| 2024| Sexually Transmitted Infections Data Brief|

Key Findings from Guilford County Sexually Transmitted Infection (STI) Data

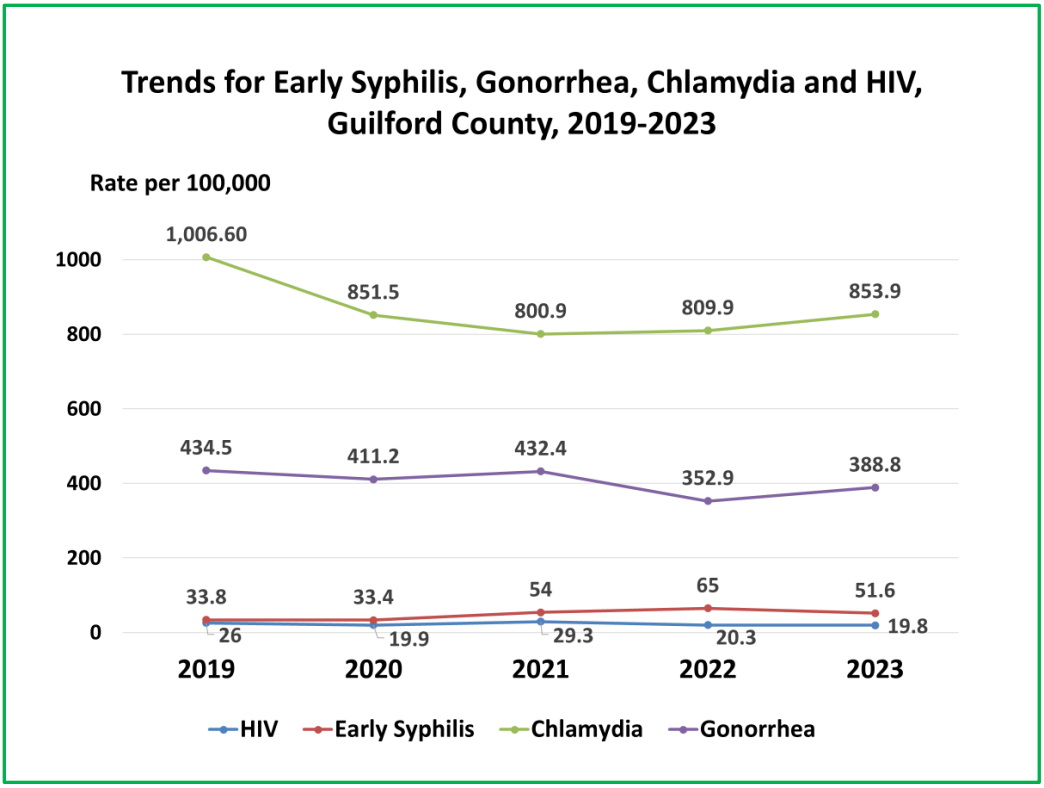
- Disparities exist amongst racial and ethnic minorities as well as sex and gender minorities. It is important to note that these higher rates are not directly caused by a person's race, ethnicity, heritage, gender, sex, or sexual orientation but likely by social and systemic conditions that are more likely to affect these vulnerable groups.
- In 2023, the most commonly occurring sexually transmitted infection in Guilford County was chlamydia, followed by gonorrhea with 4,667 and 2,123 new cases, respectively.
- Rates of new cases of early syphilis dropped from 65.0 per 100,000 population in 2022 to 51.6 per 100,000 population in 2023.
- The rate of new HIV cases decreased in Guilford County from 29.4 per 100,000 in 2021 to 19.7 in 2023; Guilford has the second highest HIV Disease rate among comparison counties.

Note on data in this report:

- *The processing of STI data records may result in a delay in public data availability. Published STI data may change with further follow-up and investigation.*
- *Rates are expressed per 100,000 population. Please note that rates based on small numbers (fewer than 20 cases) are unstable and should be interpreted with caution.*
- *2019 through 2023 counts and rates include "confirmed" and "probable" case definitions.*

Inside this Data Brief

	Page
Key Findings	1
STI Cases and Rates, 2019-2023	2
Syphilis, Characteristics of Cases	4
Syphilis Trends	6
HIV Infection, Characteristics of Cases	9
HIV Infection Trends	10
Chlamydia, Characteristics of Cases	12
Chlamydia Trends	13
Gonorrhea, Characteristics of Cases	15
Gonorrhea Trends	16



Sexually Transmitted Infections, Cases and Rates per 100,000 Population Guilford County, 2019-2023

Reportable Disease	2019	2019	2020 [1]	2020 [1]	2021	2021	2022	2022	2023	2023
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Chlamydia[2]	5,414	1006.6	4,609	851.5	4,347	800.9	4,423	809.9	4,663	853.9
Gonorrhea	2,337	434.5	2,226	411.2	2,347	432.4	1,927	352.9	2,123	388.8
HIV infection[3]	118	26.0	91	19.9	135	29.3	94	20.3	92	19.8
HIV – New AIDS cases[3]	27	6.0	32	7.0	20	4.3	36	7.8	32	6.9
Syphilis (early) [4]	182	33.8	181	33.4	293	54.0	355	65.0	282	51.6
Syphilis (primary & secondary)	82	15.2	104	19.2	174	32.1	212	38.8	152	27.8
Syphilis (early non-primary non-secondary) [5]	100	18.6	77	14.2	119	21.9	143	26.2	130	23.8
Syphilis (late and unknown duration) [6]	62	11.5	56	10.3	122	22.5	182	33.3	189	34.4
Congenital syphilis [7]	1	0.19	1	0.18	1	0.18	6	1.1	4	0.5
Pelvic Inflammatory Disease (PID)	3	0.6	4	0.7	1	0.2	1	0.2	3	0.5
Non-Gonococcal Urethritis (NGU)	172	32.0	73	13.5	66	12.2	95	17.4	114	20.7
Hepatitis A	10	1.9	21	3.9	4	0.7	2	0.4	2	0.4
Hepatitis B (acute)	16	3.0	3	0.6	5	0.9	2	0.4	3	0.5
Hepatitis B (chronic carrier)	87	16.2	58	10.7	59.0	10.9	85	15.6	81	14.7
Hepatitis C (acute)	10	1.9	3	0.6	0	0	1	0.2	1	0.2
Hepatitis C (chronic)	699	130	481	88.9	489	90.1	371	67.9	263	47.8
Population	537,174		541,299		542,756		546,101		549,866	

Sources: Data for chlamydia, gonorrhea, HIV infection, early syphilis, primary and secondary syphilis, and early non-primary non-secondary syphilis are from the NC HIV/STD Surveillance Annual Reports; Data for other STI conditions are from the NC Disease Data Dashboard.

[1] 2020 data for sexually transmitted diseases should be treated with caution due to the impact of the COVID-19 pandemic on accessing STD testing, STD treatment, and surveillance activities in North Carolina.

[2] Lymphogranuloma venereum cases are included in the chlamydia number count starting in 2021.

[3] Newly diagnosed HIV and AIDS rates among adults and adolescents ages 13 and above. Rates are based on that population.

[4] Early syphilis includes primary and secondary syphilis and early non-primary and non-secondary syphilis.

[5] Early non-primary non-secondary (formerly early latent) syphilis.

[6] Late is defined as having been infected more than one year and presenting with inflammatory lesions of the cardiovascular system, skin, bone, or other tissue/structures. Late syphilis usually becomes clinically manifest only after a period of 15–30 years of untreated infection.

[7] Includes confirmed and probable congenital syphilis cases based on 2018 case definition https://ndc.services.cdc.gov/case-definitions/syphilis-2018/.

Notes on data sources used in this STI Data Brief:

- Summary data for HIV Infection are drawn from the enhanced HIV/AIDS Reporting System (eHARS) and are published in the Annual HIV Surveillance Reports published by the Epidemiology Section of the NC Department of Health and Human Services. https://epi.dph.ncdhhs.gov/cd/stds/annualrpts.html
- Annual summary data for chlamydia, gonorrhea and early syphilis are drawn from the NC Electronic Disease Surveillance System and published in the Annual STD Surveillance Reports from NCDHHS.
- Data in this Data Brief for other STIs are from confirmed and probable cases reported to the NC Electronic Disease Surveillance System and published through the NC Disease Data Dashboard at https://epi.dph.ncdhhs.gov/cd/figures.html.
- Numbers and rates of confirmed and probable cases of HIV infection, chlamydia, gonorrhea and early syphilis by age, sex, race and Hispanic/Latino status are from the NC Disease Data Dashboard at https://epi.dph.ncdhhs.gov/cd/figures.html.

Sexually Transmitted Infections

Chlamydia is the most common sexually transmitted infection. Chlamydia can infect both men and women. It can cause serious, permanent damage to a woman's reproductive system, which can make future pregnancies impossible. Chlamydia can also cause a potentially fatal ectopic pregnancy, which occurs outside the womb.

Gonorrhea is a common infection transmitted by sexual contact, characterized by inflammation of the mucous membranes of the genital and urinary tracts, an acute discharge containing pus, and painful urination, especially in men. Women often have few or no symptoms, but pregnant women can transmit the infection to their baby during delivery, causing serious health problems for the baby.

Human Immunodeficiency Virus (HIV) is a virus that attacks the body's immune system, making the person more likely to get other infections or infection-related cancers. If untreated, HIV can lead to **Acquired Immunodeficiency Syndrome** (**AIDS**), a potentially fatal condition.

Syphilis is a sexually transmitted infection that can cause serious health problems if not treated. Syphilis is divided into stages—primary, secondary, non-primary, non-secondary syphilis, and late—with different signs and symptoms associated with each stage. Primary, secondary, and early non-primary non-secondary (formerly early latent) are defined as having been infected for a year or less and are considered early. Late is defined as having been infected more than one year and presenting with inflammatory lesions of the cardiovascular system, skin, bone, or other tissues/structures. Congenital syphilis occurs when an infant is infected with syphilis during pregnancy.

Non-Gonococcal Urethritis (NGU) is inflammation of the urethra not caused by gonorrhea. NGU can result from various infectious and non-infectious conditions.

Pelvic Inflammatory Disease (PID) is an infection of female reproductive organs. It is a complication often caused by some STIs such as chlamydia and gonorrhea. Other infections that are not sexually transmitted can also cause PID.

Hepatitis A, Hepatitis B, and **Hepatitis C** are potentially serious liver infections caused by three different viruses. Hepatitis A is usually transmitted by ingestion of contaminated food or water, while Hepatitis B and C are typically transmitted through contact with infectious body fluids.

Sexually Transmitted Infections: Syphilis

The following tables and chart include early syphilis cases and rates. Early syphilis is defined as having primary, secondary, or early non-primary non-secondary (formerly early latent) syphilis.

Early Syphilis Cases and Rates per 100,000, by Demographic Characteristic Guilford County Residents, 2018-2023

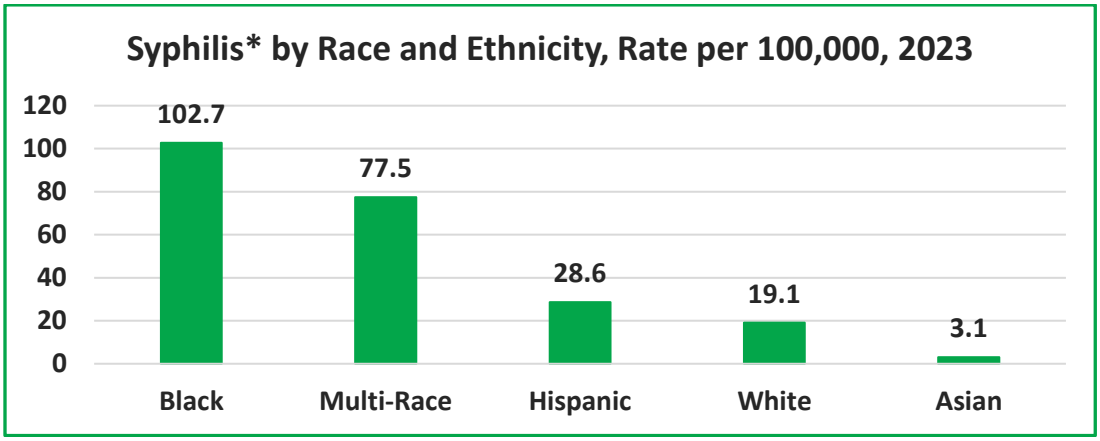
Demographic Characteristics	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Male	126	49.9	162	63.6	155	60.2	260	78.8	270	104.3	198	76.0
Female	25	8.9	21	7.4	23	8.1	42	14.8	79	27.4	77	26.6
13-17 Years	3	8.7	1	2.9	1	2.8	2	5.6	1	2.7	6	16.5
18-24 Years	41	70.2	55	93.9	49	77.0	71	111.6	86	131.7	79	120.6
25-49 Years	88	50.6	111	63.5	105	60.7	199	116.1	219	127.6	151	87.3
50-64 Years	18	17.8	14	13.8	20	19.6	27	26.3	38	37.1	35	34.4
65+ Years	1	1.2	2	2.4	3	3.7	3	3.6	5	5.6	4	4.4
Asian/Hawaiian Native	2	7.0	2	6.8	1	3.4	1	3.3	3	9.4	1	3.1
Black/African American	112	59.7	147	77.2	136	70.6	220	113.1	252	127.0	205	102.7
White/Caucasian	30	9.9	31	10.4	35	11.7	71	23.8	71	23.9	57	19.1
Multiple Races	7	53.5	3	22.1	6	42.6	10	68.2	23	152.0	12	77.5
Hispanic/Latino*	5	11.5	5	11.1	11	21.1	16	30.0	20	36.8	16	28.6

Source: NC Disease Data Dashboard.

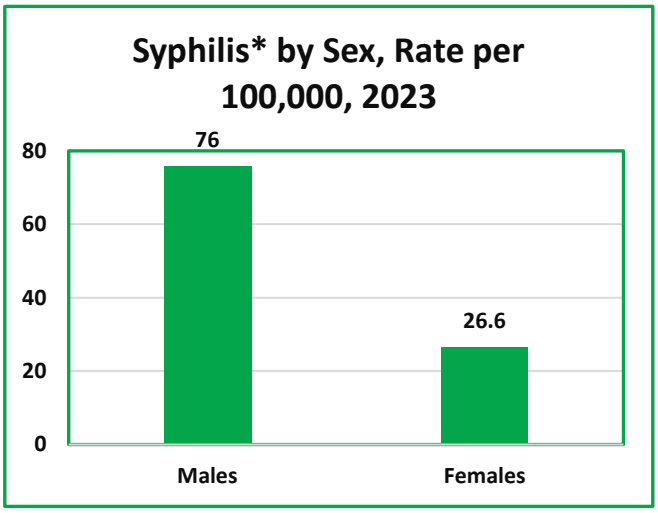
*Hispanic/Latino residents can be of any race.

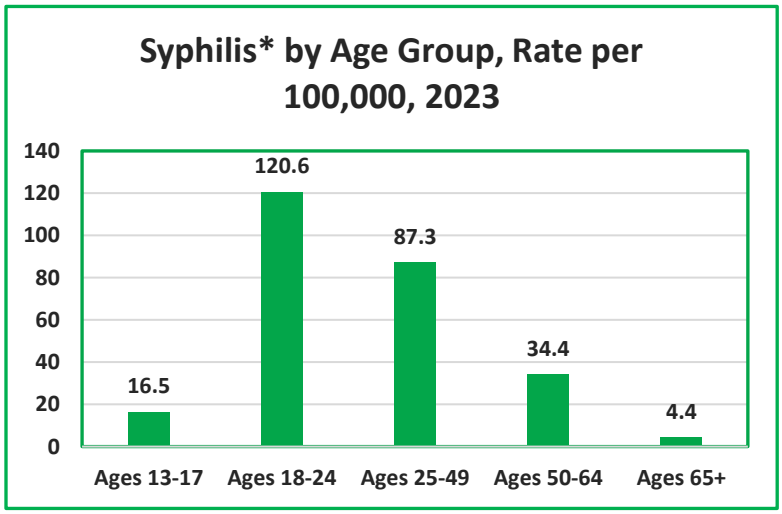
- Overall rates of early syphilis increased substantially between 2018 and 2022, more than doubling from 28.3 new cases per 100,000 to 63.9 new cases per 100,000, before dropping to 50 per 100,000 in 2023.
- Between 2018 and 2023, men consistently experienced much higher incidence rates of early syphilis than women.
- Very few residents under age 18 or ages 65 and older contract early syphilis. Those between the ages of 18 and 24 have the highest early syphilis incidence rates, followed by those ages 25 to 49.
- Black/African American residents experience the highest rates of early syphilis of all racial and ethnic groups in the county, followed by those reporting multi-race status, who had the highest rates in 2022. Asian residents had low rates over the 2018-2023 period.
- In 2018-2019, Hispanic/Latino residents experienced similar early syphilis rates as did White residents, but between 2020 and 2023 had rates exceeding White rates.
- From 2019 to 2021, Guilford County's early syphilis rate was third highest among peer comparison counties and the state overall, and second highest in 2022 and 2023.
- Guilford County syphilis rates per 100,000 have gradually increased in the past 20 years despite periodic declines. Guilford syphilis rates have exceeded North Carolina's rates from 2004 to 2023.

Demographic Characteristics of Guilford County Syphilis* Cases, 2023



Source: NC Disease Data Dashboard.
Notes: Hispanics can be of any race; percentages do not add to 100%.
*Syphilis rates include primary, secondary and early non-primary, non-secondary syphilis.

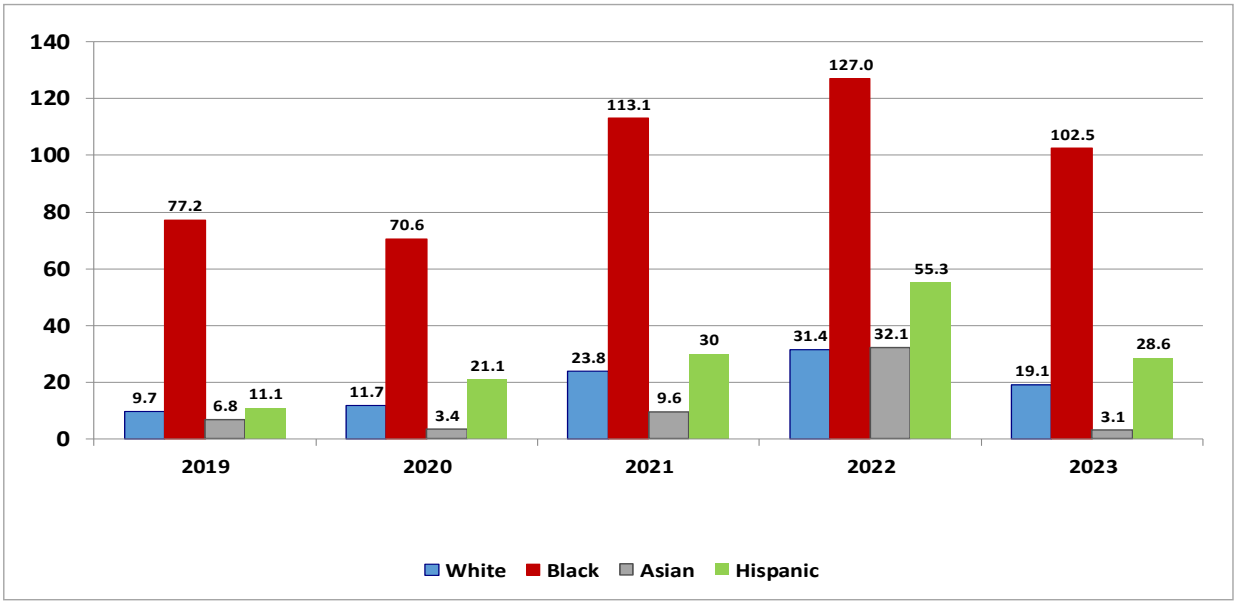




Source: NC Disease Data Dashboard.
* Syphilis rates include primary, secondary and early non-primary, non-secondary syphilis.

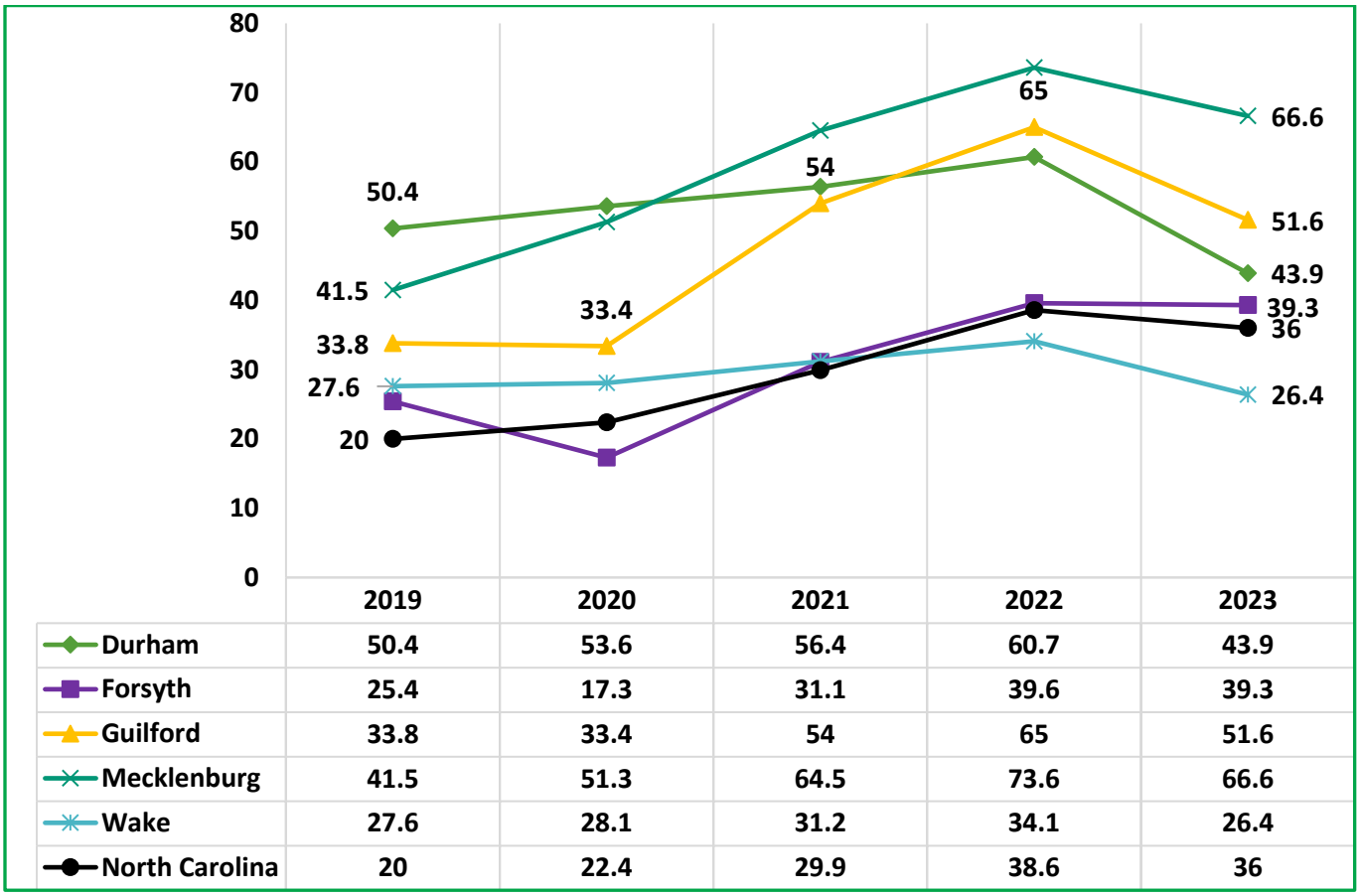
Trends in Syphilis* Rates in Guilford County by Race and Hispanic Status, 2019-2023

Rate per 100,000



Source: NC Disease Data Dashboard.
Note: *Includes early syphilis cases.

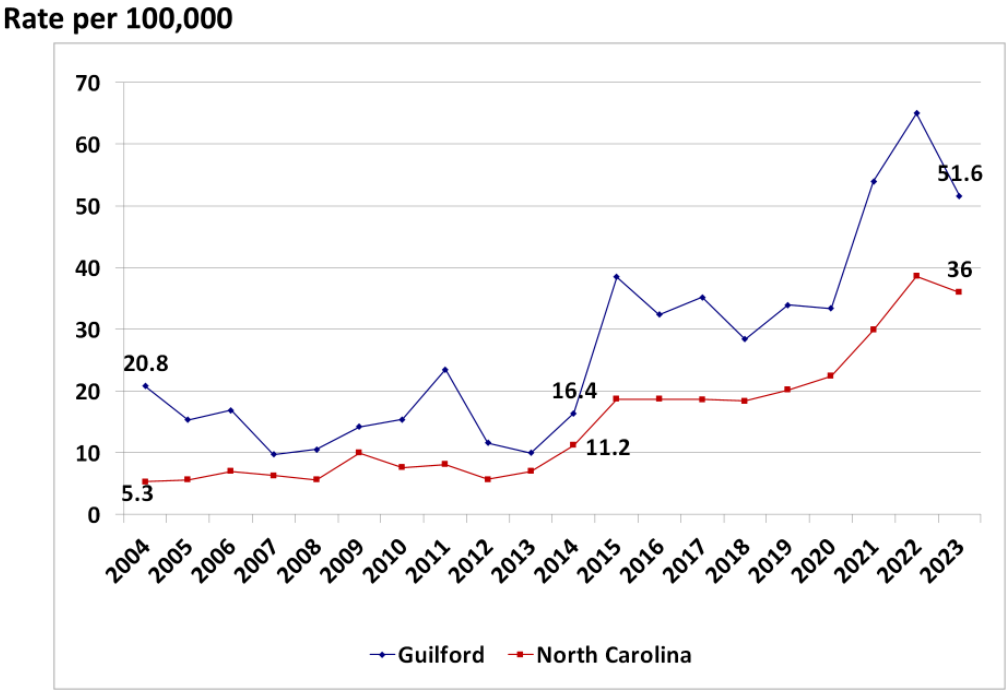
Syphilis* Rates per 100,000 Population, by Selected Counties and NC, 2019-2023



	2019	2020	2021	2022	2023
Durham	50.4	53.6	56.4	60.7	43.9
Forsyth	25.4	17.3	31.1	39.6	39.3
Guilford	33.8	33.4	54	65	51.6
Mecklenburg	41.5	51.3	64.5	73.6	66.6
Wake	27.6	28.1	31.2	34.1	26.4
North Carolina	20	22.4	29.9	38.6	36

Source: 2023 North Carolina STD Annual Surveillance Report; NC DHHS, Division of Public Health.
*This chart includes early syphilis rates, which comprise primary and secondary syphilis and early non-primary and non-secondary syphilis.

Trends in Early Syphilis Rates Guilford County and North Carolina 2004-2023



Source: NC HIV/STD Annual Surveillance Reports.
Note: Early Syphilis includes Primary, Secondary and Early Non-Primary Non-Secondary Syphilis.

Sexually Transmitted Infections: HIV Infection

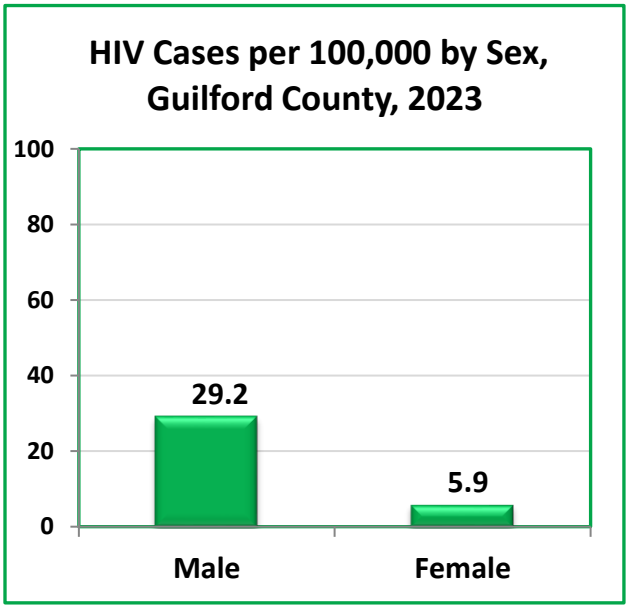
HIV Infection Cases and Rates per 100,000, 2018-2023
Guilford County Residents Ages 13 and Older

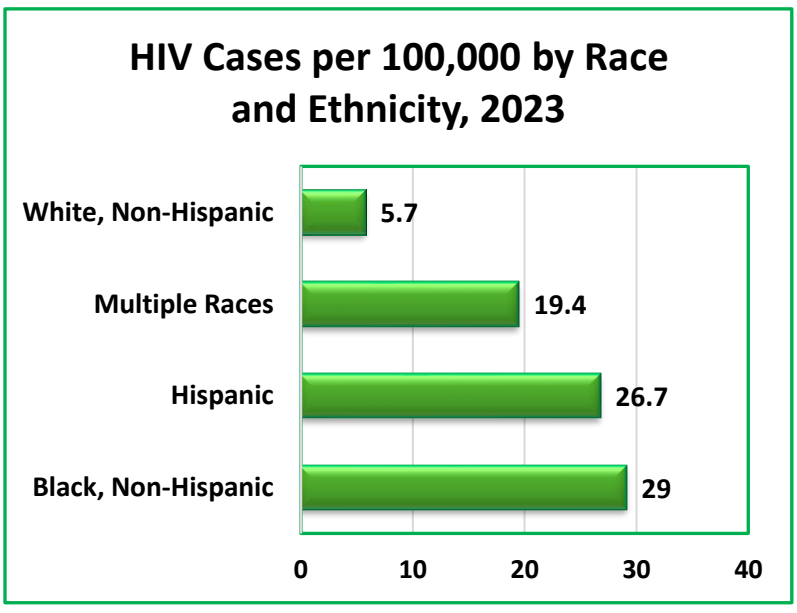
Demographic Characteristics	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Male	85	40.6	93	44.0	81	37.8	113	52.6	81	37.7	76	29.2
Female	21	8.8	27	11.2	9	3.7	20	8.2	12	4.9	17	5.9
Transgender	4	---	1	---	2	---	2	---	3	---	--	--
13-17 Years	3	8.7	2	5.8	1	2.8	1	2.8	0	0.0	0	0.0
18-24 Years	39	66.7	35	59.8	36	56.6	46	72.3	19	29.1	24	36.6
25-49 Years	48	27.6	65	37.2	43	24.9	72	42.0	65	37.9	58	33.5
50-64 Years	18	17.8	16	15.7	10	9.8	14	13.6	9	8.8	9	8.8
65+ Years	2	2.5	0	0.0	1	1.2	2	2.4	1	1.1	1	1.1
Asian/Hawaiian Native	1	3.5	2	6.8	0	0.0	1	4.2	1	3.2	0	0.0
Black/African American	81	43.1	88	46.1	68	35.3	94	48.3	63	31.9	58	29.0
Hispanic/Latino	12	27.7	11	24.5	5	9.6	15	28.2	4	7.3	15	26.7
White/Caucasian	16	6.8	15	5.0	14	4.7	22	7.4	21	7.0	17	5.7
Multiple Races	1	7.6	2	14.7	4	28.3	3	20.5	5	33.1	3	19.4

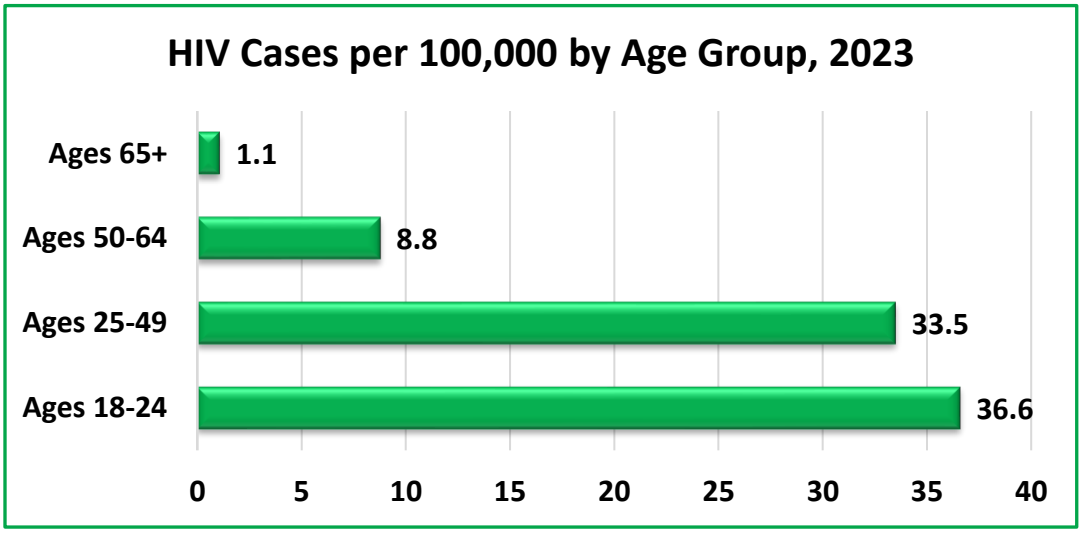
Source: NC Electronic Disease Surveillance System; NC Disease Data Dashboard.

- Between 2018 and 2023, HIV incidence rates fluctuated with no clear trend.
- Across that period, rates of new cases were much higher for men than for women.
- Rates of new HIV cases were highest among people aged 18 to 24, followed by those in the 25-49 age group.
- Black/African Americans experienced the highest rates of HIV among race-ethnic groups, followed by those in the multiple race category and Hispanic/Latinos.
- Guilford County had the second highest rate newly diagnosed HIV infection rates from 2021 to 2023 compared to NC and peer counties (24.8 per 100,000).
- Guilford County HIV rates exceeded state and national rates from 2013 to 2023.

Source: NC Disease Data Dashboard.

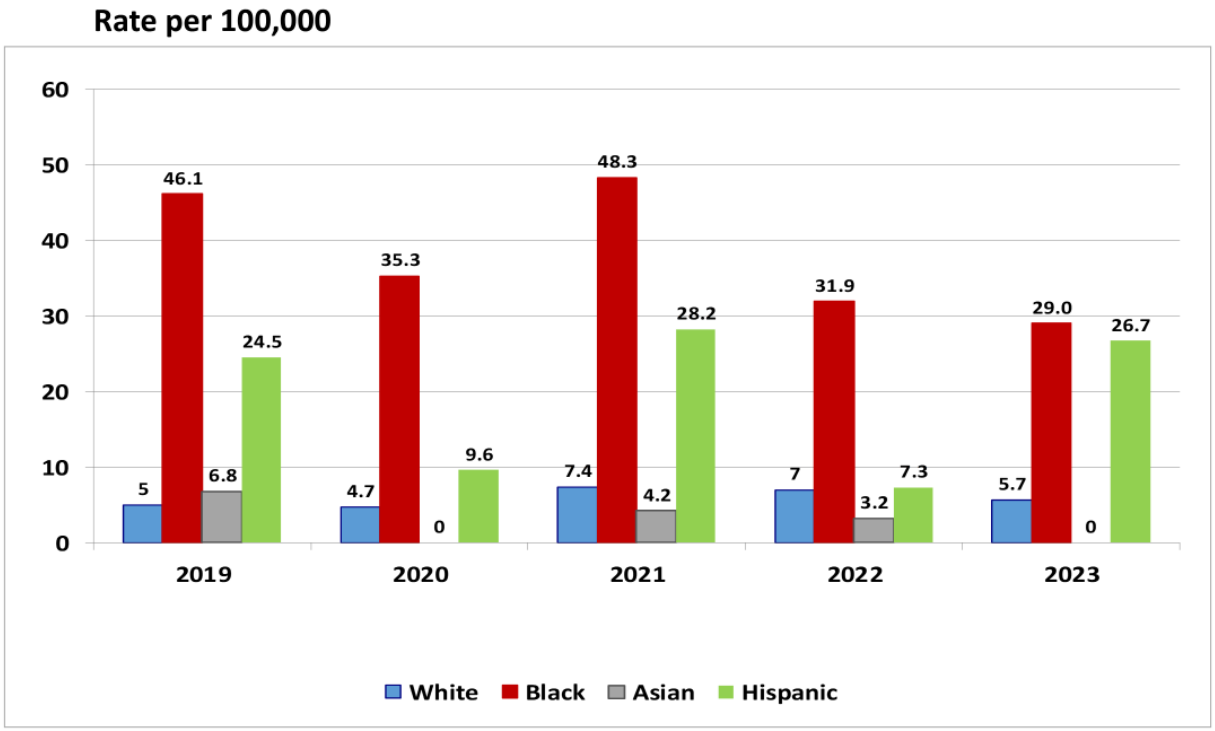






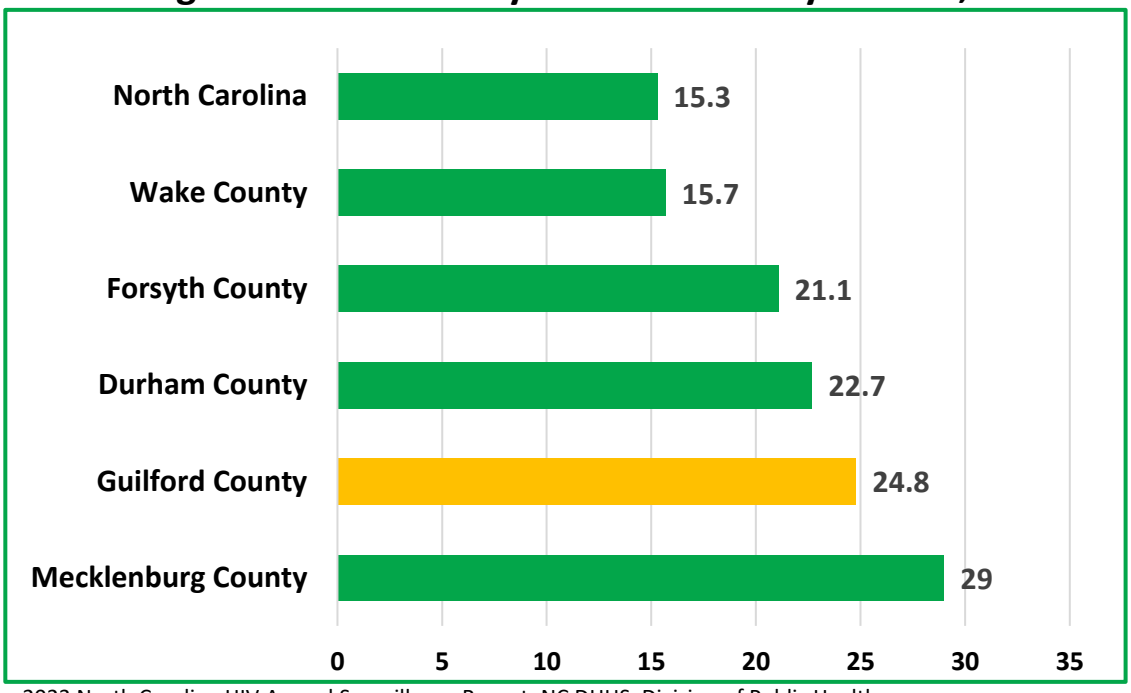
Source: NC Disease Data Dashboard.

Trends in HIV Infection Rates in Guilford County by Race and Hispanic Status, 2019-2023



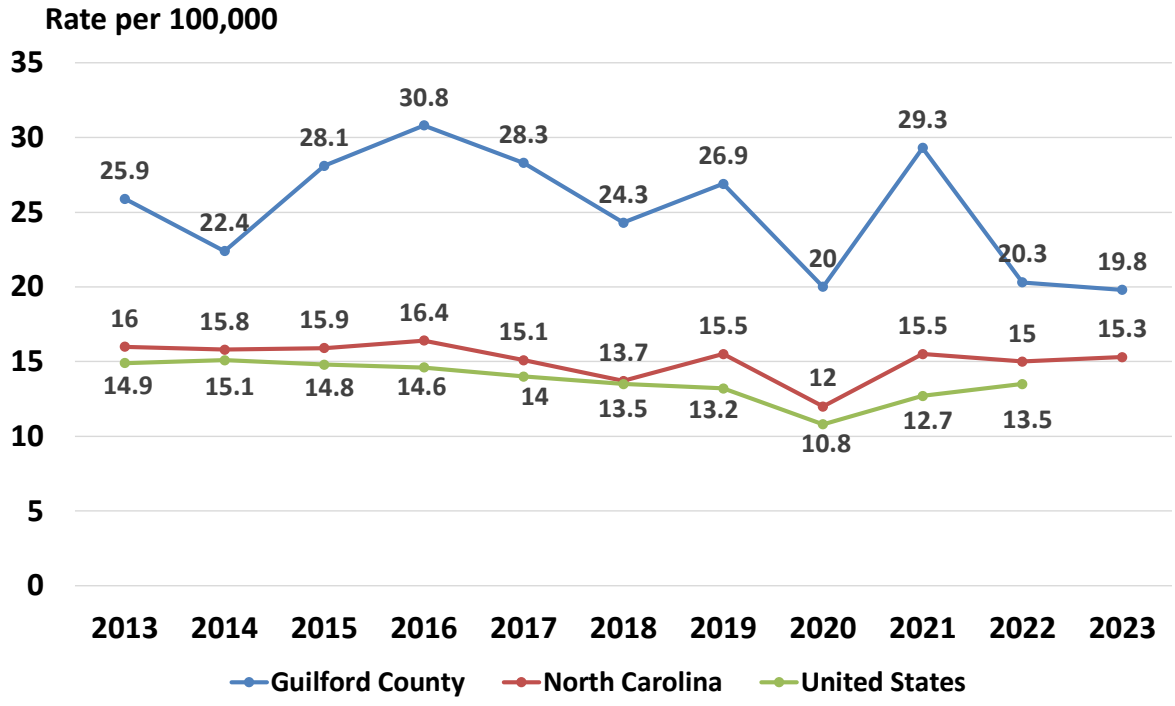
Source: NC Disease Data Dashboard.

Newly Diagnosed HIV Infection Rates per 100,000 among Residents Ages 13 and Older by Selected County and NC, 2021-2023



Source: 2023 North Carolina HIV Annual Surveillance Report; NC DHHS, Division of Public Health.

Trends in HIV Infection Rates among Residents Ages 13 and Older, Guilford County, NC and US, 2013-2023



Sources: NC HIV Surveillance Report, HIV/STD/Hepatitis Surveillance Unit, Division of Public Health, NCDHHS. US data from HIV surveillance reports, CDC. 2023 US data not currently available.

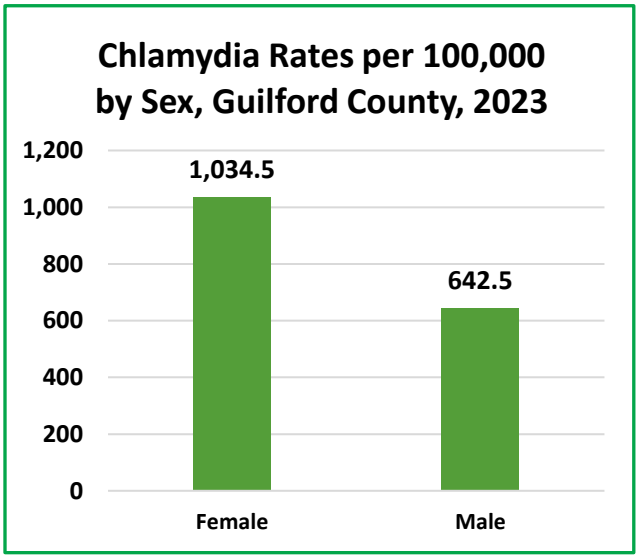
Sexually Transmitted Infections: Chlamydia

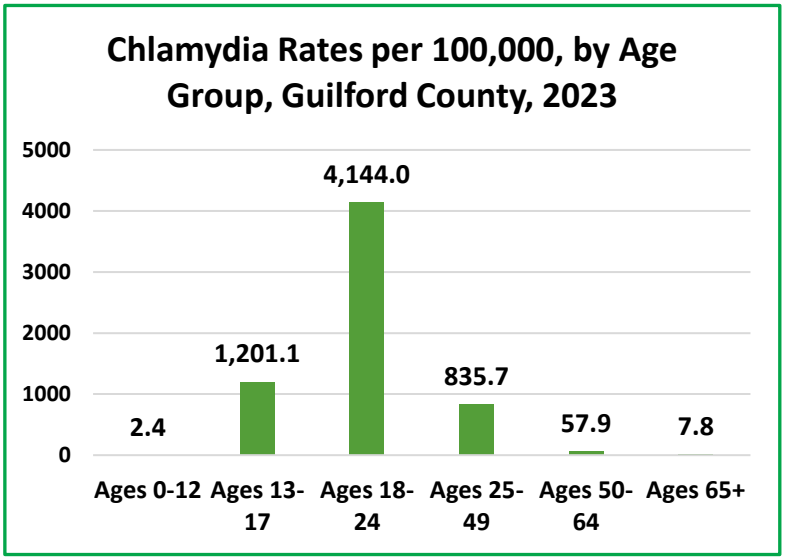
Characteristics of Guilford County Chlamydia Cases and Rates per 100,000 by Race and Hispanic Status, 2019-2023

	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023
Race or Ethnicity	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
American Indian	3	73.3	10	228.9	7	159.0	8	177.9	14	305.9
Asian/Hawaiian Native	53	178.9	42	141.7	50	164.1	58	186.0	44	137.9
Black/African American	3,363	1,763.7	2,762	1,433.4	2,430	1,248.6	2,506	1,267.8	2,717	1,359.6
White	669	223.1	551	183.4	506	169.6	489	164.1	488	163.7
Other	148	---	125	---	121	---	155	---	235	---
Missing/Unknown	1,148	---	1,101	---	1,214	---	1,189	---	1,146	---
Multi-Racial	30	220.7	20	141.7	20	136.5	20	132.2	23	148.4
Race Total	5,414	---	4,611	---	4,348	---	4,425	---	4,667	---
Hispanic*	249	553.6	206	396.1	198	371.6	255	468.5	270	481.5

*Hispanics can be of any race.
Source: NC Disease Data Dashboard.
Source: NC Disease Data Dashboard. Source: NC Disease Data Dashboard.

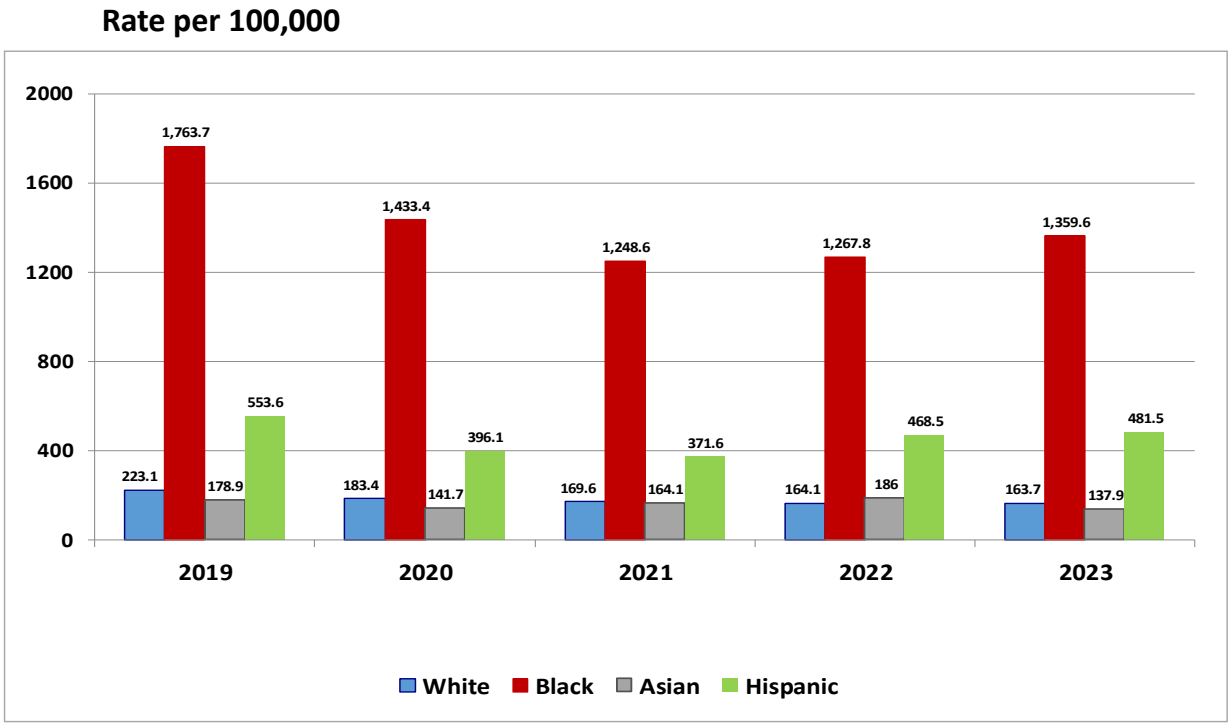
- The highest chlamydia incidence rates are among African-American residents, with large disparities compared to Whites and other race/ethnic groups.
- The age groups with the highest rates of chlamydia are ages 18-24, followed by ages 13-17 and ages 25-49.
- Incidence rates of chlamydia are higher among women. Chlamydia cases are diagnosed largely as a result of screening, and women are more likely to have screening tests.
- Guilford County's 2023 chlamydia rate of 853.9 per 100,000 was higher than Wake and Forsyth counties and North Carolina but lower than Mecklenburg and Durham counties.
- Guilford County's 2023 chlamydia rate of 853.9 per 100,000 was higher than Wake and Forsyth counties and North Carolina but lower than Mecklenburg and Durham counties.
- Guilford County chlamydia rates per 100,000 have gradually increased in the past 20 years and have exceeded North Carolina's rates from 2004 to 2023.





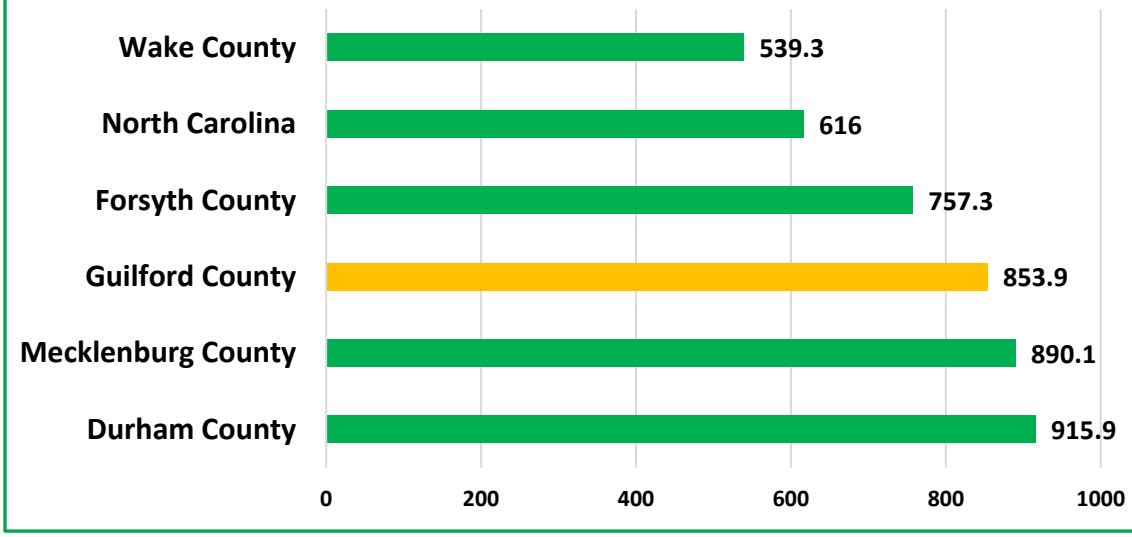
Source: NC Disease Data Dashboard.

Trends in Chlamydia Rates in Guilford County by Race and Hispanic Status, 2019-2023



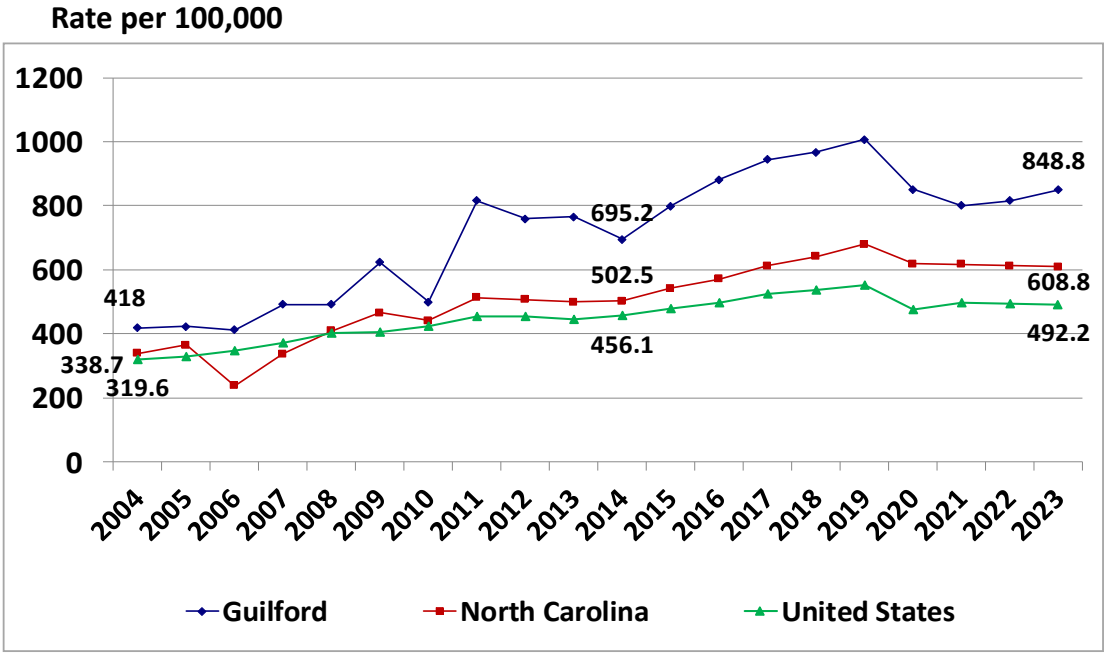
Source: NC Disease Data Dashboard.

Chlamydia Rates per 100,000 by Comparison County Guilford County, 2023



Source: NC Disease Data Dashboard.

Trends in Chlamydia Incidence Rates Guilford County, NC and US 2004-2023



Source: NC DHHS Communicable Disease Control Branch, STD Annual Report; NC Disease Data Dashboard; Centers for Disease Control.

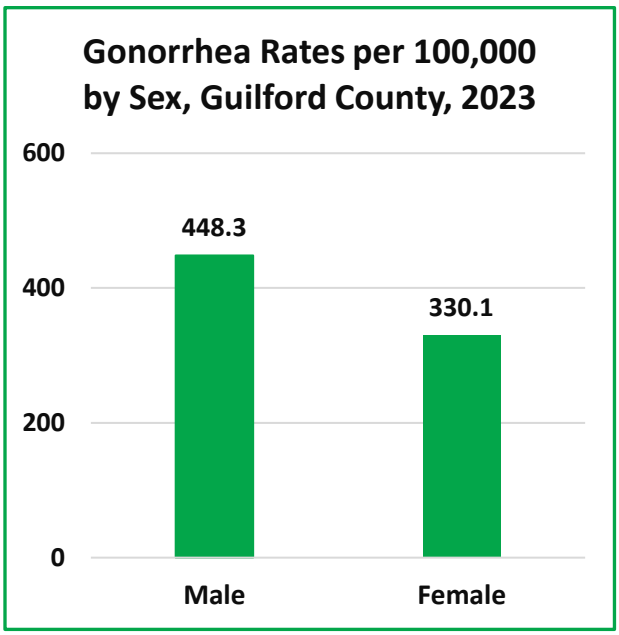
Sexually Transmitted Infections: Gonorrhea

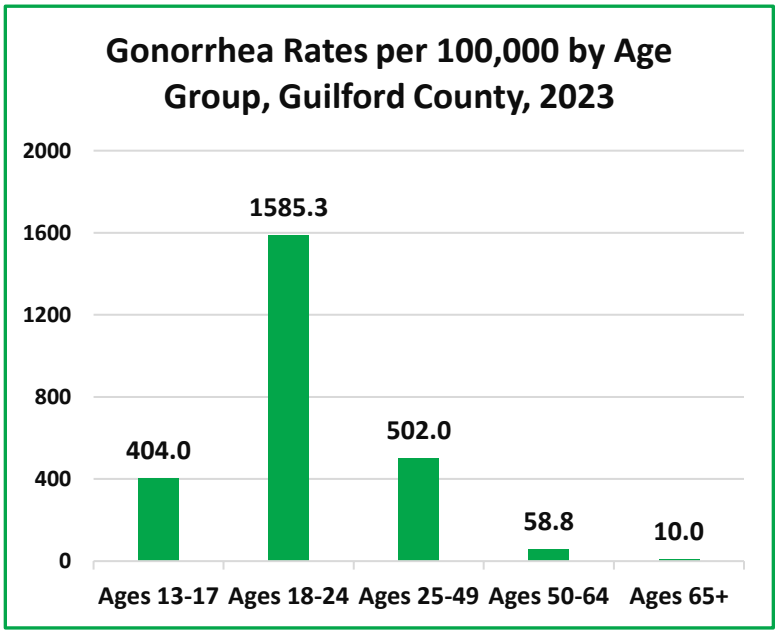
Characteristics of Guilford County Gonorrhea Cases and Rates per 100,000 by Race and Hispanic Status, 2019-2023

	2019	2019	2020	2020	2021	2021	2022	2022	2023	2023
Race or Ethnicity	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates	Cases	Rates
American Indian	1	24.4	7	160.2	5	113.6	2	10	2	43.7
Asian/Hawaiian Native	6	20.3	15	50.6	13	42.7	10	32.1	7	21.9
Black/ African American	1,679	880.5	1,546	802.3	1,601	822.6	1,289	652.1	1,442	721.6
White	211	70.4	194	64.6	187	62.7	169	56.7	165	55.4
Other	33	---	33	---	28	---	32	---	43	---
Missing/Unknown	392	---	421	---	507	---	417	---	450	---
Multi-Racial	16	117.7	10	70.9	6	41.0	8	52.9	14	90.3
Race Total	2,338	---	2,226	---	2,347	---	1,927	---	2,123	---
Hispanic*	56	124.5	49	94.2	44	82.6	50	91.9	63	112.3

*Hispanics can be of any race.
Source: NC Electronic Disease Surveillance System (NCEDSS).

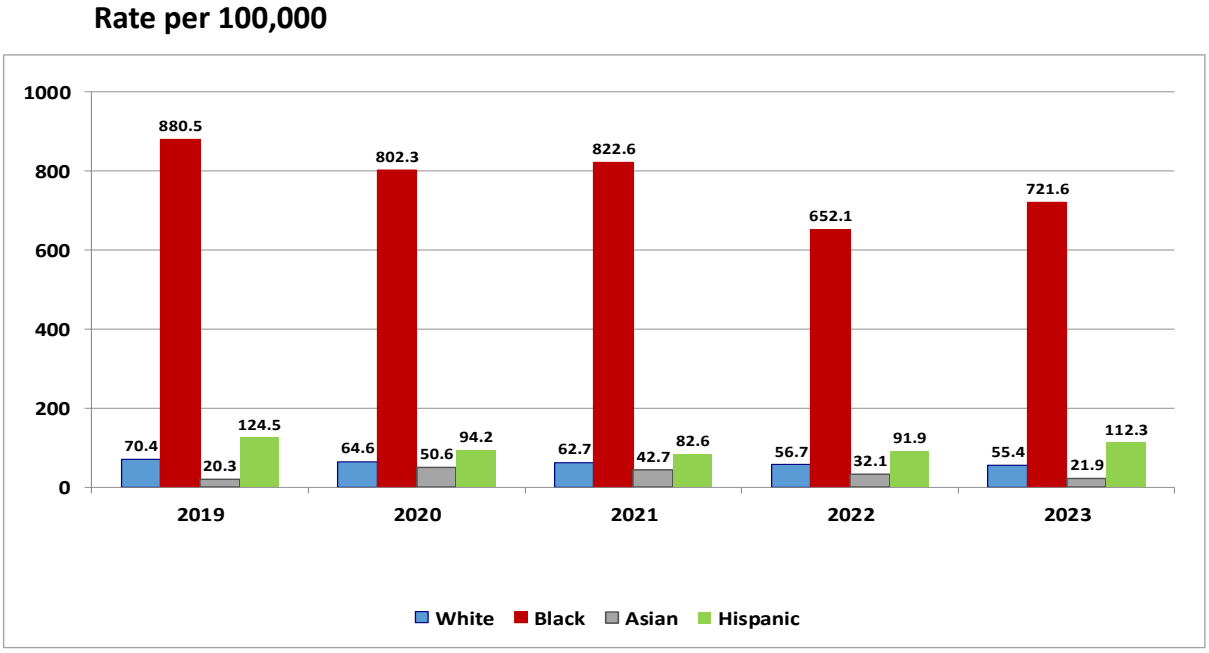
- The highest gonorrhea incidence rates are among African-American residents, with large disparities compared to Whites and other race/ethnic groups.
- The age groups with the highest rates of gonorrhea are ages 18-24, followed by ages 25-49 and ages 13-17.
- In 2023, Guilford County's gonorrhea rate of 388.8 per 100,000 was higher than Wake and Forsyth counties and North Carolina but lower than Mecklenburg and Durham counties.
- Guilford County gonorrhea rate per 100,000 exceeded state and national rates from 2004 to 2023.





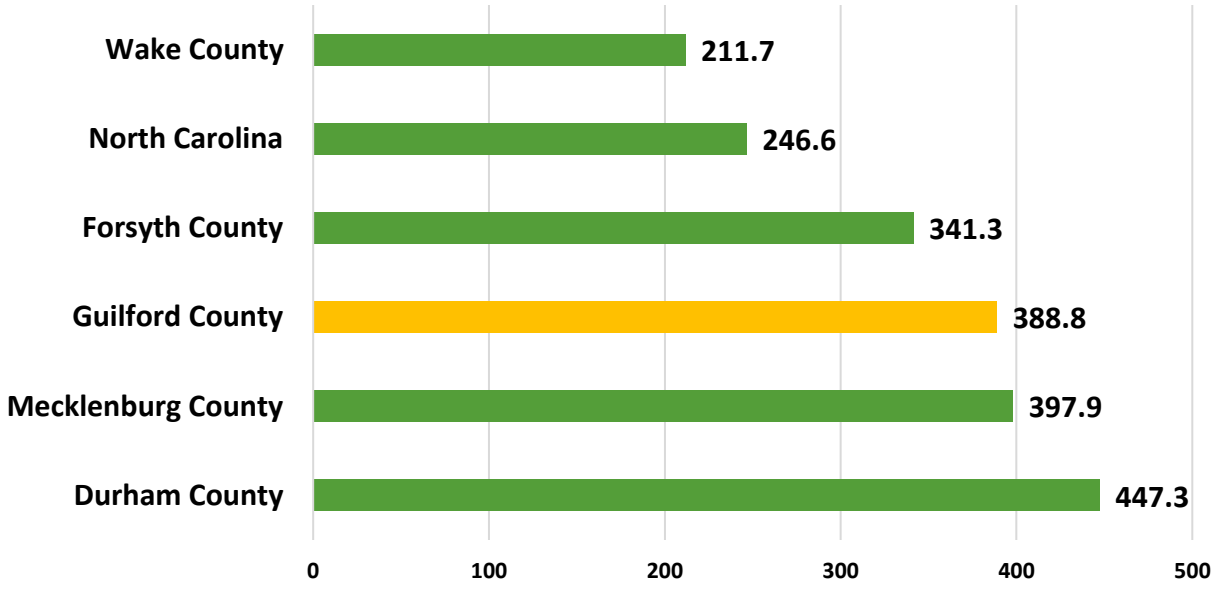
Source: NC Disease Data Dashboard

Trends in Gonorrhea Rates in Guilford County by Race and Hispanic Status, 2019-2023



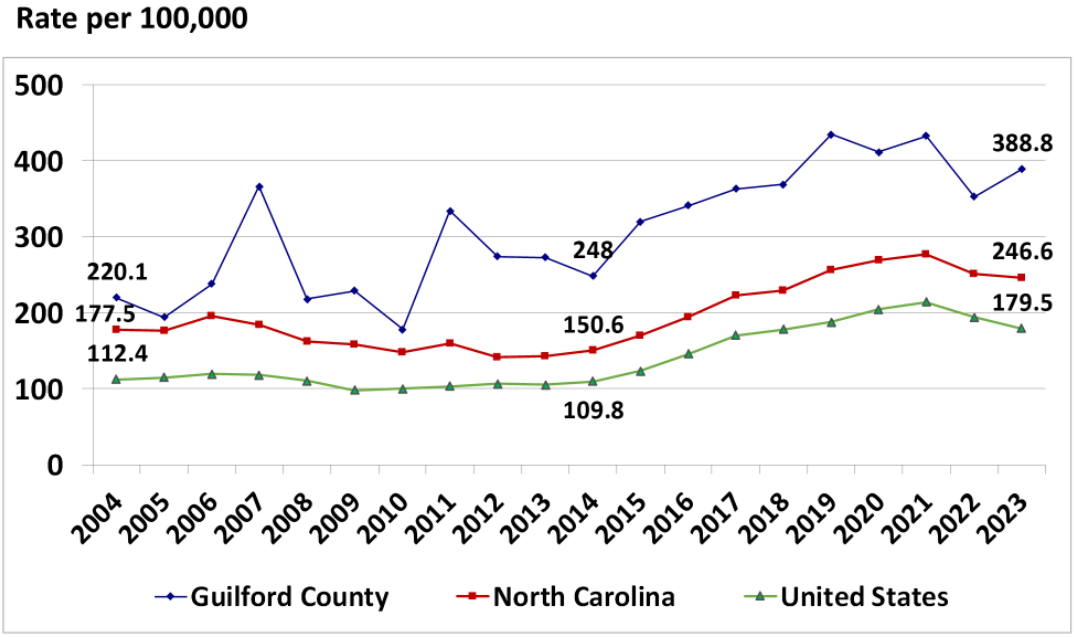
Source: NC Disease Data Dashboard.

Gonorrhea Rates per 100,000 by Comparison County Guilford County, 2023



Source: NC Disease Data Dashboard.

Trends in Gonorrhea Incidence Rates Guilford County, NC and US 2004-2023



Sources: NC DHHS, Communicable Disease Control Branch, NC Disease Data Dashboard; STD Annual Report; CDC.

This report was prepared by the Health Surveillance and Analysis Unit of the Division of Public Health:

Mark H. Smith, Ph.D., Epidemiologist Consultant Laura Mrosla, MPH, MSW, Community Health Educator

For more information about Guilford County health statistics, visit https://www.guilfordcountync.gov/our-county/human-services/health-department/health-statistics - MISSING