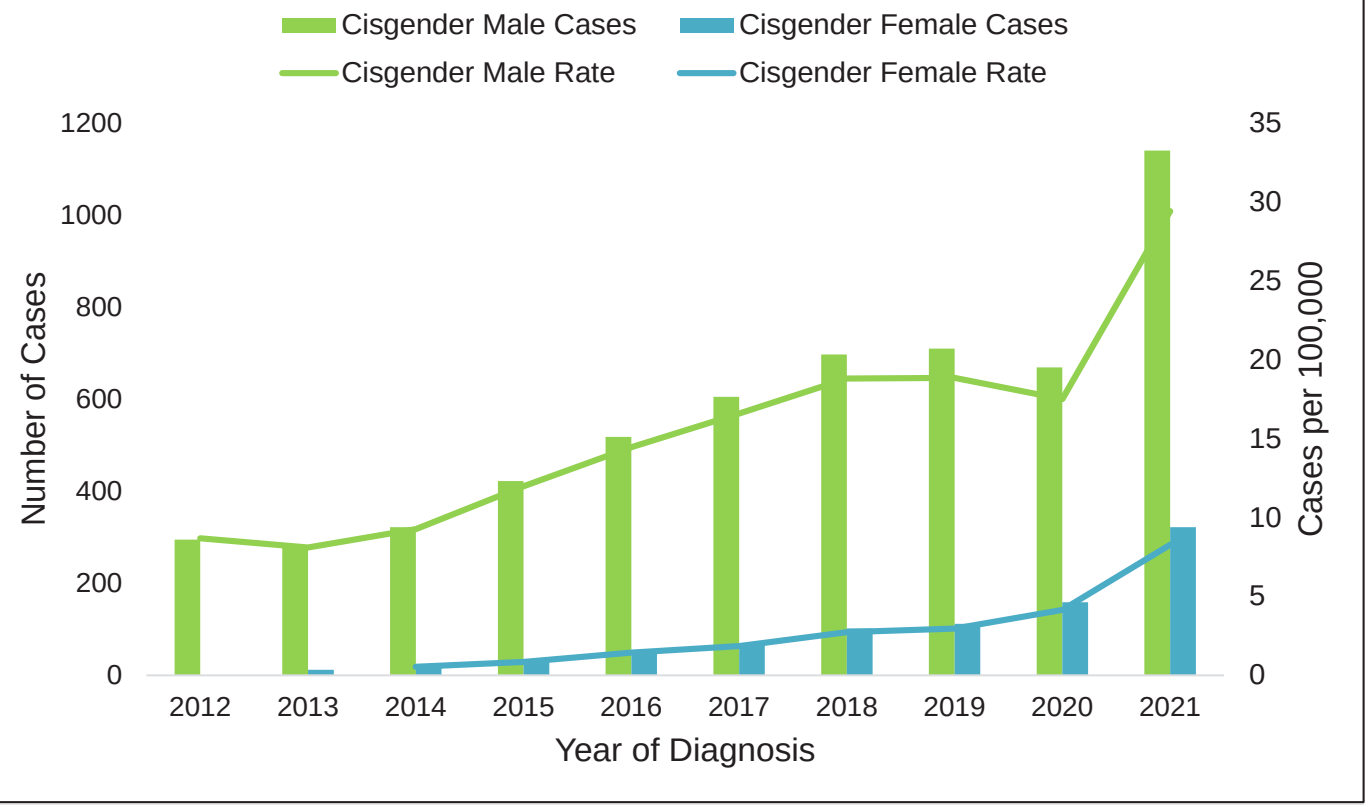


Table P. Syphilis (All Stages) Cases and Rates by Gender, WA State, 2012-2021

Year of Diagnosis	Cisgender Male Cases	Cisgender Male Rate	Cisgender Female Cases	Cisgender Female Rate	Transgender and Nonbinary/ Genderqueer Cases
2012	635	18.7	85	2.5	+
2013	640	18.7	84	2.4	+
2014	750	21.6	108	3.1	+
2015	1,004	28.5	122	3.4	+
2016	1,219	34.0	200	5.6	+
2017	1,491	40.9	273	7.5	+
2018	1,591	42.9	320	8.6	17
2019	1,829	48.6	404	10.7	25
2020	1,594	41.7	443	11.6	31
2021	2,420	62.4	833	21.4	73

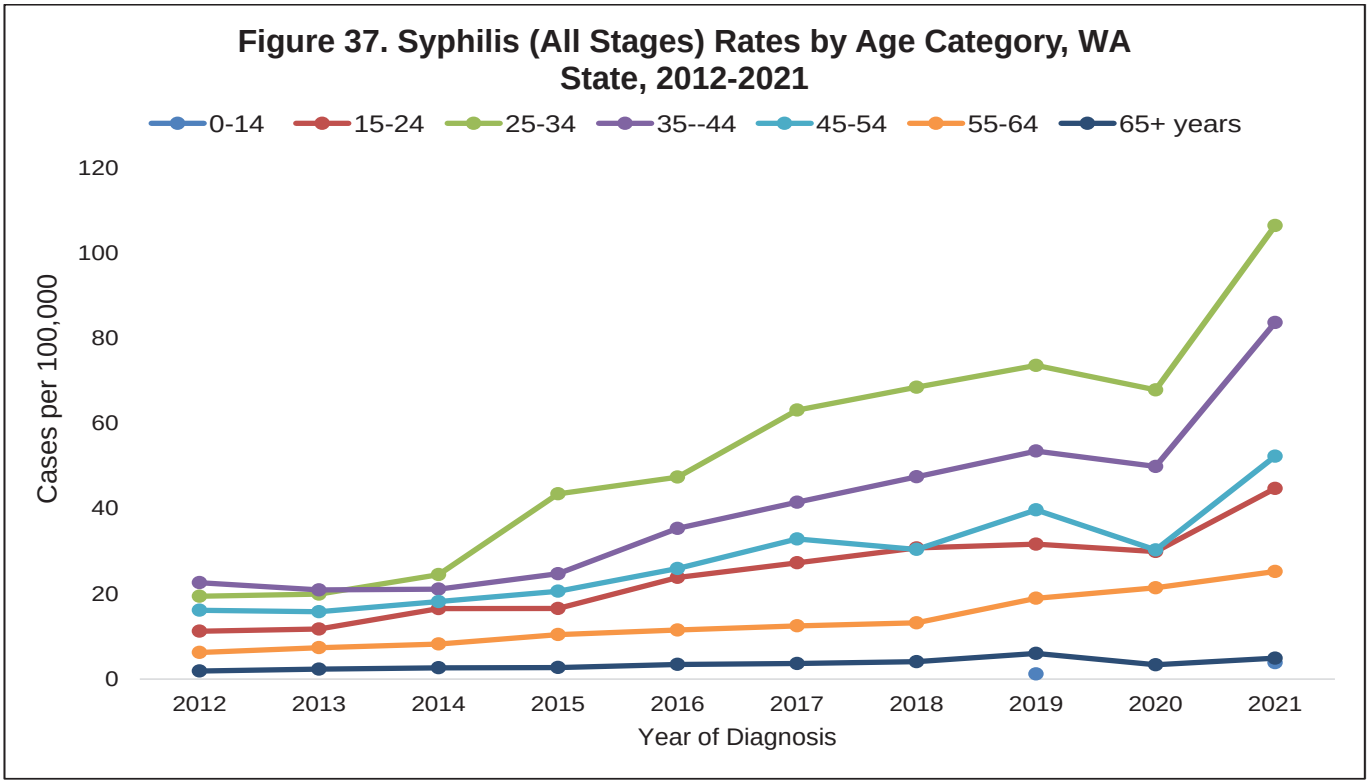
Figure 36 displays P&S syphilis cases and rates among cisgender people from 2012-2021. The trends are in line with trends for all stages. Cisgender males had a much higher proportion of cases than cisgender females, yet cases have risen greatly among both from 2020 to 2021. Due to small numbers, data on transgender, nonbinary/genderqueer, and other gender identities is not available when examining only P&S cases.

Figure 36. Primary & Secondary Syphilis Cases Among Cisgender Persons, WA State, 2012-2021



SYPHILIS DISTRIBUTION BY AGE

For all stages of syphilis, rates were highest among people aged 25-to-34 years, followed by people aged 35-to-44 years for 2014 onward. They were lowest among people aged 0-to-14 years and 65+ years. Rates increased among all age categories from 2020 to 2021, and notably large increases were seen for 25-to-34 years and 35-to-44 years. Figure 37 shows these rates for all stages, with corresponding case counts and rates included in Table Q.



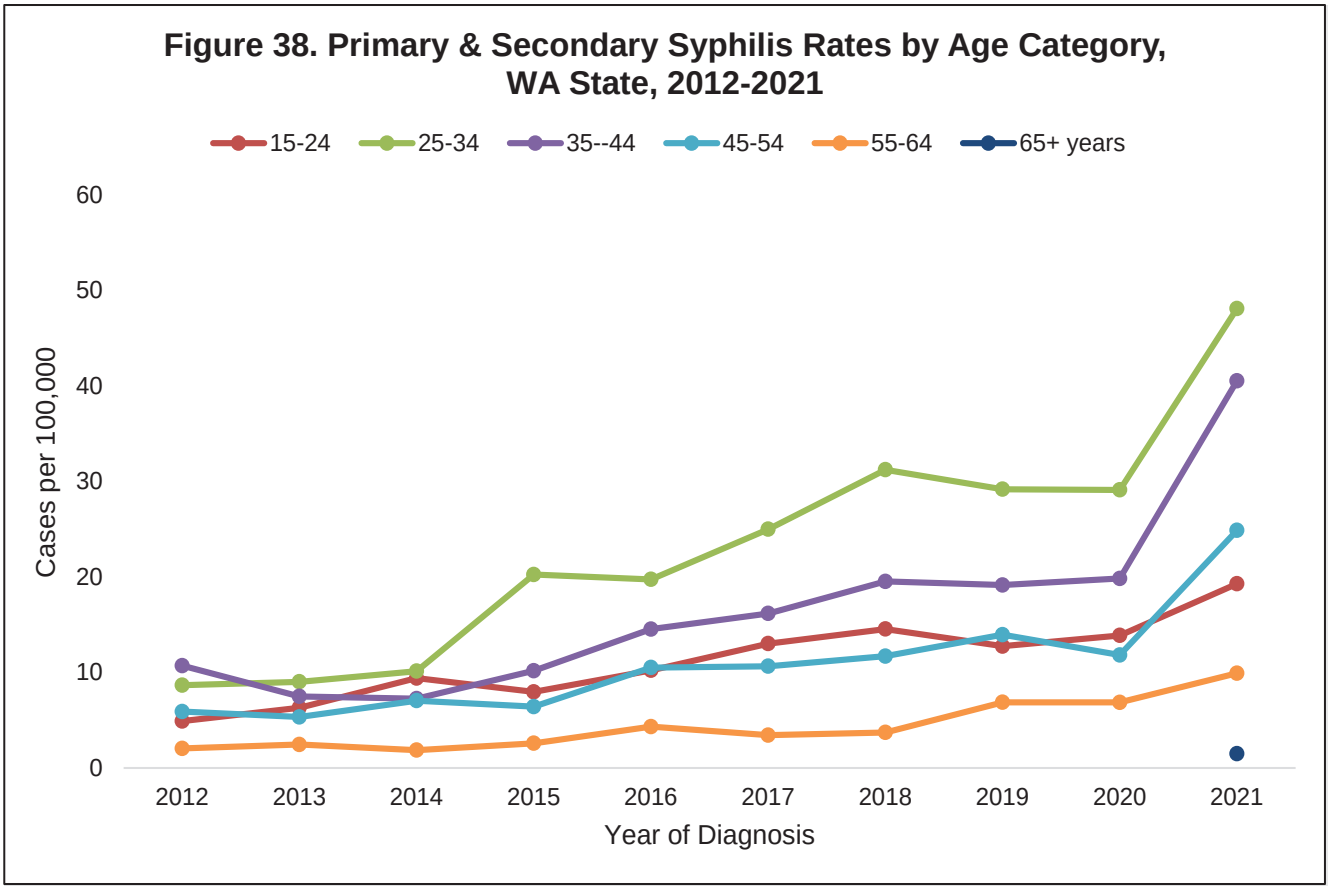
*Rates for ages 0-14 have been suppressed most years due to statistical instability.

Table Q. Syphilis (All Stages) Cases and Rates by Age Category*, WA State, 2012-2021

Year of Diagnosis	Ages 0-14 Cases	Ages 0-14 Rate	Ages 15-24 Cases	Ages 15-24 Rate	Ages 25-34 Cases	Ages 25-34 Rate	Ages 35-44 Cases	Ages 35-44 Rate	Ages 45-54 Cases	Ages 45-54 Rate	Ages 55-64 Cases	Ages 55-64 Rate	Ages 65+ Cases	Ages 65+ Rate
2012	+	+	103	11.2	184	19.5	205	22.6	156	16.2	55	6.2	17	1.9
2013	0	0.0	108	11.8	190	19.9	190	20.9	151	15.8	66	7.4	22	2.3
2014	+	+	153	16.5	237	24.5	192	21.1	173	18.2	75	8.2	26	2.6
2015	+	+	154	16.6	425	43.5	226	24.7	196	20.6	97	10.4	28	2.7
2016	+	+	224	23.9	473	47.4	326	35.4	247	26.0	109	11.5	37	3.4
2017	+	+	258	27.3	644	63.1	390	41.5	312	32.9	120	12.5	41	3.7
2018	+	+	292	30.8	713	68.5	457	47.5	286	30.4	128	13.2	48	4.1
2019	17	1.2	303	31.7	782	73.6	528	53.5	370	39.7	185	19.0	74	6.0
2020	10	+	289	29.9	732	67.9	503	49.9	282	30.3	209	21.4	43	3.4
2021	54	3.9	434	44.8	1166	106.4	869	83.7	492	52.3	247	25.3	66	4.9

*Cases missing an age have been excluded.

Figure 38 displays the rates by age excluded to primary and secondary syphilis, with corresponding case counts and rates in Table R. The trends seen among P&S syphilis cases are very similar to the trends that were seen for all stages of syphilis. P&S syphilis rates were usually highest among people aged 25-to-34 years, followed by people aged 35-to-44 years. They were lowest among people aged 0-to-14 years and 65+ years.



*Rates for ages 0-14-years and most years for 65+ have been suppressed due to small numbers.

Table R. Primary & Secondary Syphilis Cases and Rates (per 100,000) by Age Category (Years), WA State, 2012-2021

Year of Diagnosis	Ages 15-24 Cases	Ages 15-24 Rate	Ages 25-34 Cases	Ages 25-34 Rate	Ages 35-44 Cases	Ages 35-44 Rate	Ages 45-54 Cases	Ages 45-54 Rate	Ages 55-64 Cases	Ages 55-64 Rate
2012	45	4.9	82	8.7	97	10.7	57	5.9	18	2.0
2013	58	6.3	86	9.0	68	7.5	51	5.3	22	2.5
2014	87	9.4	98	10.1	66	7.3	67	7.0	17	1.9
2015	74	8.0	198	20.3	93	10.2	61	6.4	24	2.6
2016	96	10.2	197	19.7	134	14.5	100	10.5	41	4.3
2017	123	13.0	255	25.0	152	16.2	101	10.7	33	3.4
2018	138	14.5	325	31.2	188	19.5	110	11.7	36	3.7
2019	122	12.8	310	29.2	189	19.2	130	14.0	67	6.9
2020	134	13.9	314	29.1	200	19.8	110	11.8	67	6.9
2021	187	19.3	527	48.1	421	40.5	234	24.9	97	9.9

SYPHILIS DISTRIBUTION BY RACE/ETHNICITY

Syphilis rates by race and ethnicity reflect wide disparities. Figure 39 presents rates of syphilis by race and ethnicity from 2012 to 2021, and case counts and rates are written in Table S. Communities of color and those with a Hispanic or Latina/o/x ethnicity continued to experience disproportionate rates of syphilis, which is a product of systemic racism. As shown previously with chlamydia and gonorrhea, rates of syphilis have been consistently highest among Black (non-Hispanic) persons, and they had the greatest increase from 2020 to 2021. AI/AN (non-Hispanic) persons also experienced a drastic increase in syphilis cases from 2020 to 2021. Additionally, NHOPI (non-Hispanic), Hispanic or Latina/o/x, and Multi-race (non-Hispanic) persons all had disproportionately high rates as compared to White (non-Hispanic) and Asian (non-Hispanic) persons over this time frame. For more information on racial/ethnic disparities caused by racism, see the special section "Effects of Racism Across STIs" on page 85.

Figure 39. Syphilis (All Stages) Rates by Race/Ethnicity, WA State, 2012-2021

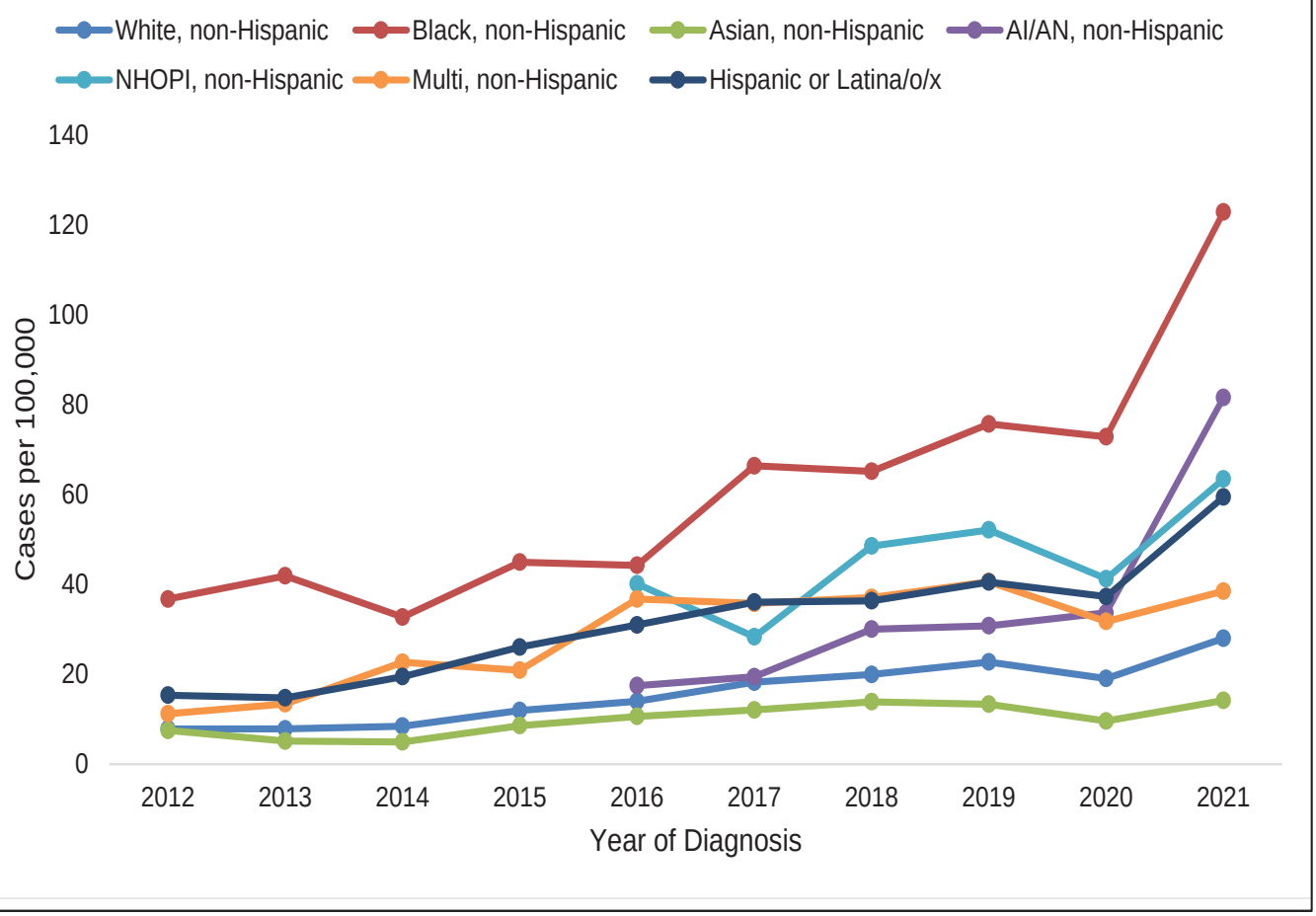
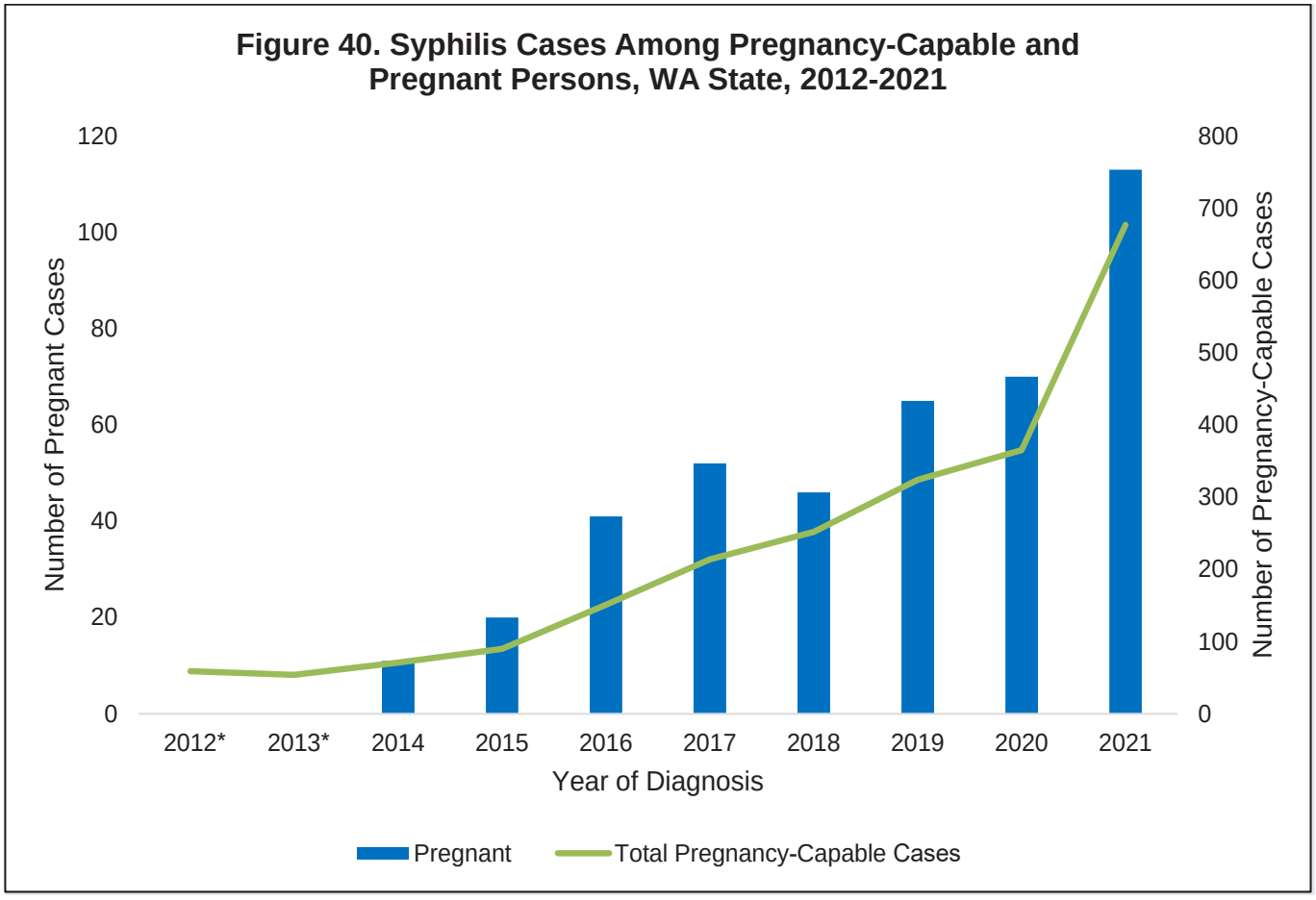


Table S. Syphilis (All Stages) Cases and Rates (per 100,000 people) by Race/Ethnicity, WA State, 2012-2021

Race/Ethnicity Category	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
White, non-Hispanic Cases	384	386	417	592	700	920	1013	1159	976	1384
White, non-Hispanic Rate	7.8	7.9	8.4	11.9	14.0	18.2	20.0	22.7	19.0	28.0
Black, non-Hispanic Cases	87	101	81	114	116	180	183	221	220	374
Black, non-Hispanic Rate	36.7	41.9	32.7	44.9	44.2	66.4	65.1	75.7	72.8	122.8
Asian, non-Hispanic Cases	37	26	26	47	61	73	89	91	69	106
Asian, non-Hispanic Rate	7.5	5.1	4.9	8.6	10.6	12.1	13.9	13.3	9.6	14.2
AI/AN, non-Hispanic Cases	+	+	+	+	16	18	28	29	32	75
AI/AN, non-Hispanic Rate	+	+	+	+	+	19.5	30.0	30.8	33.7	81.5
NHOPI, non-Hispanic Cases	12	+	+	10	19	14	25	28	23	41
NHOPI, non-Hispanic Rate	+	+	+	+	40.1	+	48.5	52.1	41.2	63.4
Multi, non-Hispanic Cases	29	36	63	60	109	110	118	133	107	196
Multi, non-Hispanic Rate	11.2	13.4	22.7	20.9	36.7	35.8	37.1	40.6	31.7	38.5
Hispanic or Latina/o/x Cases	122	121	165	228	281	338	351	403	381	656
Hispanic or Latina/o/x Rate	15.3	14.7	19.5	26.1	31.0	36.0	36.3	40.5	37.3	59.4
Unknown Race/Ethnicity Cases	43	45	93	69	114	112	117	178	250	445

SYPHILIS AMONG PREGNANT AND PREGNANCY-CAPABLE PEOPLE

Syphilis among pregnancy-capable and pregnant people rose greatly from 2012 to 2021 (Figure 40). Pregnancy-capable is defined as a person with a vagina aged 15-to-44 years old. This rise in cases among pregnant and pregnancy-capable individuals is particularly concerning since pregnant people may transmit syphilis to their newborn. Congenital syphilis can result in serious health complications for one's newborn; for more information on congenital syphilis, see the "Congenital Syphilis" section on page 76. The notably large rise in cases for both pregnancy-capable and pregnant people from 2020 to 2021 can partially be attributed to the spread of syphilis among a wider variety of populations, which is further discussed in the next section "Syphilis By Risk Indicators".



*The number of pregnant cases in 2012 and 2013 has been suppressed due to small numbers.

SYPHILIS BY RISK INDICATORS

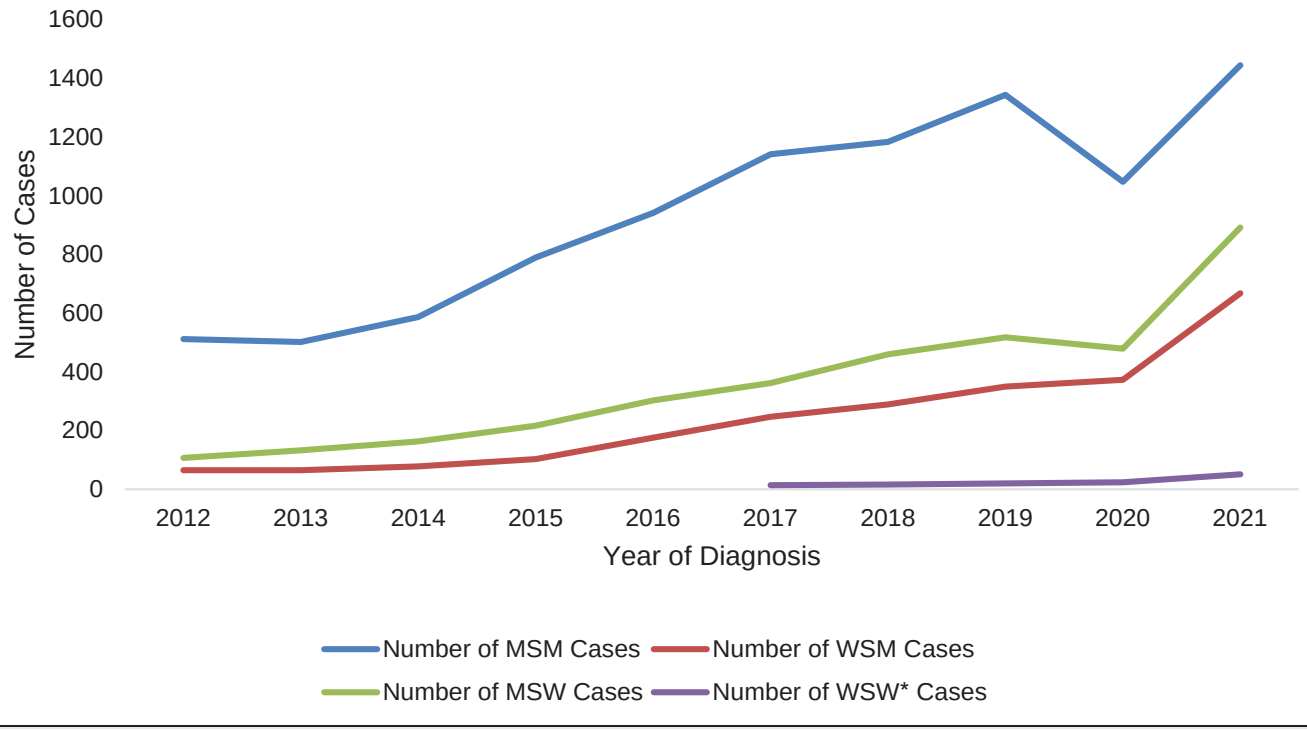
Examining syphilis by different risk indicators provides further insight into populations that may be more vulnerable to infection.

Gender and gender of sex partner(s)

First, an individual's self-reported gender and gender of their sex partner(s) can play a role in their likelihood of being infected with syphilis. Four categories are presented here: men who have sex with men (MSM); men who have sex with women (MSW); women who have sex with men (WSM); and women who have sex with women (WSW). This does not encompass all possible categories. Notably, transgender and nonbinary/genderqueer individuals are not reported separately, due to small numbers. An individual may be included in multiple categories if they identify with more than one.

Figure 41 presents the number of syphilis cases by category of gender and gender of sex partner(s) from 2012 through 2021. When comparing to estimated population levels, MSM have disproportionately high levels of syphilis; cases within the other categories shown are closer in line to expected proportions given the statewide population distribution. MSM have consistently had the highest number of cases when comparing these categories, followed by MSW, then WSM. WSW have had the lowest number of cases each year, and WSW numbers have been suppressed prior to 2017 due to small numbers. Case counts for all categories have shown substantial increases when comparing 2012 to 2021. MSM and MSW saw a dip in cases in 2020, which may partially be attributed to changes and interruptions in reporting because of the COVID-19 pandemic; that decrease did not continue into 2021. The increases in case counts from 2020 to 2021 were especially high; MSM cases rose by 38%, MSW cases rose by 86%, and WSM cases rose by 79%.

Figure 41. Syphilis Cases by Gender & Gender of Sex Partner(s), WA State, 2012-2021



*WSW case counts have been suppressed due to small numbers prior to 2017.

Historically, MSM have been disproportionately affected by syphilis when compared to non-MSM sexual risk groups. Figure 42 gives insight into syphilis (all stages) trends among MSM from 2012-2021. In 2012, MSM represented over 70% of all syphilis cases. This percent began to decrease each year starting in 2015, and by 2021, MSM cases represented 43% of all syphilis cases.

Figure 43 shows P&S syphilis cases among MSM and non-MSM individuals. Although the general trend is similar to all stages of syphilis, MSM cases have historically composed a higher percentage of P&S syphilis cases than for all syphilis stages. In 2012, 85% of P&S syphilis cases were among MSM, and this percentage steadily declined each year. By 2020, most P&S syphilis cases were among non-MSM.

Despite the shift in the distribution of cases from predominantly among MSM to non-MSM, the actual number of syphilis cases among MSM still increased from 2020 to 2021 for both all stages of syphilis and only P&S syphilis (Figures 42 and 43). It is important to recognize that even as syphilis morbidity trends have changed, MSM are still disproportionately impacted by syphilis.

Figure 42. Syphilis (All Stages) Cases Among MSM versus non-MSM, WA State, 2012-2021

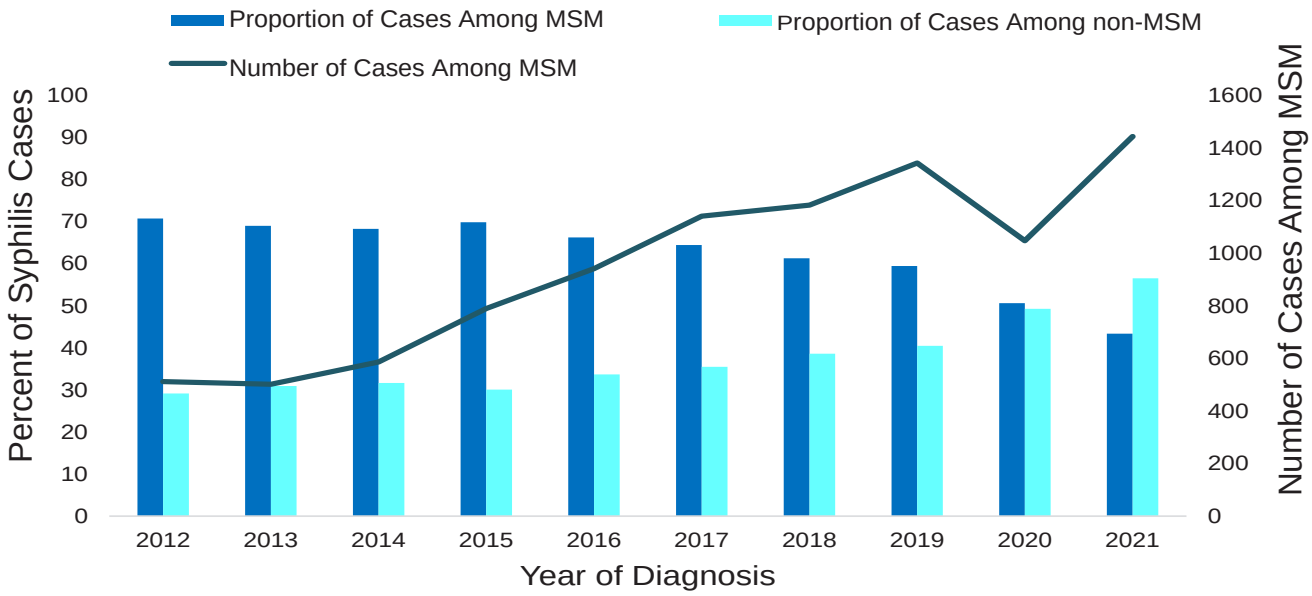
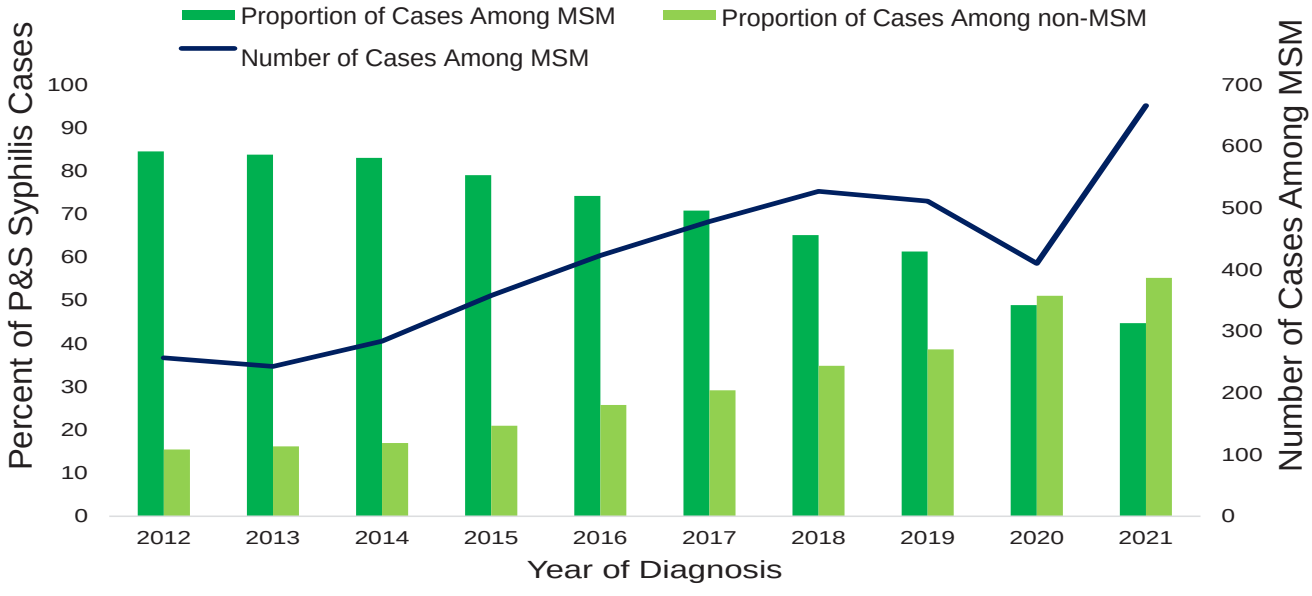
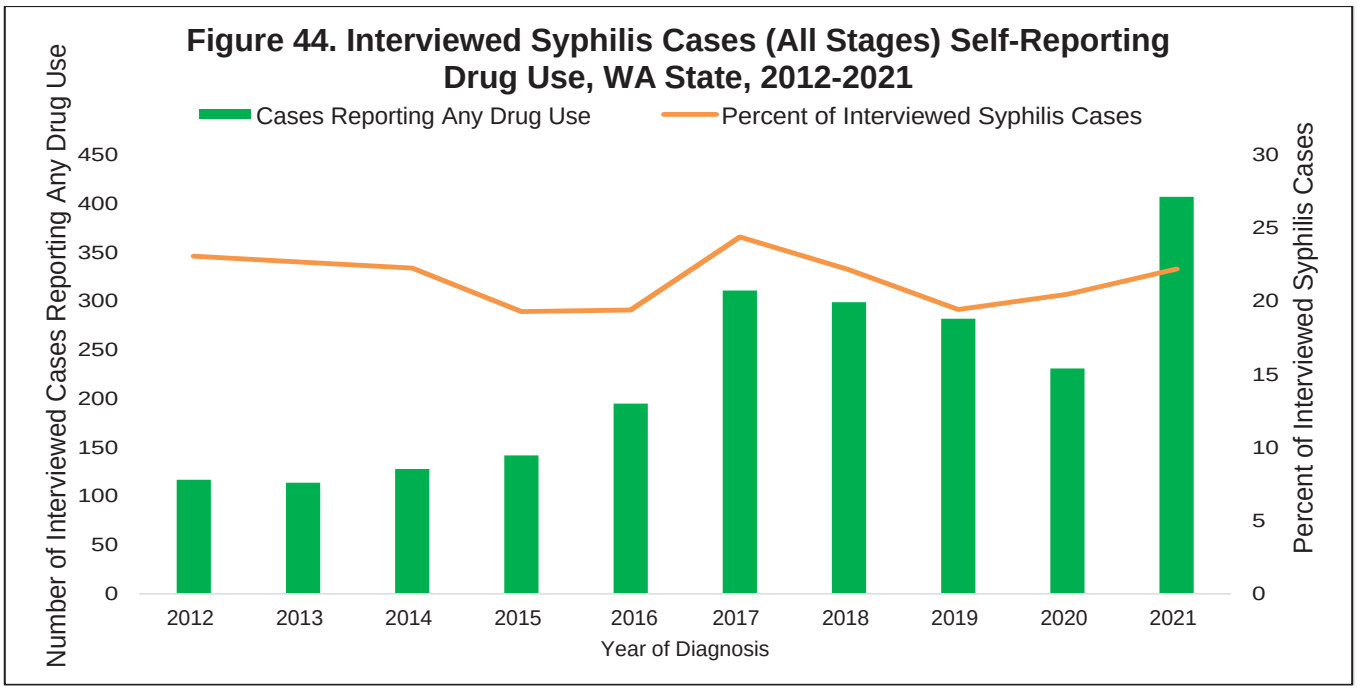


Figure 43. Primary & Secondary Syphilis Cases Among MSM versus non-MSM, WA State, 2012-2021

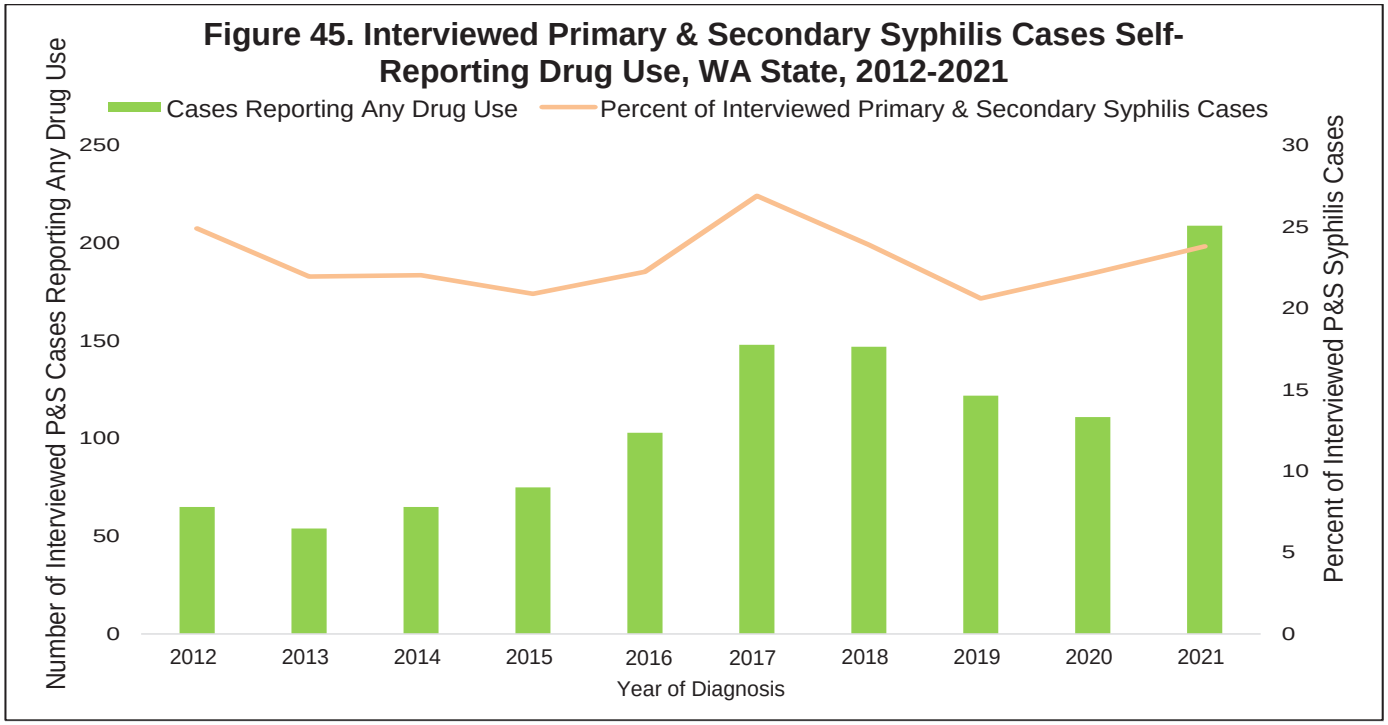


Use of drugs

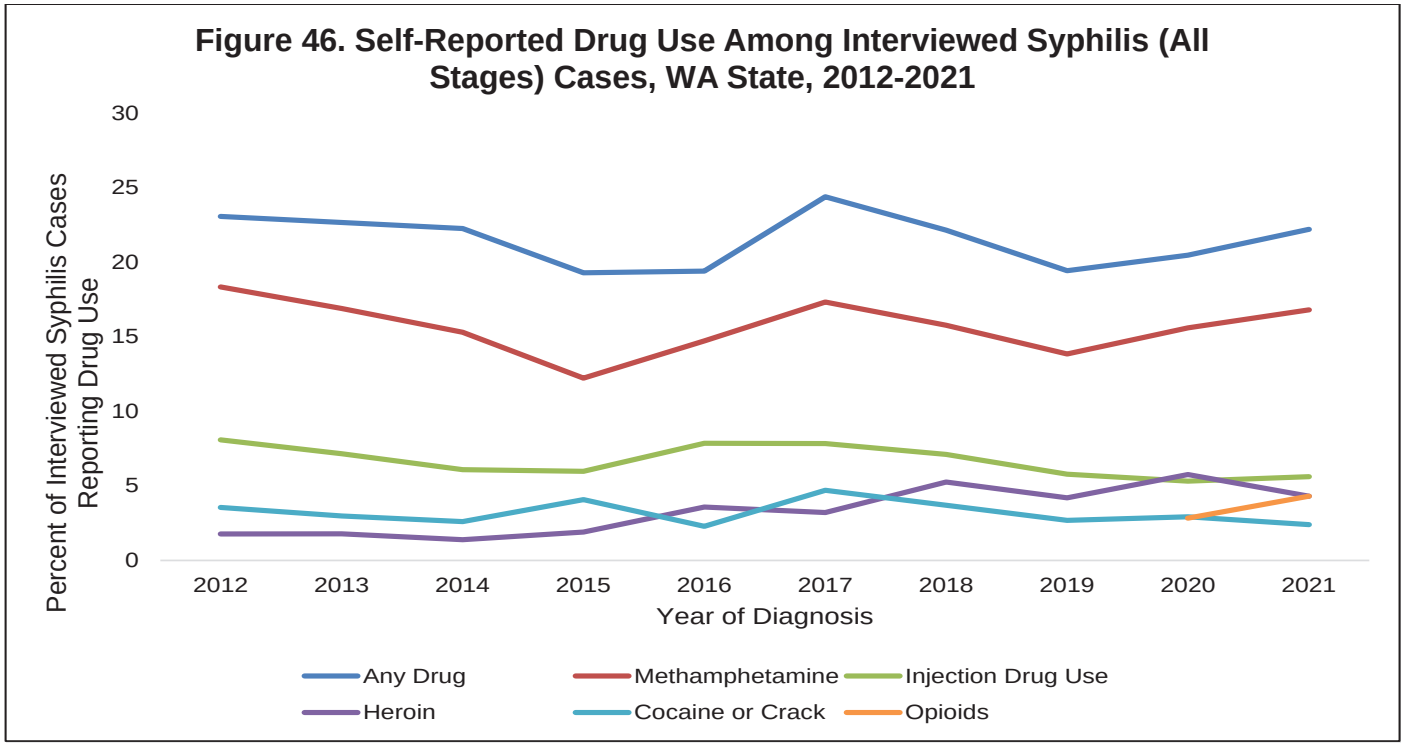
Substance use is another factor that may place individuals at higher vulnerability for exposure to syphilis. Figure 44 presents the number and proportion of syphilis cases self-reporting any drug use. Any drug use includes methamphetamine, heroin, injection drug use, cocaine/crack, opioids, and other. This information is only collected during interviews; therefore, only interviewed cases are included. For all stages of syphilis, the proportion of interviewed cases self-reporting drug use has varied from 2012 to 2021 between around 19-24%. Cases self-reporting drug use has slightly risen between 2019 to 2021.

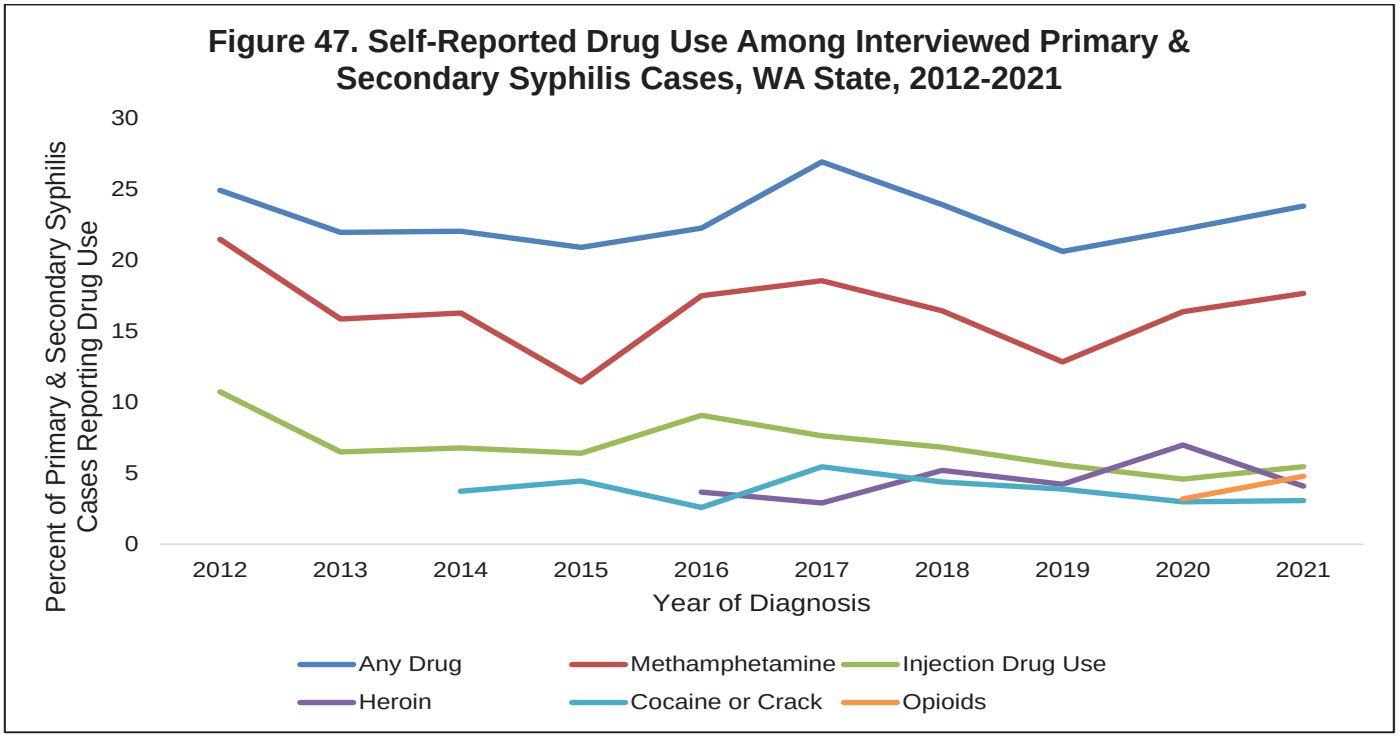


For primary and secondary syphilis, the percent of cases reporting drug use is slighly higher than when examining all stages of syphilis, ranging between 21-27% during the 2012-2021 time frame (Figure 45). Otherwise, the changes year by year are comparable for all stages of syphilis and only primary & secondary stages.



Delving further into the use of drugs, self-reported drug use by type of drug is presented in Figure 46 for all stages of syphilis and Figure 47 for primary & secondary syphilis. This is again limited to interviewed cases, since this information is collected during interview. Trends in type of drug self-reported are similar for all stages and only P&S. Methamphetamine in any form is the most common type of drug reported every year. Injection drug use refers to a method of consumption and not necessarily a type of drug, although it is often associated with heroin, opioids, or methamphetamine. Injection drug use was reported among 6 to 8% of cases (all stages) over this time period. Opioid data was not available prior to March 2020.

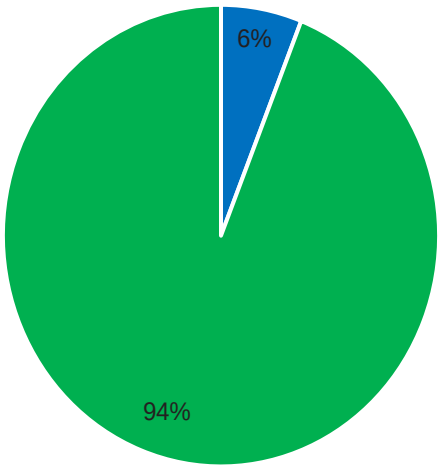


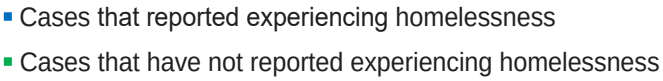


People experiencing homelessness

People experiencing homelessness are disproportionately impacted by STIs and face additional challenges when it comes to accessing care. From 2020 to 2021, 6% of syphilis cases were among people who reported experiencing homelessness in the three months prior to their diagnosis (Figure 48). This data was not collected in the patient interview prior to March of 2020; hence, data is not available prior to this time.

Figure 48. Syphilis (All Stages) Cases Reporting Experiencing Homelessness in WA, 2020-2021

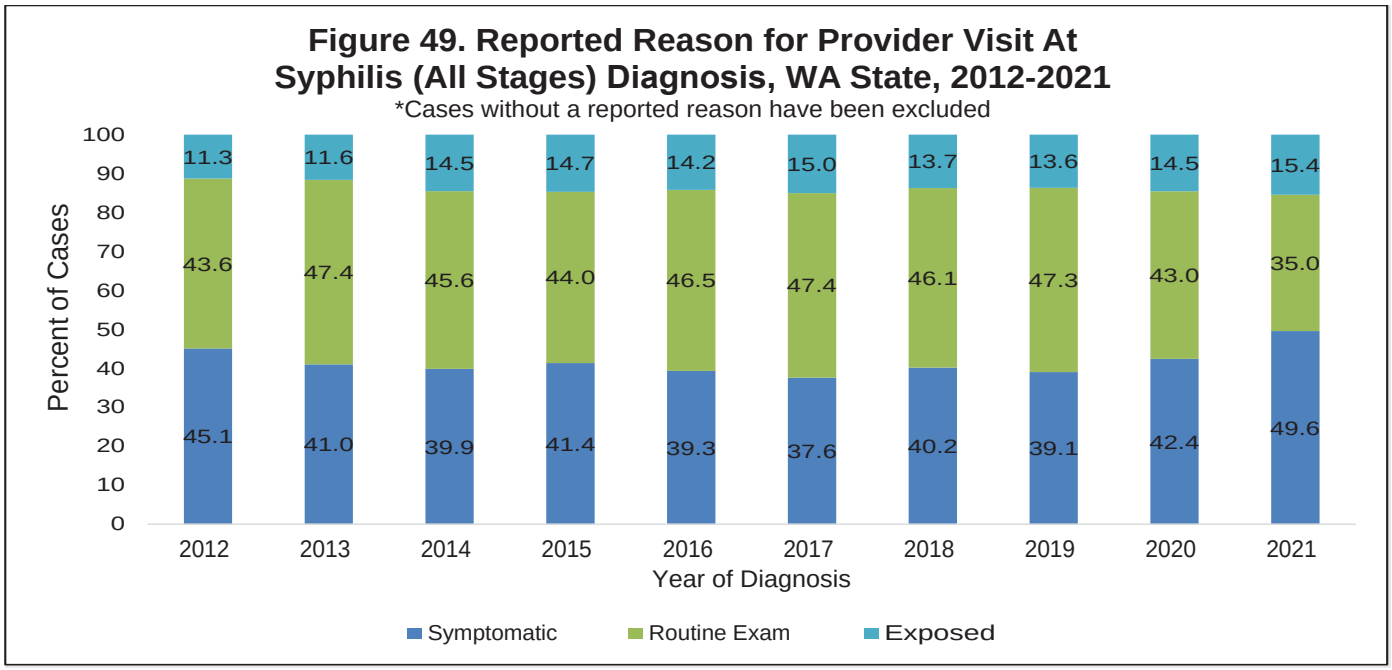




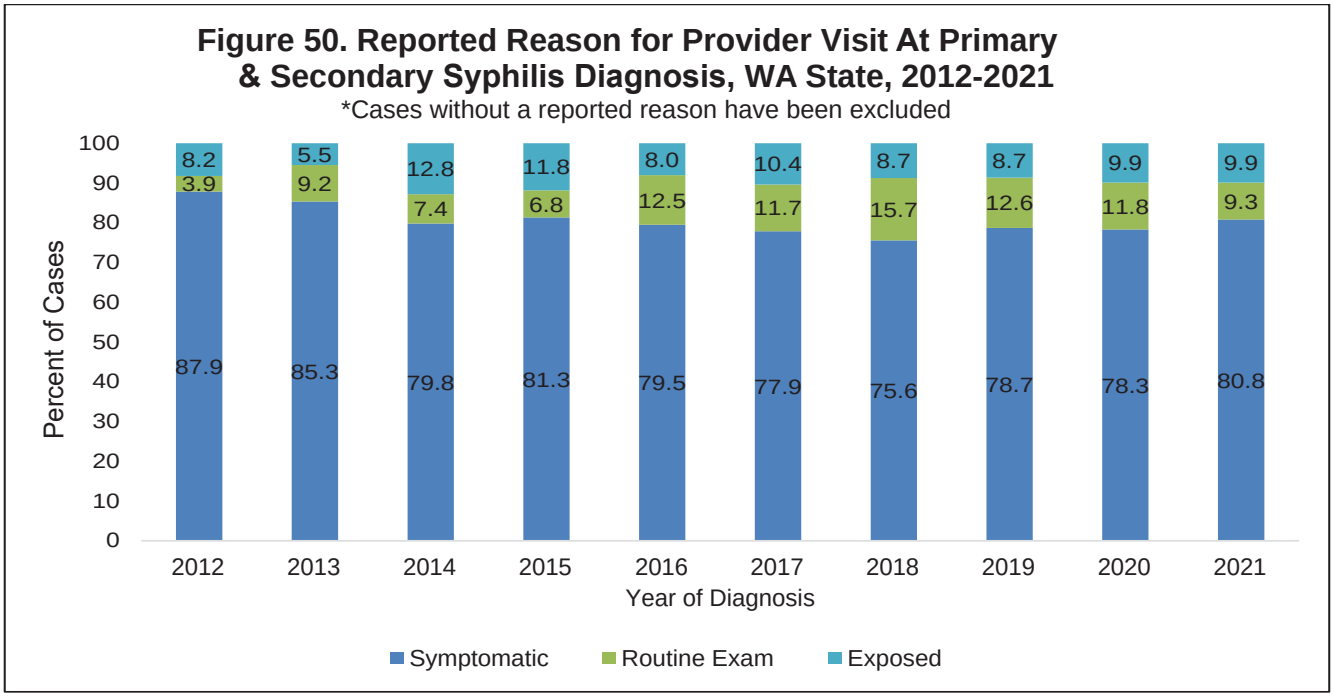
SYPHILIS: DIAGNOSIS AND ACCESSING OF CARE

Trends in syphilis diagnosis and patient access to care can give helpful context into why patients are seeking care and the barriers they may face in this process.

When it comes to diagnosis of syphilis, an individual's symptoms and reason for provider visit can vary depending on the stage of their infection. For all stages of syphilis from 2012 to 2021, the most common reason for a patient's visit fluctuated between a routine exam and experiencing symptoms (Figure 49). In 2021, nearly half of all syphilis cases were diagnosed because a patient was symptomatic, which is the highest percent of cases vising for symptoms in this timeframe.

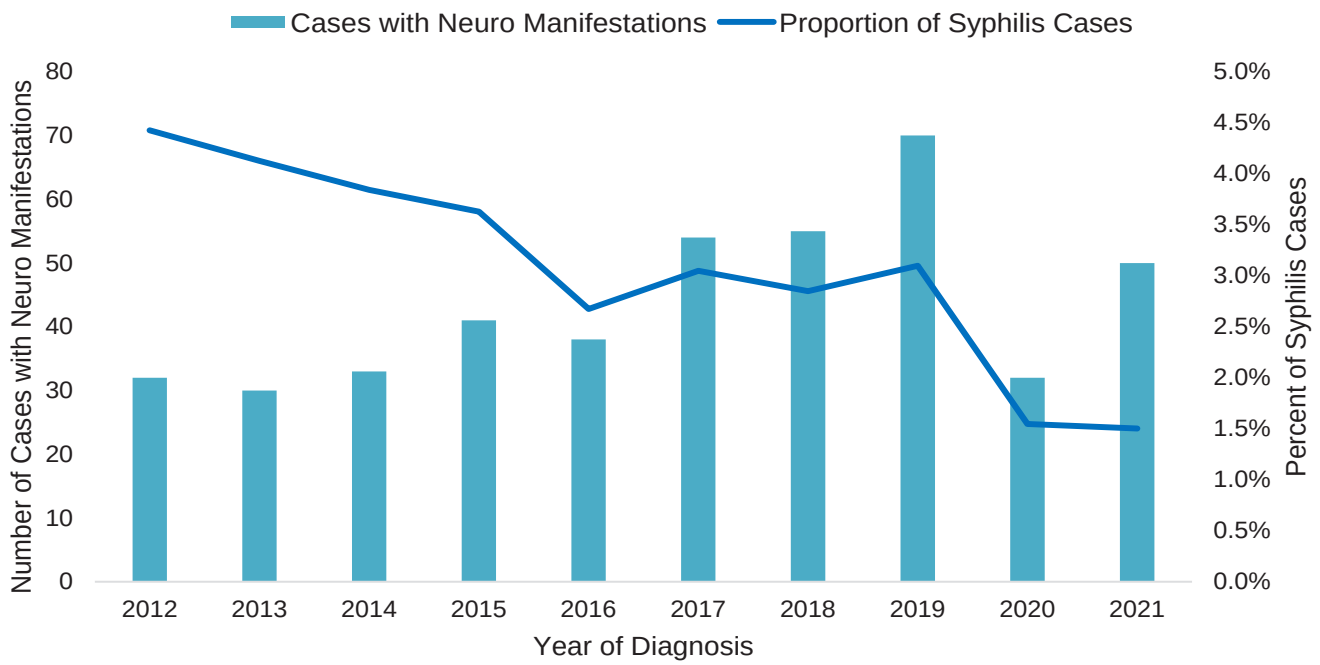


Primary & Secondary syphilis infections are more likely to be symptomatic simply because that is the nature of syphilis at that stage. The high proportion of P&S cases diagnosed from being symptomatic is evident in Figure 50. In 2021, over 80% of P&S diagnosis visits resulted from the patient having symptoms.



An untreated syphilis infection can lead to many different health complications. Neurological manifestations are one type of syphilis complication of particular concern. Although these cases are relatively rare, they may not be treatable once they have progressed. Figure 51 presents syphilis cases (all stages) diagnosed with neurological manifestations. Although the number of cases with neurological manifestations has been generally decreasing from 4.5% in 2012 to 1.5% in 2021.

Figure 51. Syphilis (All Stages) Cases Diagnosed with Neuro Manifestations, WA State, 2012-2021

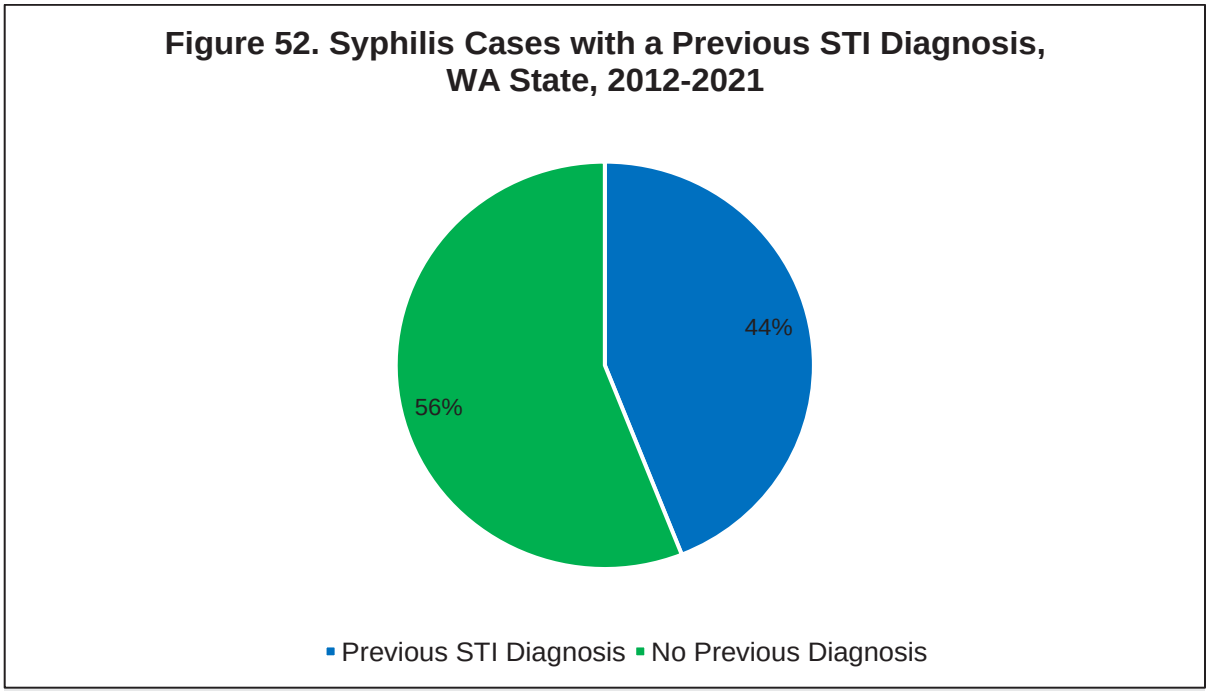


Syphilis screenings can be conducted in a wide variety of healthcare facilities. Over a quarter of syphilis cases from 2017 to 2021 were diagnosed in a private physician office or an HMO (Health Maintenance Organization). The other most common facility types for syphilis diagnosis are shown in Table T.

Table T. Top Healthcare Facility Types for Syphilis (All Stages) Diagnosis, WA State, Aggregate 2017-2021	Percent of Syphilis Cases
Private Physician/HMO	26.0%
Community Health Center/FQHC	12.5%
Hospital ER/Urgent Care Facility	9.8%
Hospital - other than ER	7.6%
HIV Care Clinic	5.7%
Family Planning	5.4%

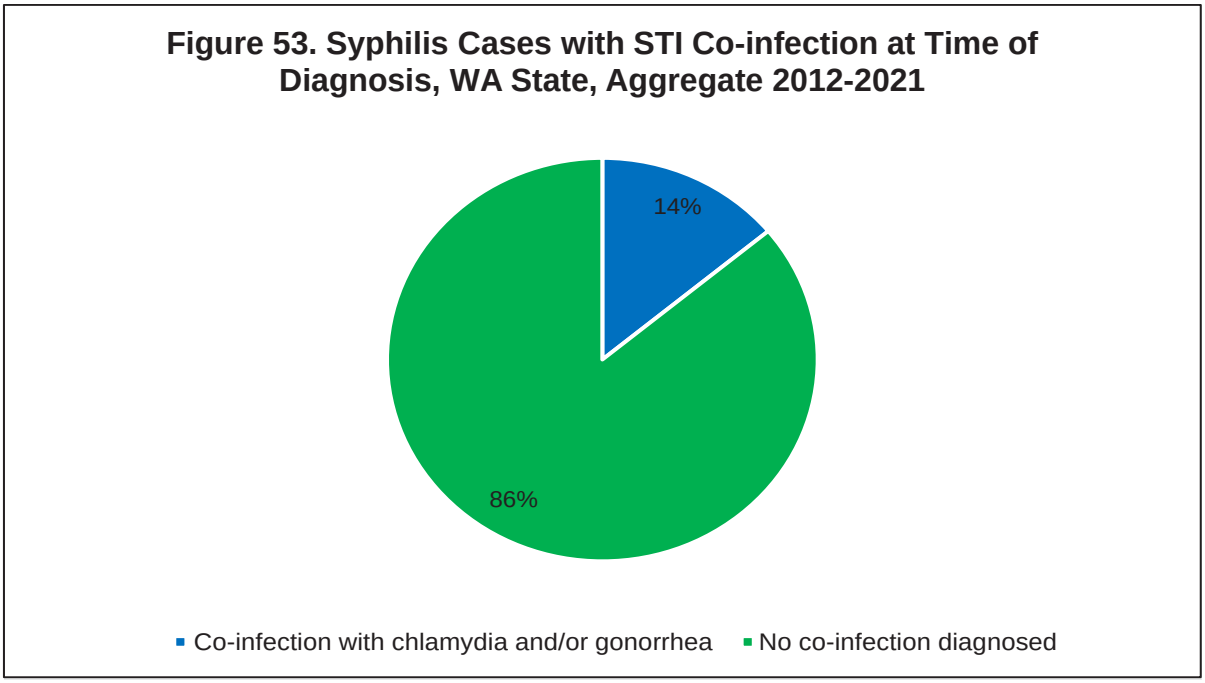
People who have been previously diagnosed with an STI are more vulnerable to another infection. Figure 52 shows that among all patients diagnosed with syphilis infection in Washington from 2012 to 2021, 44% had been previously diagnosed with an STI of chlamydia, gonorrhea, and/or syphilis. Even if a patient has had an STI before, it is important that they continue to screen if they are at risk for infection again.

Figure 52. Syphilis Cases with a Previous STI Diagnosis, WA State, 2012-2021



Individuals diagnosed with syphilis should also be screened for other STIs, including chlamydia and gonorrhea. Having an STI may increase the likelihood for multiple infections. Between 2012-2021, 14% of syphilis infections were also co-infected with chlamydia and/or gonorrhea at the time of their syphilis diagnosis (Figure 53).

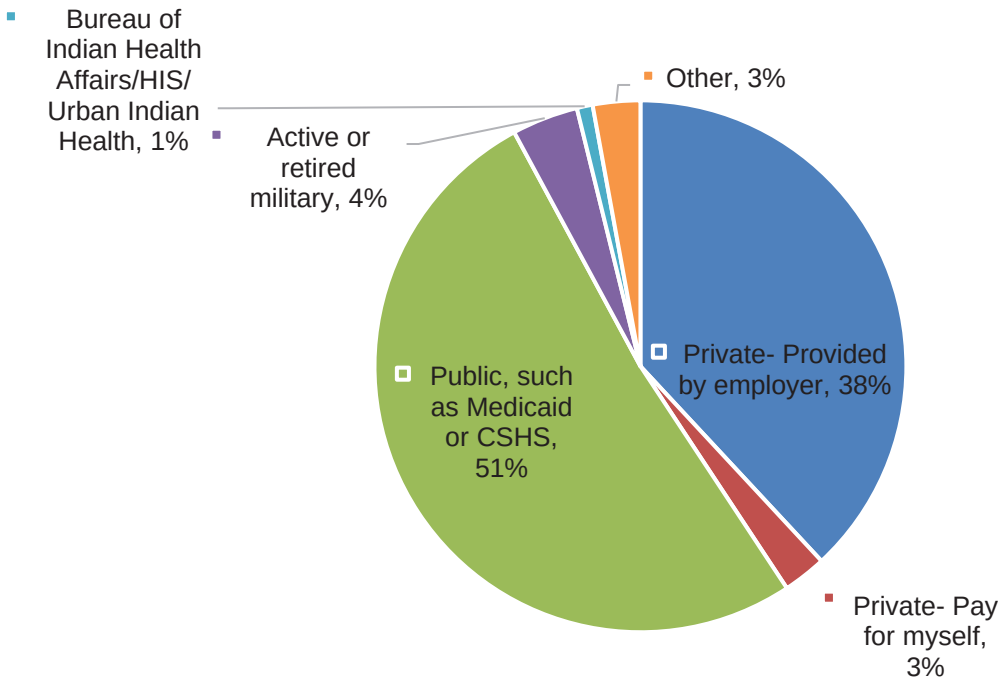
Figure 53. Syphilis Cases with STI Co-infection at Time of Diagnosis, WA State, Aggregate 2012-2021



Out of cases with a recorded insurance type, over half of syphilis cases diagnosed between 2017 to 2021 were reported by the patient to have a public type of health insurance, such as Medicaid or CSHS. Private insurance provided by the employer is the other most common type of insurance for people diagnosed with syphilis. Figure 54 displays the distribution of insurance types among cases where this was documented.

Figure 54. Reported Insurance Type Among Syphilis (All Stages) Cases, WA State, Aggregate 2017-2021

*Cases without a documented insurance type have been removed

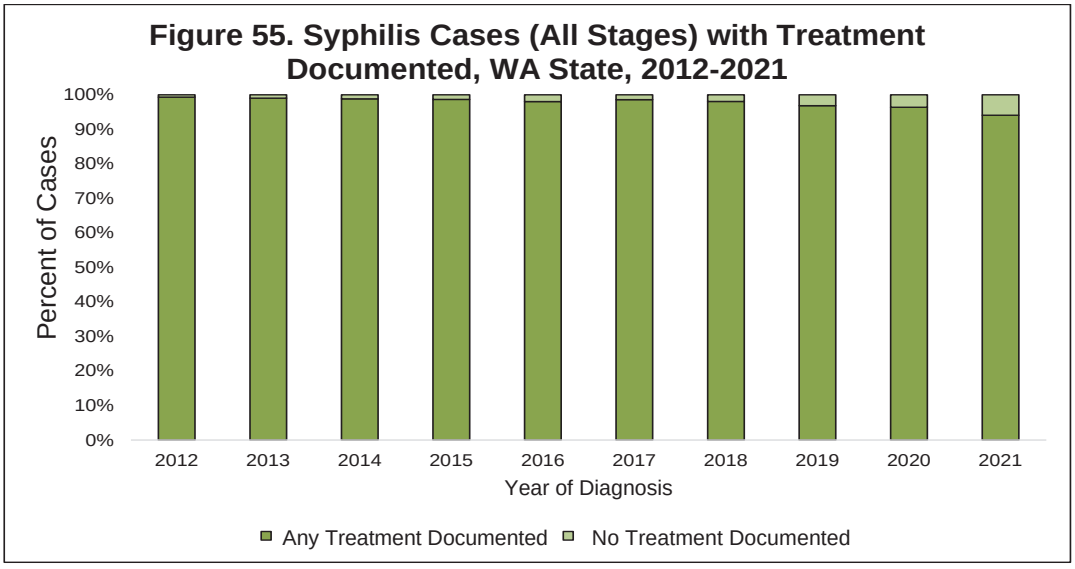


SYPHILIS: CASE TREATMENT, INTERVENTION, AND FOLLOW-UP

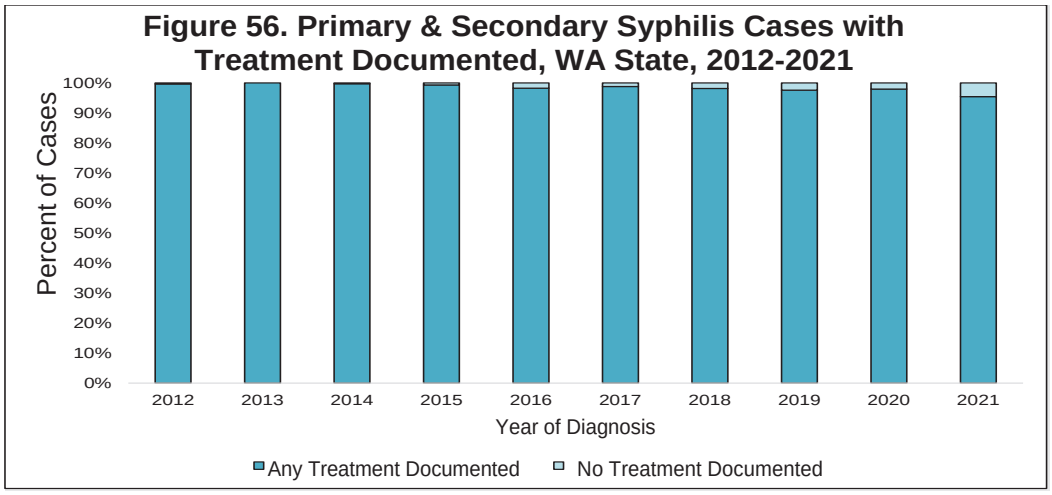
Trends in syphilis case treatment, intervention, and follow-up can highlight areas of success as well as those in need of improvement .

Treatment

Receiving appropriate treatment for syphilis cures the infection and prevents it from progressing into a further stage or leading to other health complications. Appropriate treatment also reduces community transmission of syphilis to other partners. Figure 55 shows the percent of syphilis cases with any treatment documented from 2012 to 2021. Although treatment for syphilis has decreased slightly each year since 2018, over 90% of cases still received some treatment each year. Note that not all administered treatment is considered to be appropriate or complete treatment per CDC guidelines. Depending on the stage of syphilis, patients may need to receive treatment in multiple doses at specified intervals to be considered appropriately treated. For this reason, it is important that providers prescribe the appropriate treatment for their patients based on the stage of syphilis at diagnosis. In addition, providers should continue to work with their patients to ensure they can receive treatment as prescribed. DIS also follow up with patients and can assist with coordinating appropriate treatment.



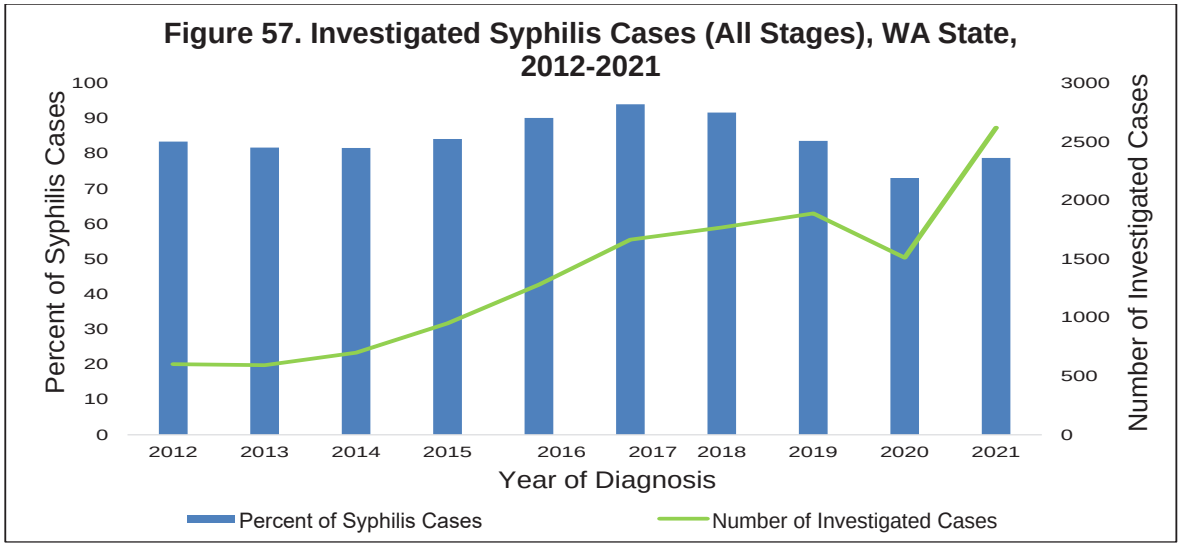
Treatment numbers are slightly higher for primary and secondary syphilis, displayed in Figure 56. This is likely due to appropriate treatment for primary and secondary syphilis being a one-time single dose treatment when the patient does not have additional manifestations or complications.



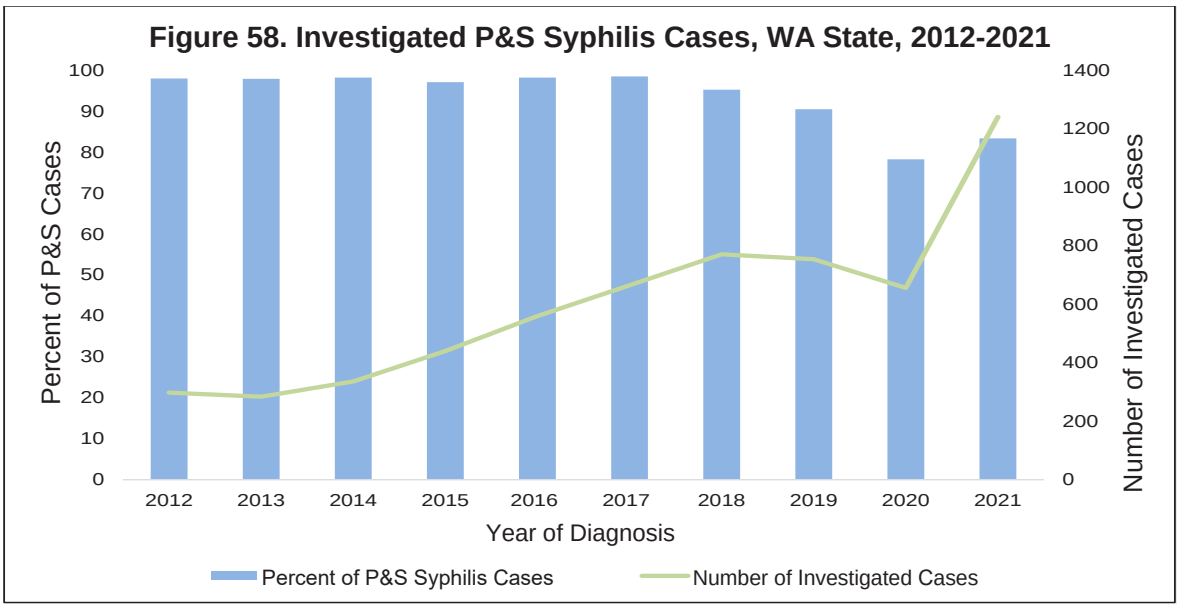
Intervention and Follow-up

After a patient is diagnosed with syphilis or another notifiable STI, DIS from DOH and LHJs connect with them for follow-up, which is valuable for the health of the patient and the community.

DIS begin investigating a case by contacting the original patient. Figure 57 shows the proportion of syphilis (all stages) cases investigated from 2012 through 2021 and the total number of investigated syphilis cases. Here, investigated means there were one to three contact attempts after the patient's diagnosis and/or a complete or partial patient interview on record. The number of investigated cases has increased by over four times from 2012 to 2021, representing 83% of cases in 2012 and 79% of cases in 2021. It is a testament to the hard work of DIS that they have continued to investigate a high percentage of cases, even as the number of syphilis cases has risen sharply. Of note, the drop in the percent and number of investigated cases visible in 2020 was likely because of interruptions from the COVID-19 pandemic.



When comparing to all stages of syphilis, primary and secondary syphilis had higher investigation rates each year. This is to be expected since earlier stages of syphilis are prioritized for follow-up due to being the most infectious as compared to late/unknown staged cases. The number of investigated P&S cases increased by over 4 times between 2012 and 2021, corresponding with 99% and 83% of cases, respectively. Although the percentage of investigated P&S cases decreased from 2017 to 2020, it increased again into 2021 (Figure 58). This once again reflects the ongoing efforts by DIS to maintain high levels of patient follow-up, even as P&S cases have risen quickly.



Once a patient has been contacted, DIS aim to interview the patient. These interviews help to gain a better understanding of the populations impacted by STIs in Washington and ensure patients are receiving follow-up care. All patient information is kept confidential and is used for assisting the patient and their sexual partners with linkage to appropriate follow-up as needed.

Figure 59 shows the percentage of syphilis (all stages) cases interviewed among investigated cases. The number of interviewed cases has generally increased over time, from 507 in 2012 to 1,833 in 2021. A visible decrease in the number of interviews is shown in 2020, likely resulting from interruptions due to COVID-19. The percentage of cases interviewed has remained fairly high over this time period; even with unprecedented syphilis incidence in 2021, 70% of contacted patients completed an interview.

Figure 59. Interviewed Syphilis (All Stages) Cases among Investigated Cases, WA State, 2012-2021

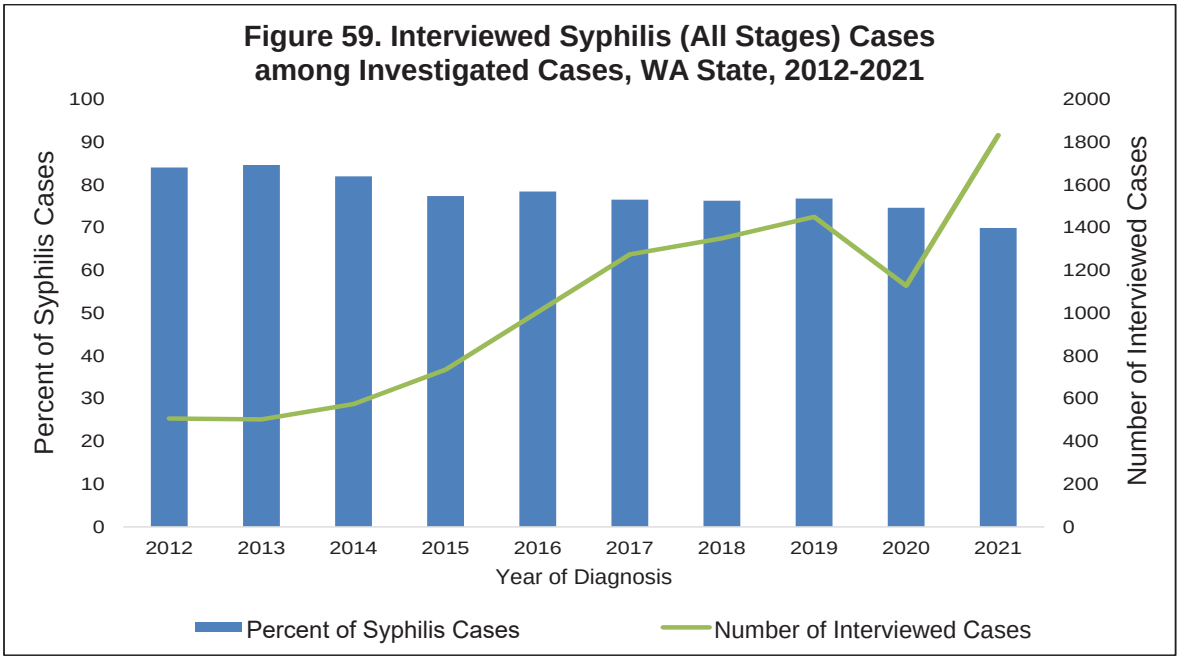
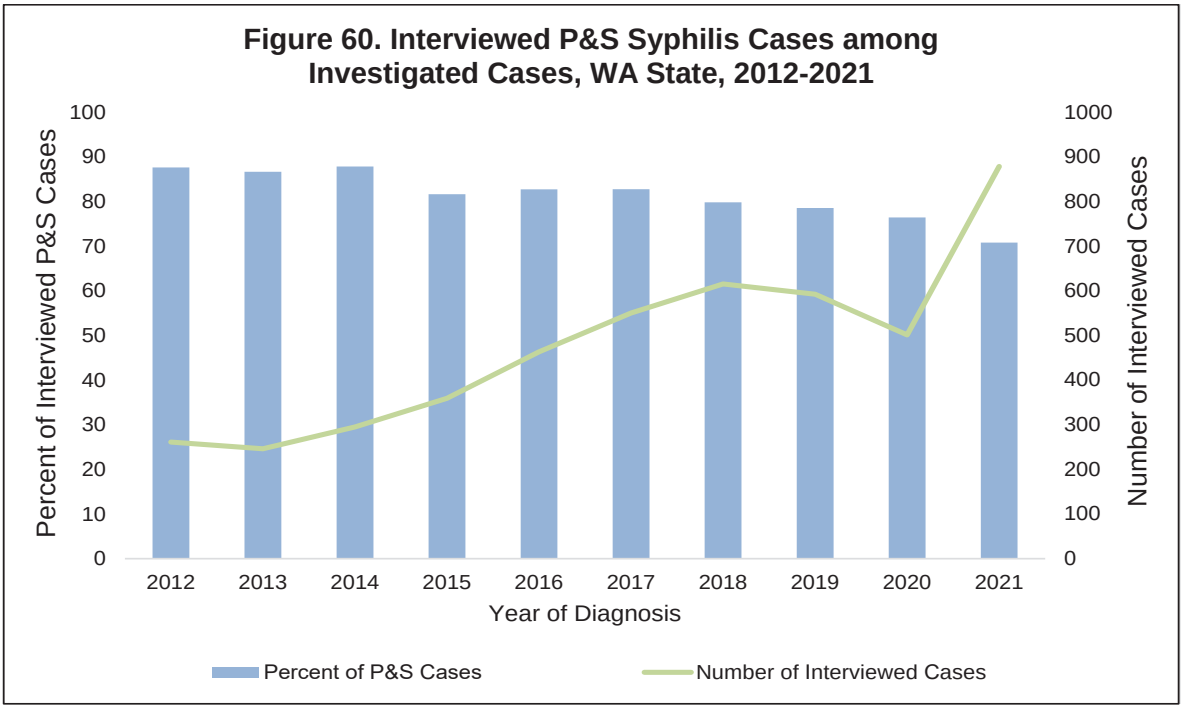


Figure 60 presents interviews among P&S syphilis cases. P&S cases typically have a higher interview rate when comparing to all stages of syphilis. Still, the trends over time in number and percentage of P&S cases interviewed are similar to all stages of syphilis.

Figure 60. Interviewed P&S Syphilis Cases among Investigated Cases, WA State, 2012-2021



Through interviews with patients, DIS can identify partners that may have been exposed to syphilis and reach out to notify and assist them. Figure 61 presents the percent of treated partners identified through interviews for all stages of syphilis cases. Although more than 50% of partners had been treated from 2012 to 2018, it declined to around 30% by 2020 and then slightly increased into 2021. For only primary & secondary syphilis, the partner treatment index has been higher than all stages during some years and lower for other years, shown in Figure 62. In 2021, about 35% of partners were treated for both P&S syphilis and all stages.

Figure 61. Syphilis (All Stages) Partner Treatment Index, WA State, 2012-2021

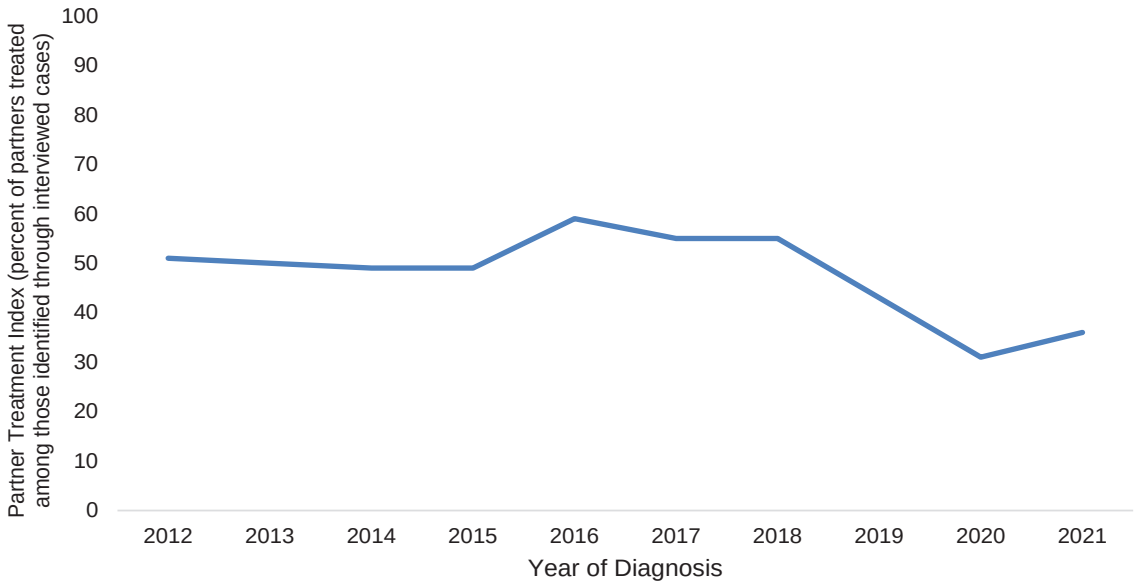
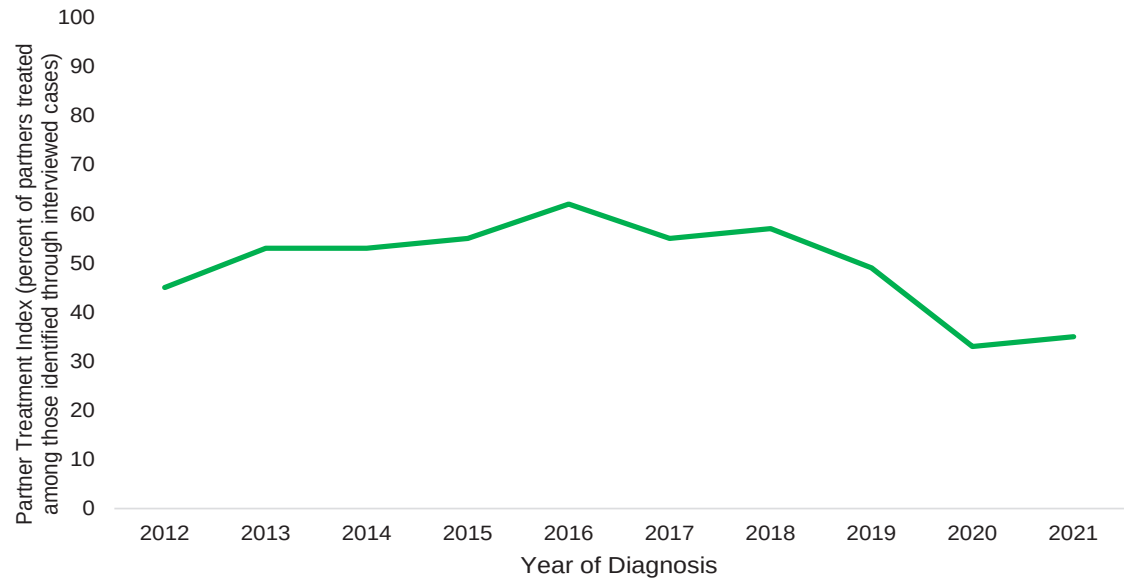


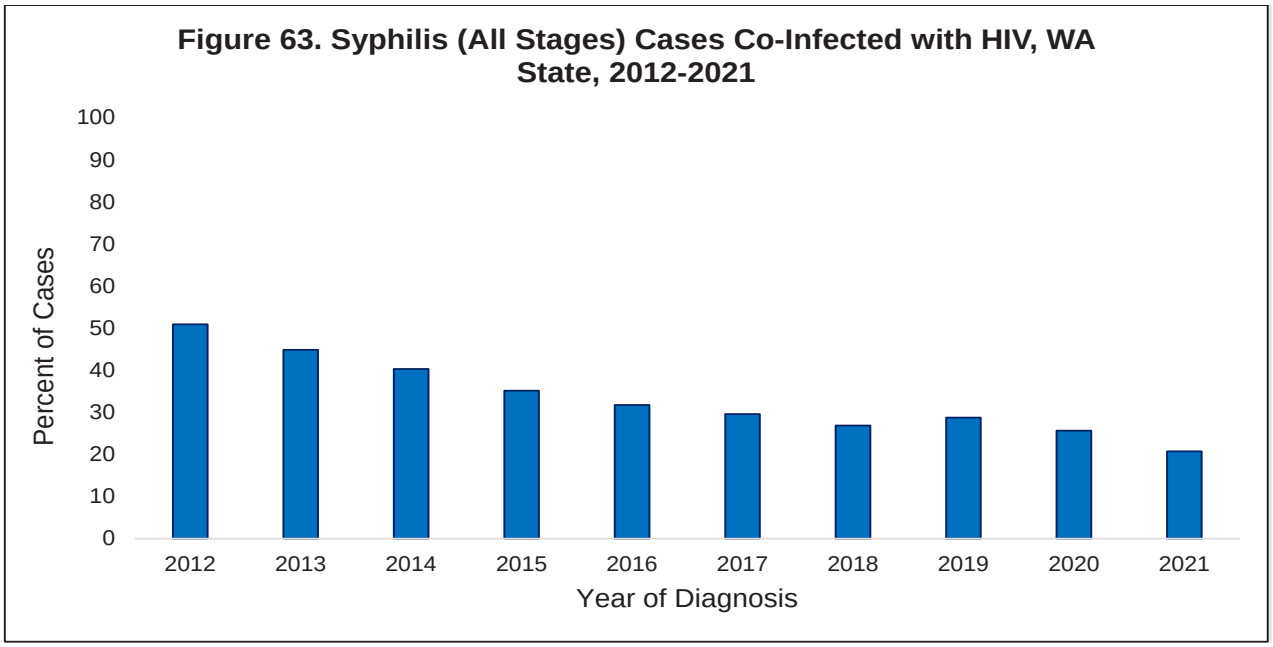
Figure 62. Primary & Secondary Syphilis Partner Treatment Index, WA State, 2012-2021

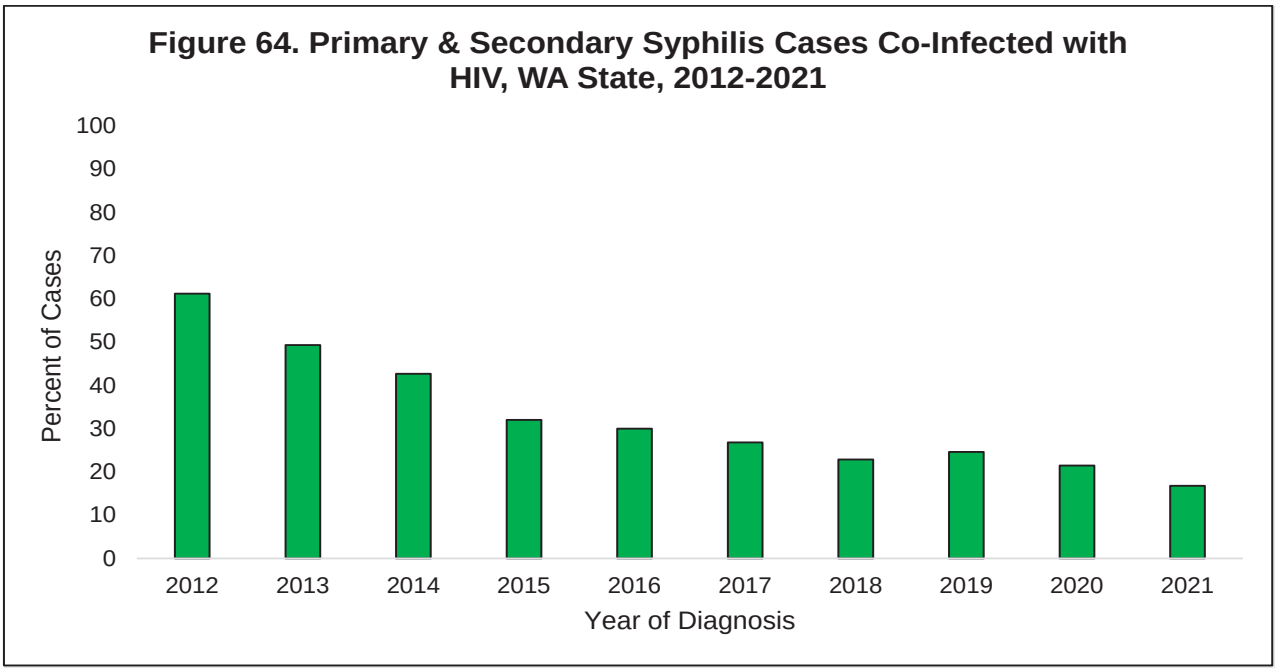


SYPHILIS AMONG PEOPLE LIVING WITH HIV

People living with HIV are more likely to contract syphilis than people who are not living with HIV. Additionally, patients presenting with chancres (sores) from syphilis may be more likely to become infected with HIV or other STIs due to the skin opening at the site of the sores. Figures 63 and 64 display the percent of syphilis cases (all stages) and primary & secondary, respectively that are co-infected with HIV. Both figures show that the percent of cases living with HIV has been on a downward trend from 2012 to 2021, but PLWH are still co-infected with HIV at a high rate. In 2021, 21% of syphilis cases (all stages) were among PLWH, and 17% of P&S cases were among PLWH.

By ensuring someone has proper care for STIs and/or HIV, we can reduce their vulnerability to co-infection. Additional information on HIV and STI co-morbidity can be found in the Office of Infectious Diseases Disparities Report (150-159-DisparitiesReport.pdf (wa.gov)).

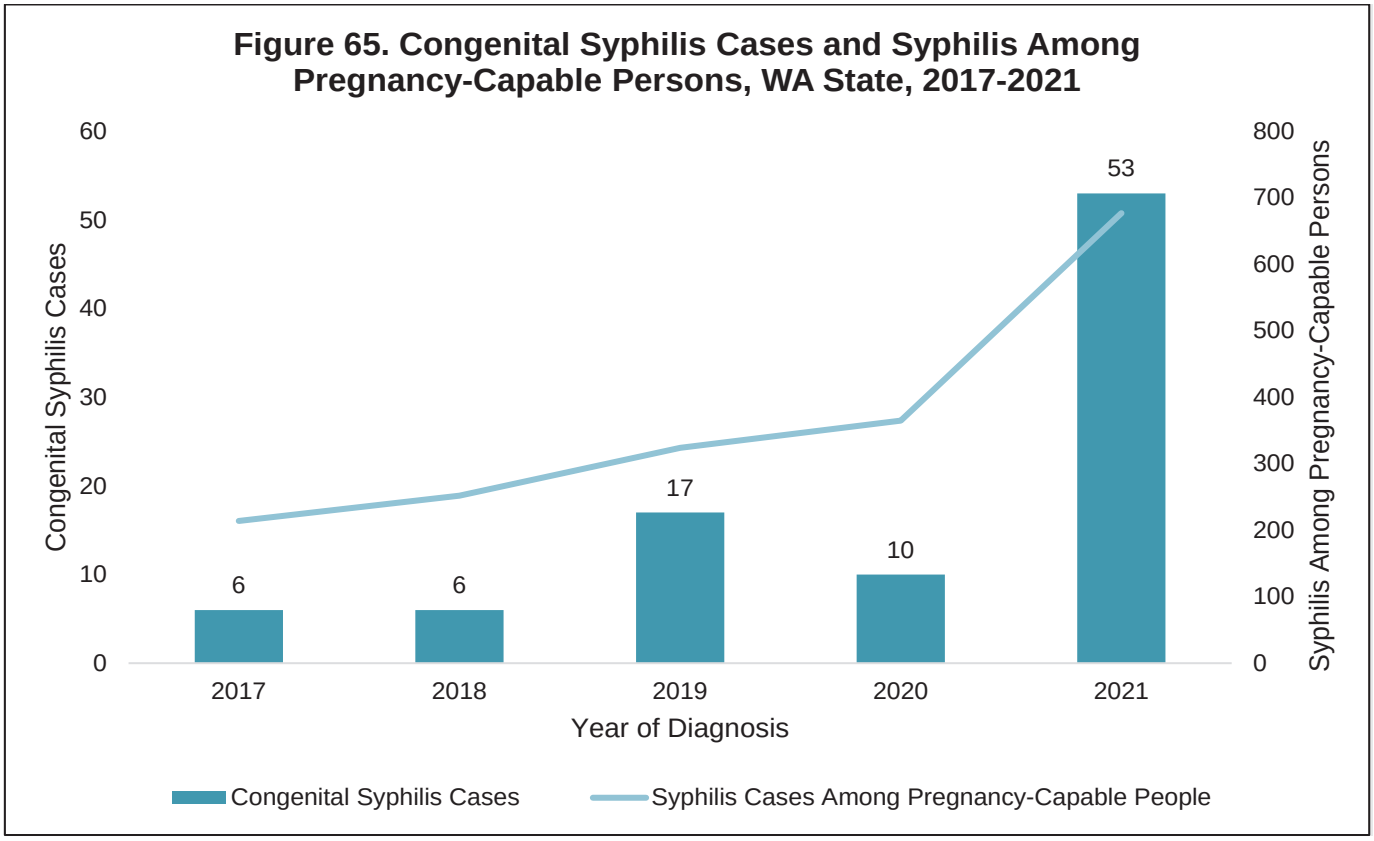




CONGENITAL SYPHILIS

Congenital syphilis (CS) cases have risen sharply in recent years, both in Washington and nationally. This is of special concern because of the extreme health impacts CS can have on a neonate. Babies born to a parent with untreated syphilis may be born with complications, be stillborn, or later die from complications. Figure 65 shows the great rise in CS cases in Washington between 2017 to 2021, alongside the rise in cases among pregnancy-capable persons. In the years prior to 2017, CS cases had been very rare. By 2021, Washington reached an unprecedented number of 53 CS cases.

The best way to prevent CS is to routinely screen pregnant persons for syphilis and to properly treat them if they are positive for infection. More information on CS screening and treatment for the parent and baby is available from the CDC.

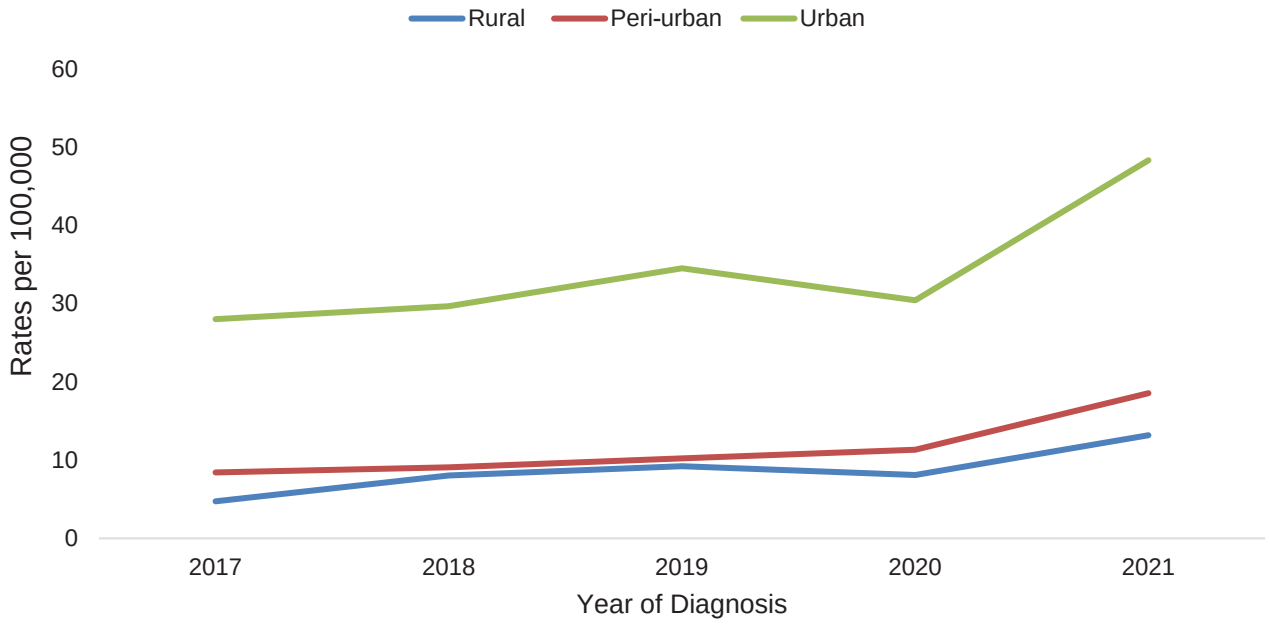


SYPHILIS: EVALUATING CASE FOLLOW-UP ALONG THE RURAL-URBAN CONTINUUM

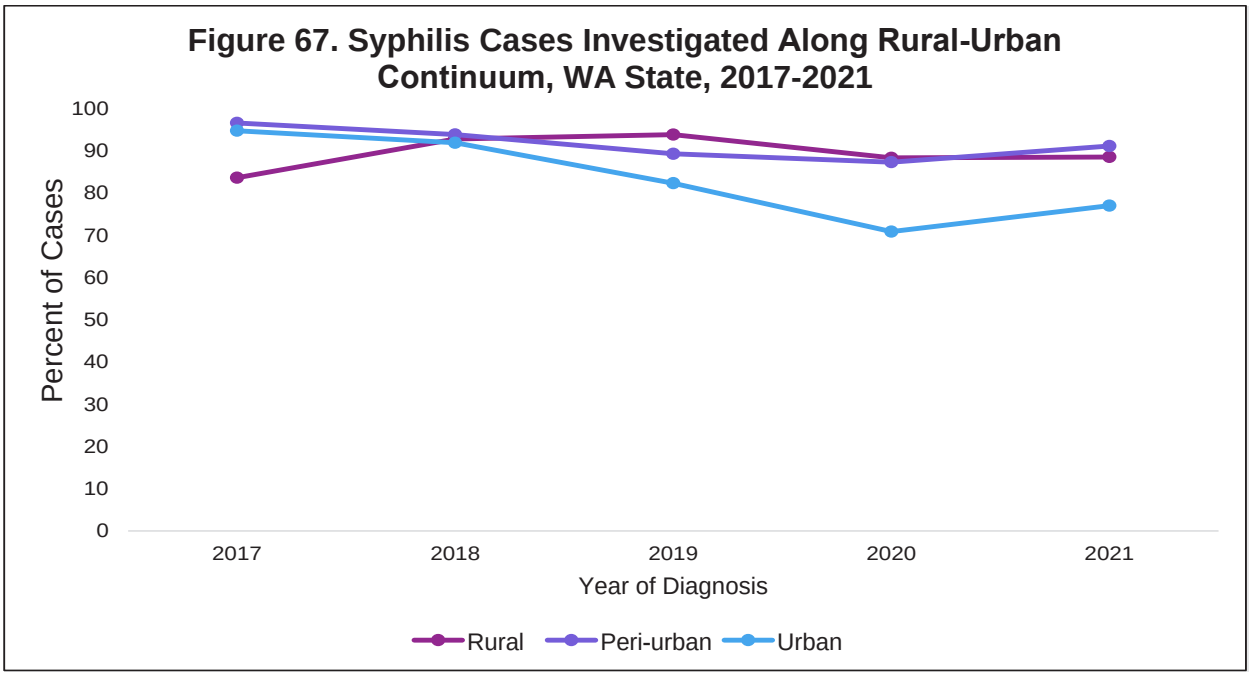
Disparities in patient outcomes across the rural-urban continuum have been shown for many health conditions, and syphilis is no exception. Through using an urban-rural classification system developed specifically for Washington, syphilis cases can be geocoded to the census tract level to identify trends along the rural-urban continuum and to highlight areas which may need further public health support.

Rates of syphilis were significantly higher in urban areas than in peri-urban or rural areas from 2017 to 2021, as shown in Figure 66. Each year, urban areas composed over 85% of statewide syphilis cases. Urban areas also had the largest increase in cases per 100,000 people from 2020 to 2021.

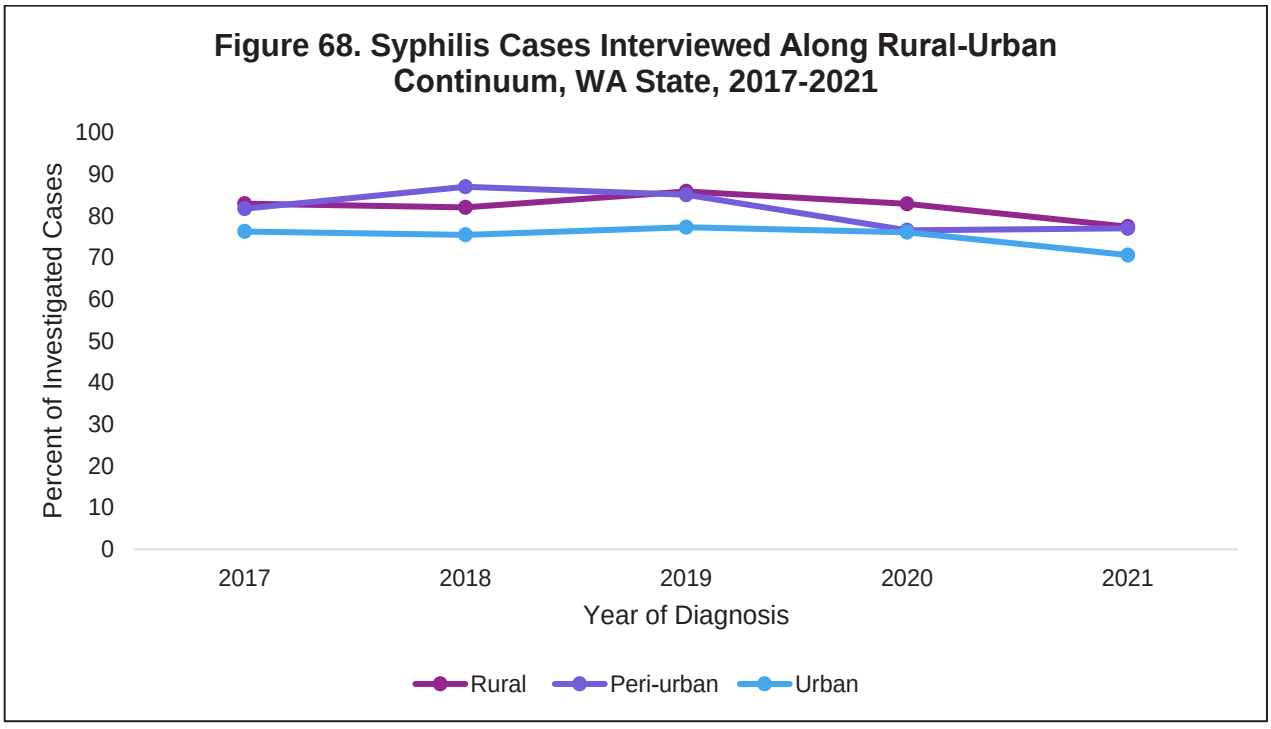
Figure 66. Syphilis Rates Along the Rural-Urban Continuum, WA State, 2017-2021



Since 2018, urban areas have had the lowest percent of investigated (contacted) cases as compared to rural and peri-urban areas. From 2018 to 2020, the percentage of investigated cases in urban areas dropped by over 20%, whereas only small decreases were seen in rural and peri-urban areas during the same time frame. Figure 67 shows the percentage of investigated syphilis cases for each setting from 2017 to 2021.



For interviews among investigated cases, urban areas have also been lower than peri-urban or rural settings, aside from 2020 when urban and peri-urban areas had comparable interview rates. The percentage of investigated cases interviewed between 2017 to 2021 is shown in Figure 68.



Interviews are important for identifying partners who may have been exposed to syphilis, so they may be contacted and receive appropriate treatment and follow-up. When comparing the naming of partners by the original patient, urban areas have a much lower percent of interviewed cases with one or more named partners when compared to rural and peri-urban areas between 2017 to 2021. Figure 69 shows this has decreased across each setting from 2018 to 2020, followed by a slight increase across settings from 2020 to 2021.

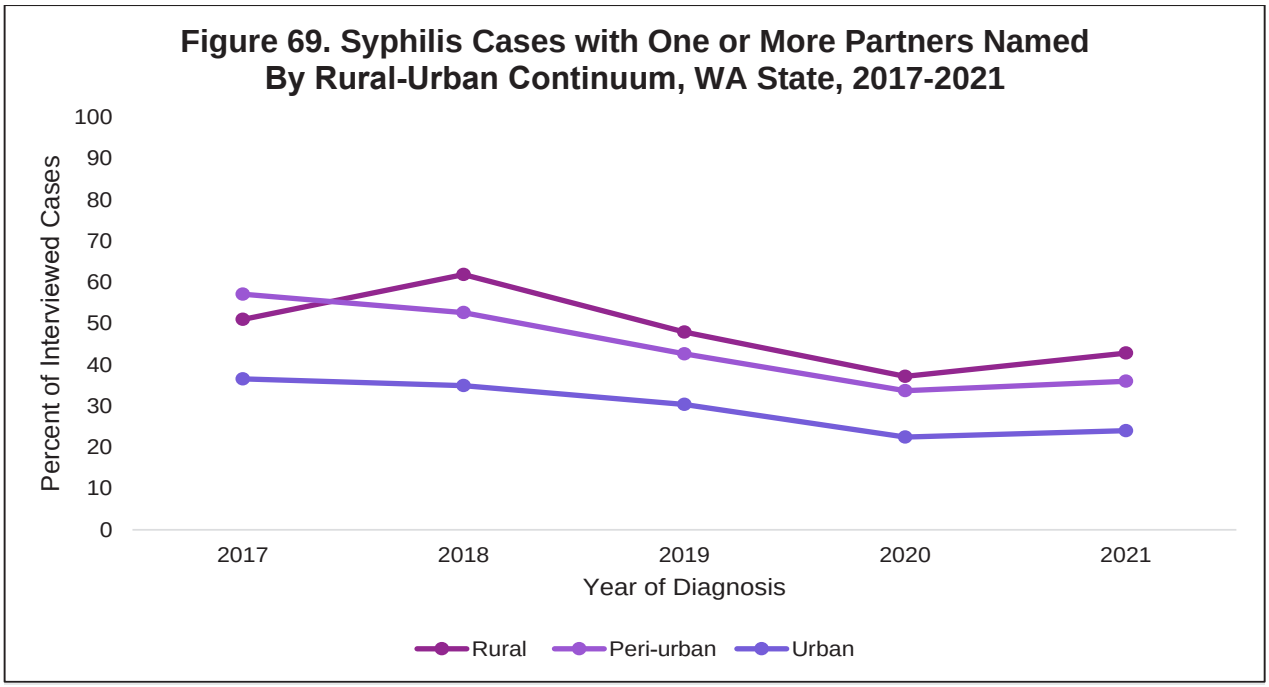
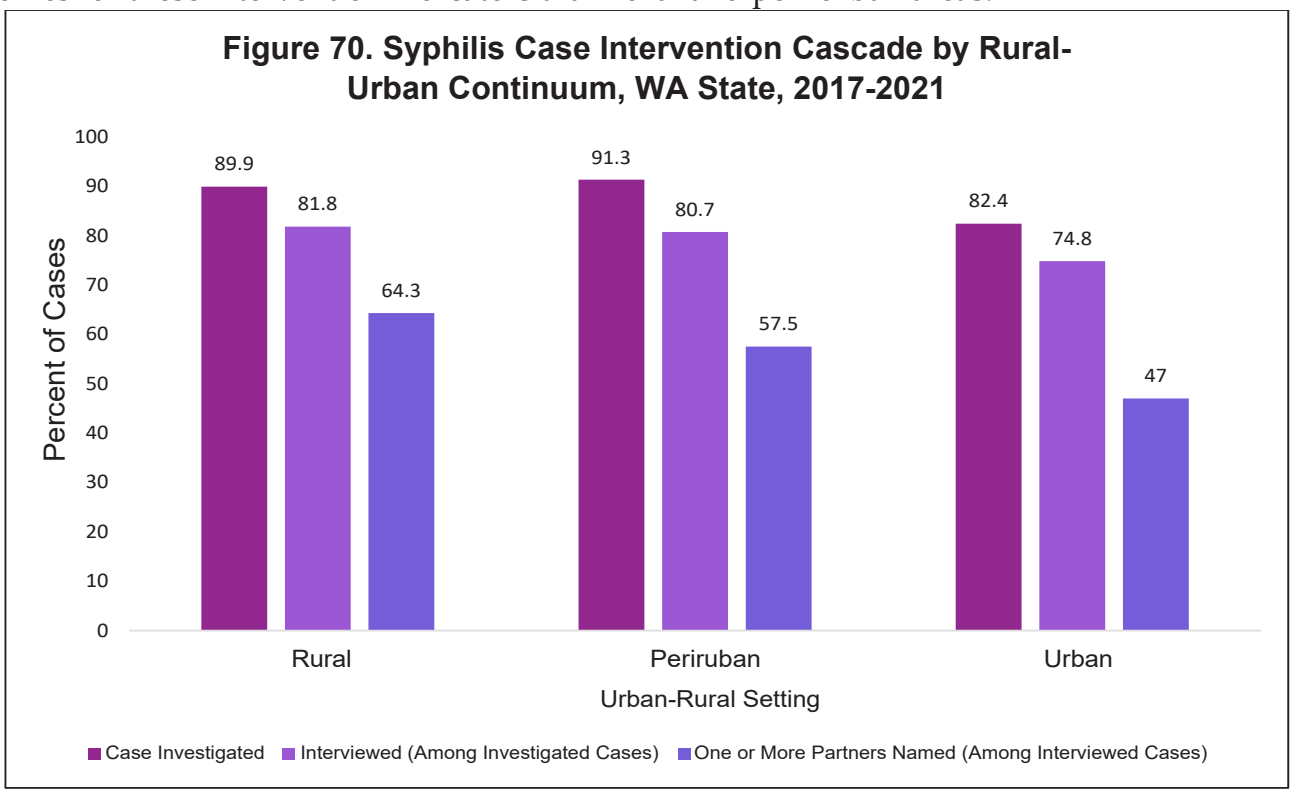
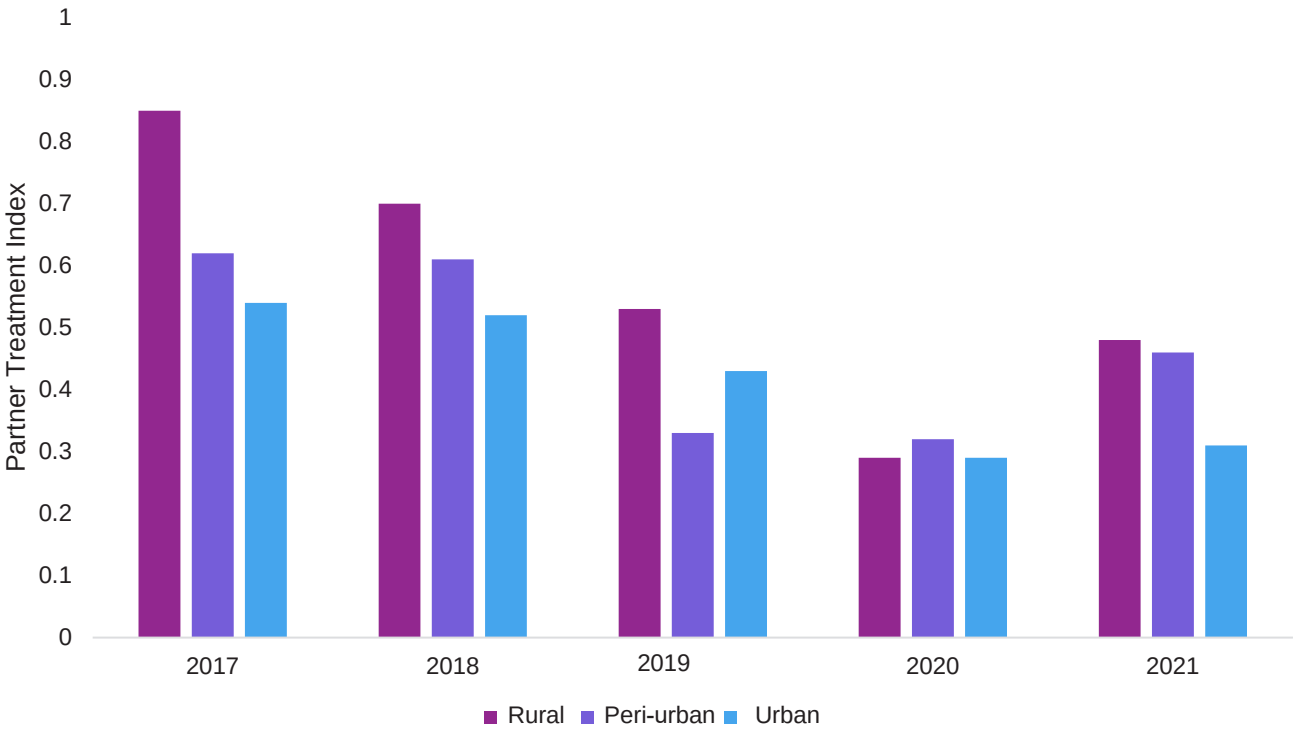


Figure 70 combines data shown in Figures 67, 68, and 69 to show how the case 'intervention cascade' varies between the rurality settings. As previously shown, urban areas have lower outcomes for these intervention indicators than rural and peri-urban areas.



Finally, comparing the partner treatment index by rurality setting in Figure 71 shows that treated partners has dropped across settings when comparing 2017 to 2021, reaching a low for each in 2020. In 2021, urban areas had the lowest partner treatment index out of the three settings.

Figure 71. Syphilis Partner Treatment Index along the Rural-Urban Continuum, WA State, 2017-2021



Despite these disparities in many case intervention outcomes along the rural-urban continuum, treatment of original patients is high across the three settings. Even as case numbers reached unprecedented levels in 2021, the percent of cases receiving some form of treatment was still above 94% in rural, peri-urban, and urban areas.

Section 4. Herpes

Genital herpes is caused by the HSV-1 and HSV-2 viruses and can be transmitted through vaginal, anal, or oral sex. Patients infected with herpes may present with one or more blisters around the site of infection. Some people may not notice any symptoms when infected with herpes. For people who do have symptoms, they may experience repeated outbreaks. Using a barrier properly every time one has sex can prevent transmission of herpes. Further information about herpes can be found on the CDC website STD Facts - Genital Herpes (cdc.gov).

Table U displays the number of cases of adult genital herpes and the rate per 100,000 in Washington from 2002 to 2021. Although genital herpes is a notifiable condition in Washington, it is known to be drastically under-reported and often goes undiagnosed. As such, the presented numbers are likely significantly underestimated. The lowest number of herpes infections during this time frame was reported in 2021.

Table U. Reported Herpes Cases and Rate per 100,000 WA State, 2002-2021

Year of Diagnosis	Number of Cases	Cases per 100,000
2002	1917	31.6
2003	2046	33.4
2004	2147	34.6
2005	2305	36.6
2006	2426	37.8
2007	1947	29.8
2008	1981	30.0
2009	1879	28.2
2010	2029	30.2
2011	2160	31.9
2012	2199	32.3
2013	2233	32.4
2014	2195	31.5
2015	2527	35.8
2016	2552	35.5
2017	2082	28.5
2018	1612	21.7
2019	1741	23.1
2020	1375	18.0
2021	1189	15.3

Section 5. Rare STIs

Cases of neonatal herpes, lymphogranuloma venereum, chancroid, and granuloma inguinale are notifiable but very rare in Washington. The number of confirmed cases of each of these conditions for 2012 to 2021 is reported in Table V. In those ten years, Washington has not had one confirmed case of chancroid or granuloma inguinale.

Table V. Rare STIs in WA, 2012-2021

Year of Diagnosis	Neonatal Herpes	Lymphogranuloma venereum	Chancroid	Granuloma Inguinale
2012	5	0	0	0
2013	4	0	0	0
2014	1	0	0	0
2015	1	1	0	0
2016	2	1	0	0
2017	6	1	0	0
2018	3	1	0	0
2019	1	2	0	0
2020	2	0	0	0
2021	4	0	0	0

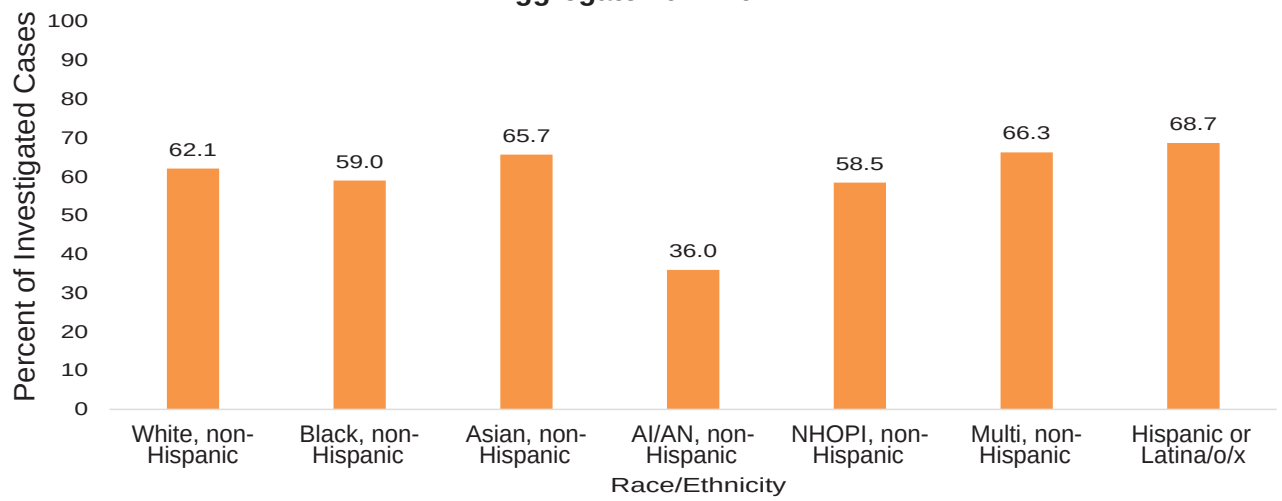
Section 6. Effects of Racism Across STIs

Racism creates wide disparities in health outcomes across many conditions, including STIs. The effects of racism are far-reaching and occur at many levels that may impact a patient's health outcomes when comparing people of color versus white people. Systemic racism creates additional barriers to accessing care within a medical system that has historically excluded people of color. Once care is accessed, interpersonal racism can contribute to further disparities in health outcomes and may prevent patients of color from feeling comfortable in discussions about their health with providers.

As presented within the "Gonorrhea" and "Syphilis" sections, there are large disparities in STI incidence by race/ethnicity. Diving further into that, we can see the disparities when examining STI case follow-up and outcomes.

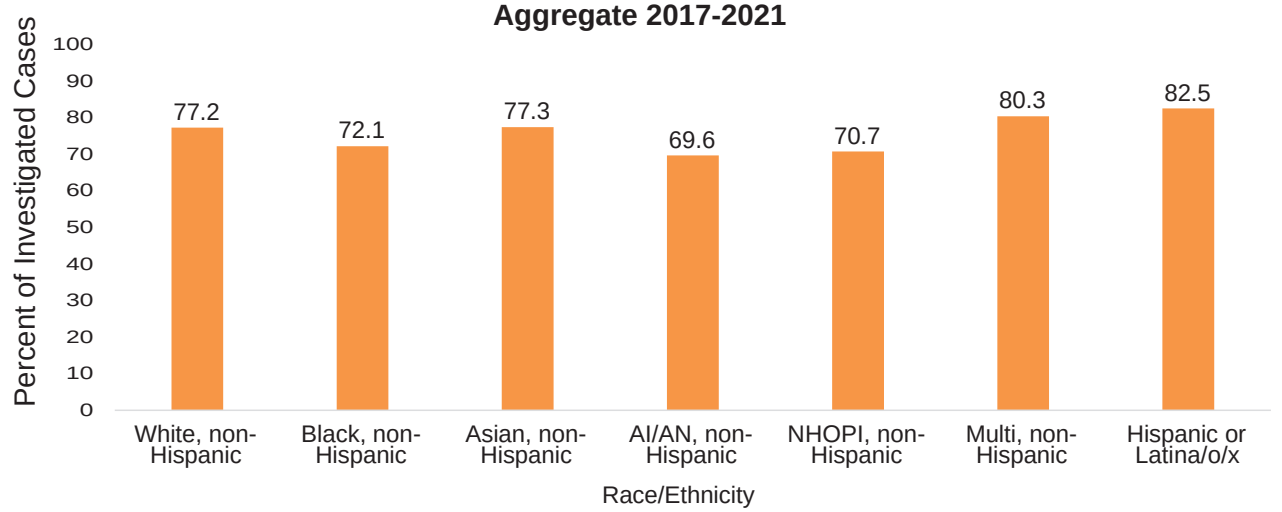
Among investigated cases, the percentage of interviewed cases varied significantly by race/ethnicity. This is shown for aggregate 2017-2021 gonorrhea cases in Figure 72. AI/AN non-Hispanic persons had the lowest interview rates by far, more than 25% lower than White non-Hispanic persons. NHOPI non-Hispanic persons and Black non-Hispanic persons also had lower interview rates for gonorrhea than White non-Hispanic persons.

Figure 72. Gonorrhea Cases Interviewed by Race/Ethnicity, WA State, Aggregate 2017-2021

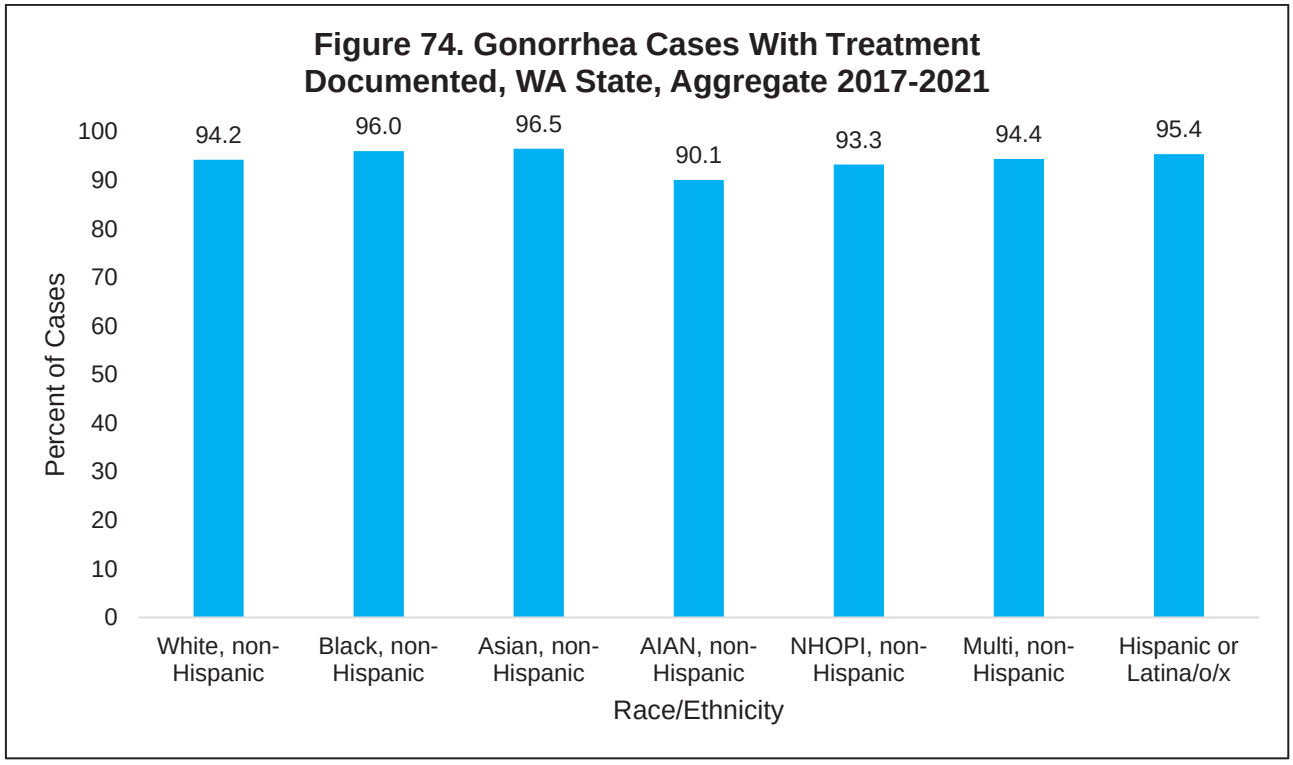


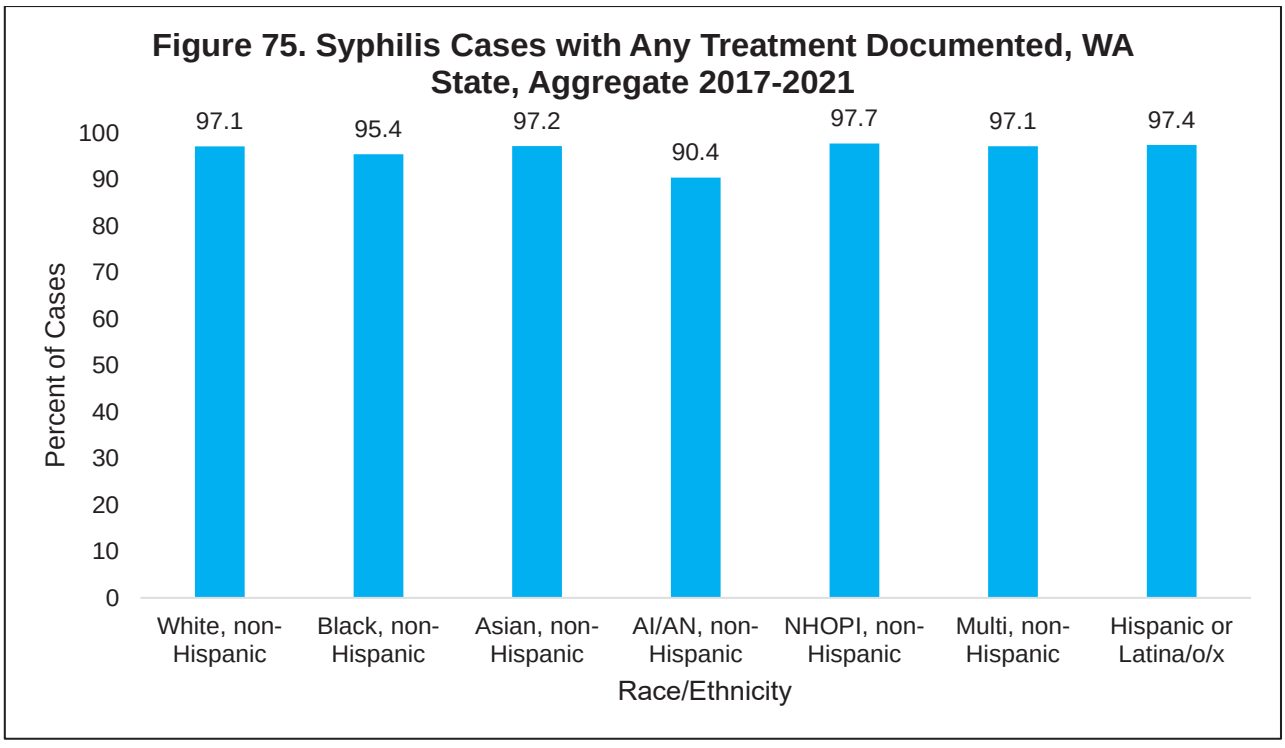
While the disparities are not as wide for syphilis as gonorrhea, gaps in interview rates by race/ethnicity are still very much present. Syphilis case interviews were lowest among non-Hispanic AI/AN, NHOPI, and Black persons for 2017-2021 syphilis cases (Figure 73).

Figure 73. Syphilis Cases Interviewed by Race/Ethnicity, WA State, Aggregate 2017-2021

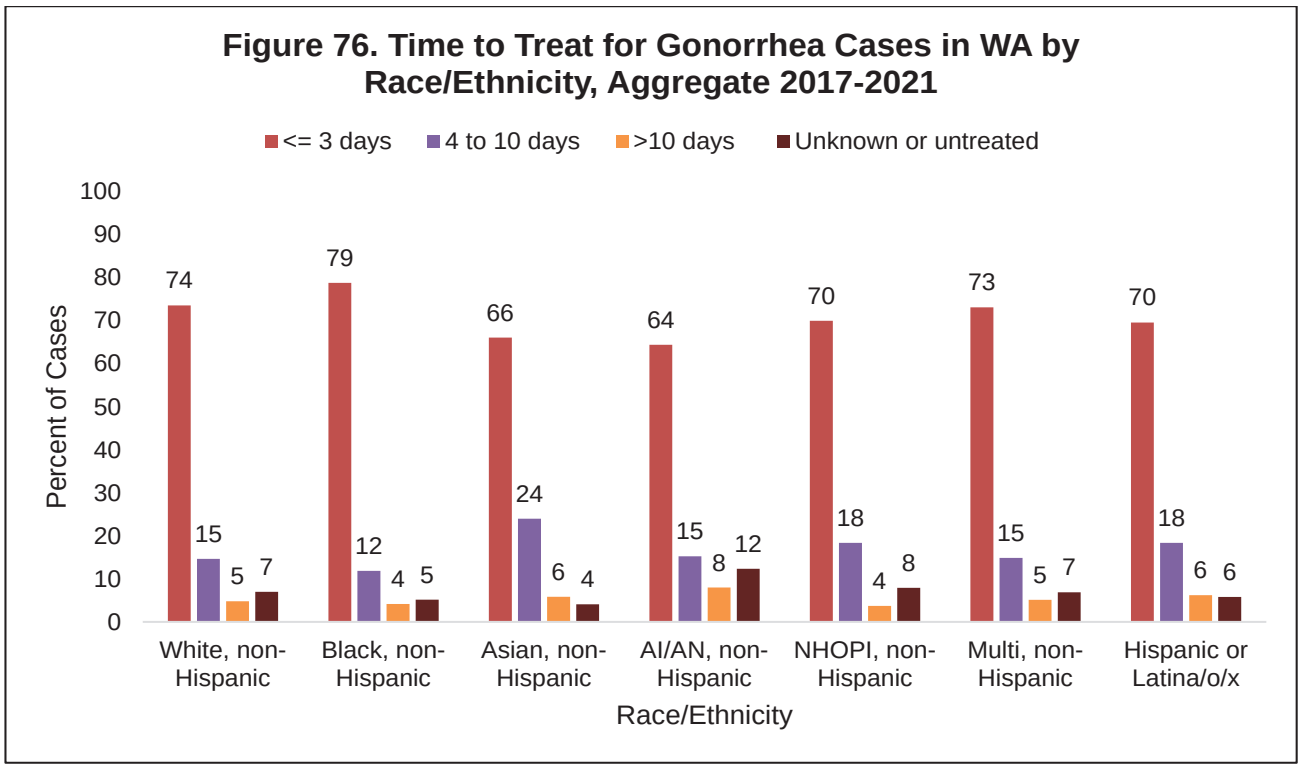


Treatment levels for both gonorrhea and syphilis also vary by race/ethnicity, although the gaps are smaller than those visible when examining interviews. For both gonorrhea and syphilis, treatment was lowest among AI/AN non-Hispanic persons for 2017-2021 case reports (Figures 74 and 75).

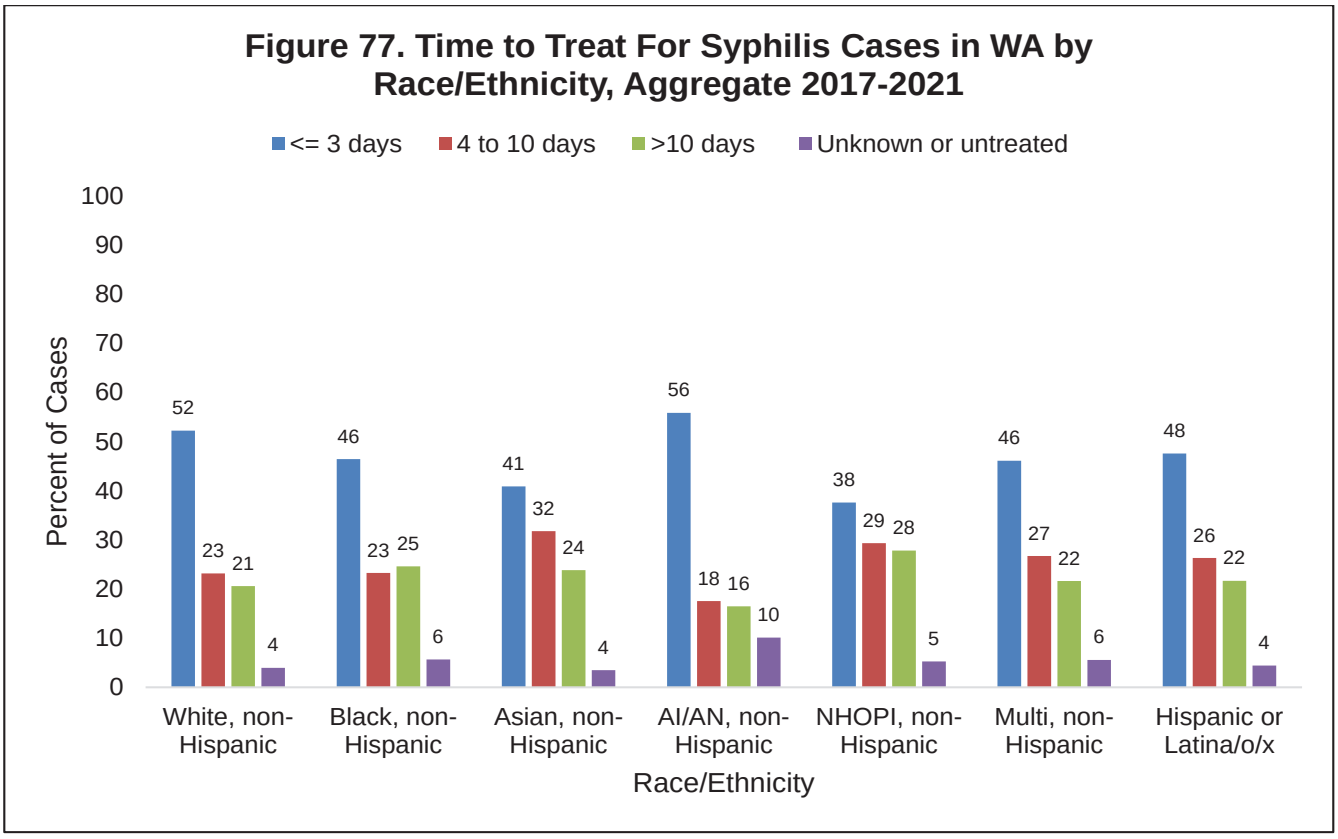




Along with receiving treatment, the time to treat varies greatly by race/ethnicity and can be seen for gonorrhea in 2017-2021 in Figure 76. Time to treat is a useful measure of care, since longer time to treat may suggest further barriers to receiving care after a screening and diagnosis. AI/AN non-Hispanic persons had the lowest proportion of cases treated within three days of diagnosis and the highest proportion of cases with an unknown/untreated status. Treatment within three days was also lower for Asian non-Hispanic, NHOPI non-Hispanic, and Hispanic or Latina/o/x persons than the statewide average. Despite having the highest STI rates and lower interview rates, Black non-Hispanic persons had the highest percent of cases treated within three days of diagnosis.

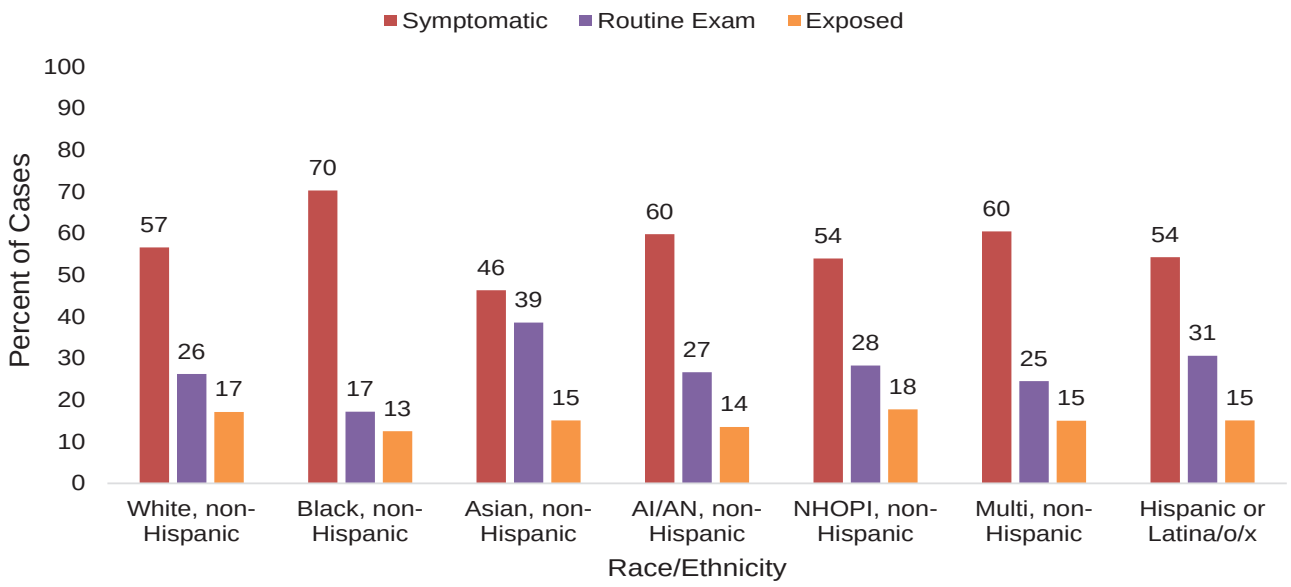


Time to treat for syphilis by race/ethnicity has some different trends than gonorrhea. While AI/AN non-Hispanic persons had the lowest percent of cases treated within three days for gonorrhea, they had the highest percent of cases treated within three days for syphilis from 2017-2021 (Figure 77). However, AI/AN non-Hispanic persons also had the highest percent of unknown/untreated cases for this time period. NHOPI non-Hispanic persons had the lowest percent of cases treated within three days of diagnosis and the highest percent of cases treated more than ten days after diagnosis.



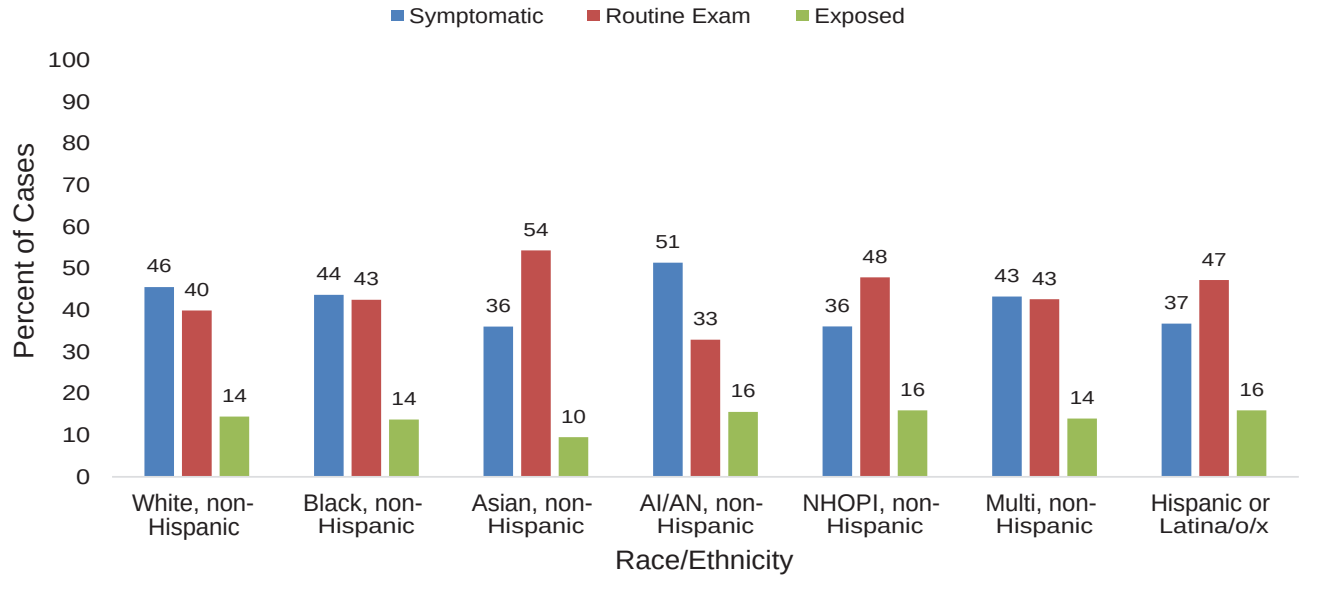
The reason for the visit where one is diagnosed with an STI may provide some insight into access to care. For example, if a certain population is much more likely to visit for being symptomatic than statewide levels, it could indicate less access to routine preventive care. Figure 78 shows that Black non-Hispanic persons had the highest percent of cases visiting for being symptomatic and the lowest percent of cases visiting for routine exams from 2017 to 2021. Asian non-Hispanic persons were least likely to visit for being symptomatic and most likely to visit for a routine exam.

Figure 78. Reason for Visit of Gonorrhea Diagnosis by Race/ Ethnicity, WA State, Aggregate 2017-2021



The reason for visit by race/ethnicity for syphilis is different than for gonorrhea from 2017 to 2021. For syphilis, AI/AN non-Hispanic persons were most likely to visit for being symptomatic and least likely to visit for a routine exam (Figure 79). Routine exams at syphilis diagnoses were highest among Asian non-Hispanic persons.

Figure 79. Reason for Visit of Syphilis Diagnosis by Race/ Ethnicity, WA State, Aggregate 2017-2021



Conclusions

STI caseloads in Washington have increased over recent decades, and these high caseloads are projected to continue. As STI incidence has increased, most populations have experienced an increase in cases. STIs are disproportionately affecting many populations that have had historically high case numbers, while also shifting into new populations. Although any STI has potential for complications and long-term damage, perhaps the most concerning infection currently is syphilis, as transmission has exploded in the past few years. The rise in syphilis among pregnancy-capable persons and resulting higher congenital syphilis case counts is of great public health concern and a continued focus for STI case follow-up.

Once again, the DOH STI Surveillance team would like to acknowledge and thank the local health jurisdictions and DIS across the state for their ongoing, diligent efforts to provide appropriate care and follow-up to people infected with an STI, especially during the COVID-19 pandemic. We also want to recognize the many people in clinical facilities statewide who initially screen patients and report positive STI laboratory results. All of this work is extremely valuable to protecting the health of people in Washington and preventing further transmission.

There is still much progress to be made in reducing the overall STI burden and the large gaps in STI diagnoses and outcomes across populations. DOH is committed to actively supporting measures to improve health equity, and the STI Surveillance team will continue to routinely report STI trends for transparency.

For questions or further information about STI surveillance in Washington State, the STI Surveillance team may be contacted at STD_surveillance@doh.wa.gov. We thank you for your interest in STI surveillance and support of public health in Washington.

DOH 150-224 June 2023

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