

2022 North Dakota HIV, STI, TB & Viral Hepatitis Epidemiologic Profile

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INTRODUCTION

The HIV, STIs, TB and Viral Hepatitis Epidemiologic Profile describes the epidemiology of HIV/AIDS; sexually transmitted infections (chlamydia, gonorrhea, and syphilis); tuberculosis (latent and active); hepatitis B (HBV); and hepatitis C (HCV) in North Dakota during 2022. This profile covers the general epidemiology of the above conditions in terms of gender, age, race, geography and associated casual factors. This profile was created to assist in developing a Comprehensive Jurisdictional HIV and Viral Hepatitis Prevention and Care Plan. Information in this report is used to characterize and predict the changing epidemic at the local level. North Dakota data is summarized annually to help the North Dakota Department of Health and Human Services (NDHHS) answer questions about how to prevent these diseases in the population.

Table 1. Common abbreviations/acronyms used throughout this profile

ABBREVIATION	FULL DESCRIPTION
ADAP	AIDS Drug Assistance Program
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centers for Disease Control & Prevention
CSTE	Council of State and Territorial Epidemiologists
CTR	Counseling, Testing, and Referral
EHARS	Electronic HIV/AIDS Reporting System
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDU	Injection Drug Use
HRSA	Human Resources and Services Administration
MSM	Men Who Have Sex with Men
NDHHS	North Dakota Department of Health and Human Services
PLWH	Persons Living With HIV/AIDS
PrEP	Pre-exposure prophylaxis
PWID	Persons Who Inject Drugs
RW	Ryan White
STI	Sexually Transmitted Infection
TB	Tuberculosis

DATA SOURCES

Data was compiled from several sources to present the most complete picture of the epidemiology of diseases as possible. However, because few behavioral or supplemental surveillance projects are available in North Dakota, core surveillance data is utilized extensively. Each data source has strengths and limitations. A brief description of each source follows.

MAVEN

The North Dakota Electronic Disease Surveillance System, known as Maven, is a system that allows public health officials to receive, manage, process, and analyze disease and other condition-related data. Maven offers tools for automatic disease reporting, case investigations, and case follow-up and management within the state of North Dakota. It is an integrative system allowing easy sharing and connecting among the NDHHS, local public health, and providers.

HIV/AIDS DATA SOURCES

HIV/AIDS CASE SURVEILLANCE

A diagnosis of HIV/AIDS is a mandatory reportable condition to the NDHHS according to North Dakota Century Code Chapter 23-07-01 and North Dakota Administrative Code Chapter 33-06-01. Reports of HIV/AIDS cases can be provided by physicians, hospitals, laboratories, and other institutions. The data is stored in the electronic HIV/AIDS Reporting System (eHARS) and Maven databases. Statistics and trends presented in this report were derived from HIV/AIDS case data reported to the NDHHS cumulatively starting in 1984 through December 31, 2022.

HIV/HCV COUNSELING AND TESTING DATA

The NDHHS contracted with 21 Counseling, Testing and Referral (CTR) sites in 2022. CTR sites offer free, confidential HIV and HCV rapid and confirmatory testing and counseling in North Dakota. Participants complete risk assessments as part of their visit. These risk assessments along with demographics, testing history, test results and sexual health history information are reported to the NDHHS via Maven.

HIV CARE DATA/RYAN WHITE PART B PROGRAM

The North Dakota Ryan White Part B Program assists low-income North Dakota residents living with HIV or AIDS to access confidential health and supportive services. The program was implemented in 1991. To participate in the North Dakota Ryan White Part B Program, one must be a resident of North Dakota, have proof of HIV infection and an income level at 500% or lower of the federal poverty level.

Part B services include core and supportive medical services. Core services include outpatient/ambulatory medical services, AIDS Drug Assistance Program (ADAP), oral health care, health insurance premium assistance, mental health services and medical case management. Supportive services include non-medical case management, housing services, medical transportation services and emergency financial assistance.

The Ryan White Part B Program manages program information using Maven. This has allowed for integration and sharing of information between HIV Prevention and Surveillance programs. This system ensures that required client-level data elements are collected and reported to HRSA. The "real time" nature of the networked system allows the Ryan White Part B Program to monitor specific indicators (e.g., number of clients without medical insurance) in a timelier

fashion, and it gives case managers access to view lab work and medication so that clients can be served more efficiently.

STI DATA SOURCES

STI SURVEILLANCE CASE REPORTING

The NDHHS STI Program conducts statewide surveillance to determine the number of reported cases of STIs. The data is used to monitor trends and to offer voluntary partner counseling and partner notification services. Chlamydia, gonorrhea and syphilis cases are mandatory reportable conditions in North Dakota. STI surveillance data can serve as surrogate markers for unsafe sexual practices and may demonstrate changes in behavior among specific populations that increase their risk for HIV infection. Because of a shorter time from infection to symptomatic disease, STI diagnoses may better indicate recent unsafe behavior and/or changes in community norms. In addition, certain STIs can facilitate the transmission of HIV infection.

TUBERCULOSIS SURVEILLANCE DATA

Tuberculosis (*Mycobacterium tuberculosis* and *Mycobacterium bovis*) disease and tuberculosis infection are mandatory reportable conditions and must be reported to the NDHHS according to North Dakota Administrative Code Chapter 33-06. The data are stored within Maven and are used to monitor ongoing treatment and management of tuberculosis disease and tuberculosis infection. The Maven system also serves as a method of communication between the TB Prevention and Control program and the TB contract pharmacy to ensure timely medication dispensing.

VIRAL HEPATITIS SURVEILLANCE DATA

The Hepatitis Program receives reports of acute and chronic cases of HBV and HCV infections. HBV infections are investigated to determine if post-exposure immune-prophylaxis procedures for contacts were followed. Follow-up is conducted with females of child-bearing age (14 to 49 years) who are HBV positive to determine if they are pregnant. Pregnant females who are HBV positive are then followed by the perinatal HBV prevention coordinator in the immunization program. The coordinator ensures the hospital has HBV immune globulin (HBIG) for administration to the baby at time of delivery. The coordinator also confirms the baby is given the HBV vaccine series and ensures serology testing is done at completion of the vaccine series to ensure the child is not infected and is immune to the HBV virus.

Cases of HCV that are reported as acute are followed by a case investigation. Cases of HCV that are determined to be chronic HCV are not routinely investigated. There is no partner notification conducted by the NDHHS. Under-reporting of both acute and chronic HCV infections in North Dakota is likely. Data reported here does not distinguish between resolved and active infections.

VITAL STATISTICS DATA

BIRTH AND DEATH DATA

The NDHHS Division of Vital Statistics collects information on all births and deaths in North Dakota. The birth certificate form includes demographic information on the newborn infant and the parents, prenatal care, maternal medical history, mode of delivery, events of labor and abnormal conditions of the infant.

Death certificates include demographics, underlying cause of death and factors contributing to the death. The surveillance program reviews death certificates on a weekly basis to ascertain deaths of HIV-positive persons. The surveillance program also electronically matches data with death and birth databases annually to ascertain deaths of persons with HIV/AIDS and births to HIV-infected females.

DEMOGRAPHIC DATA

U.S. CENSUS BUREAU

The U.S. Census Bureau collects and provides timely information about the people and economy of the United States. The U.S. Census Bureau website (<http://www.census.gov>) includes data on demographic characteristics (e.g., age, race, ethnicity and sex) of the population, family structure, educational and income level, housing status and the proportion of persons who live at or below the poverty line. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, age, race, family structure and apportionment. State and county-specific data are easily accessible, and links to other web sites with census information are included. For this report, 2019 population estimates are used unless otherwise noted.

GUIDELINES TO INTERPRETATION OF THE DATA

Decisions about how to allocate limited resources for prevention and care services depend, in part, on appropriate interpretation of epidemiological data. The following guidelines are intended to facilitate proper interpretation of the tables and figures presented in this profile.

The data has certain limitations. This report will not specifically differentiate, unless indicated, whether an individual is or is not at the stage of AIDS for HIV infections. The first AIDS case reported in North Dakota was diagnosed in 1984. Reporting of HIV-infected persons in North Dakota began in 1984. HIV surveillance reports may not be representative of all infected persons, because not all infected persons have been tested or reported. Data are collected for the entire state of North Dakota, which include data for patients who are diagnosed for the first time in North Dakota, as well as patients who move to North Dakota after they have been diagnosed. Data do not necessarily consider emigration out of North Dakota, although efforts are made to account for this in HIV prevalence data. State and county of diagnosis do not change even if a person moves to a different county or out of state.

The data presented in this profile only includes cases that met the current case definition documented by CSTE and CDC. This report does not include cases that have not been diagnosed by laboratory methods or a health care provider.

Rates have been calculated for 12-month periods per 100,000 persons. The denominator for calculating rates, unless otherwise noted, is based on 2019 population estimates from the U.S. Census Bureau. The numerator is the number of cases reported during the 12-month period. This number is divided by the population estimate and multiplied by 100,000. For example, race-specific rates are the number of cases reported for a racial/ethnic group during the preceding 12-month period divided by the estimated population for that race/ethnicity and multiplied by 100,000. Those categorized as white are white, alone. Hispanic ethnicity can be of any race. If a race is not included in a graph, it is due to small numbers.

The data presented in this report are current as of time of publication. However, the data may be variable as new information is received and may differ from other reports.

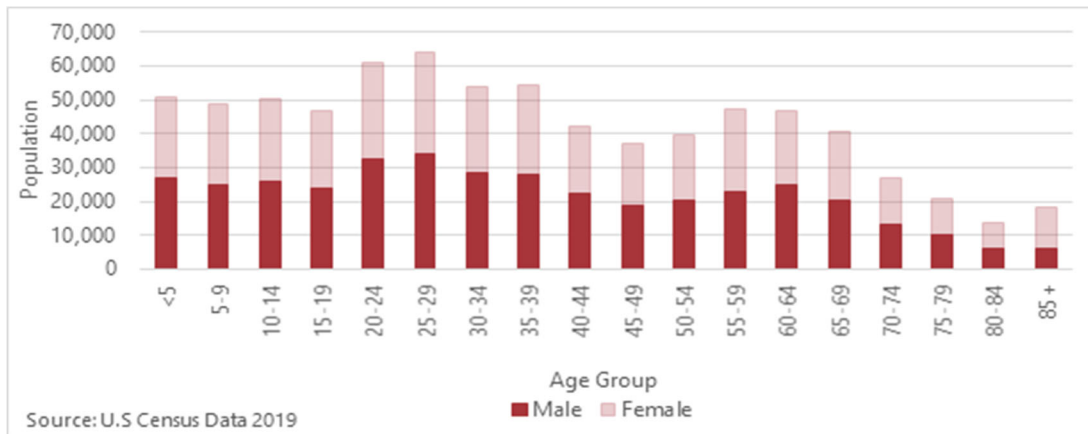
NORTH DAKOTA DEMOGRAPHICS

North Dakota is a rural state that covers 70,704 square miles, and in 2019, had an estimated population of 762,062, according to the U.S. Census Bureau. North Dakota ranks 47th in the nation by population. It contains 53 incorporated counties and 357 cities. Nine cities have populations of more than 10,000 and 20 cities have populations of more than 2,500. County populations in North Dakota range from 750 to 181,923 people. The six counties along the eastern border with Minnesota account for more than one-third of the state's population.

AGE AND GENDER DISTRIBUTION

At the time of the most current U.S. Census estimates for gender and age (2019), North Dakota's population was 51% male and 49% female. More than one quarter (28.1%) of North Dakota's population is over the age of 55. Of the remaining 71.9%, adults ages 20 to 24 are disproportionately represented. Within that group, there are 13% more males than females. The most considerable discrepancy between males and females is between the ages of 25 and 29, where there are nearly 13.3% more males than females.

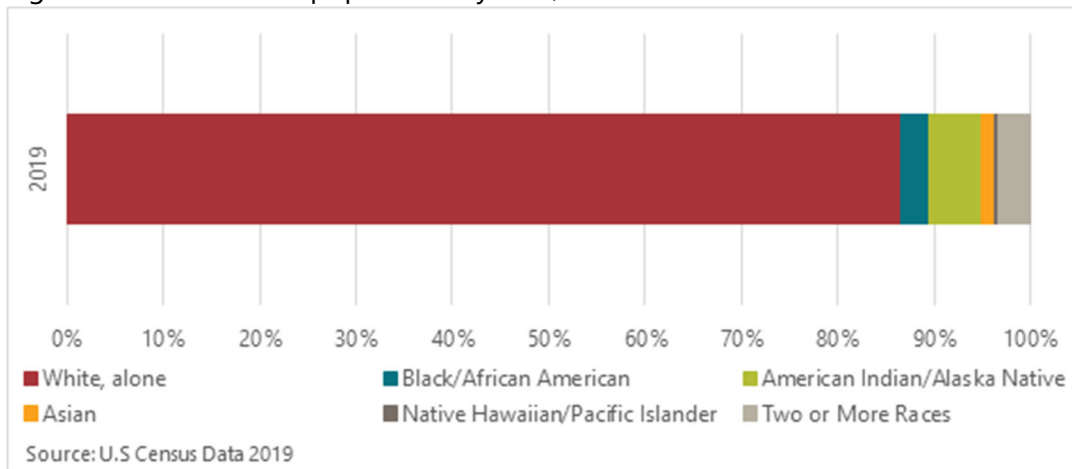
Figure 1. North Dakota population by age group and gender, 2019



RACE DISTRIBUTION

The majority of North Dakota’s population (89.0%) reports White as their race. The largest minority group is American Indian and Alaskan Native, accounting for 6.9%, most of whom reside in Rolette and Sioux counties. The African American/Black population follows, accounting for an estimated 3.9% of the total population, which increased from 2.9% the previous year. Some conditions are also broken down by country of birth but not all. It is a priority of the division to continue and improve collection of country of birth data to better understand racial disparities.

Figure 2. North Dakota population by race, 2019



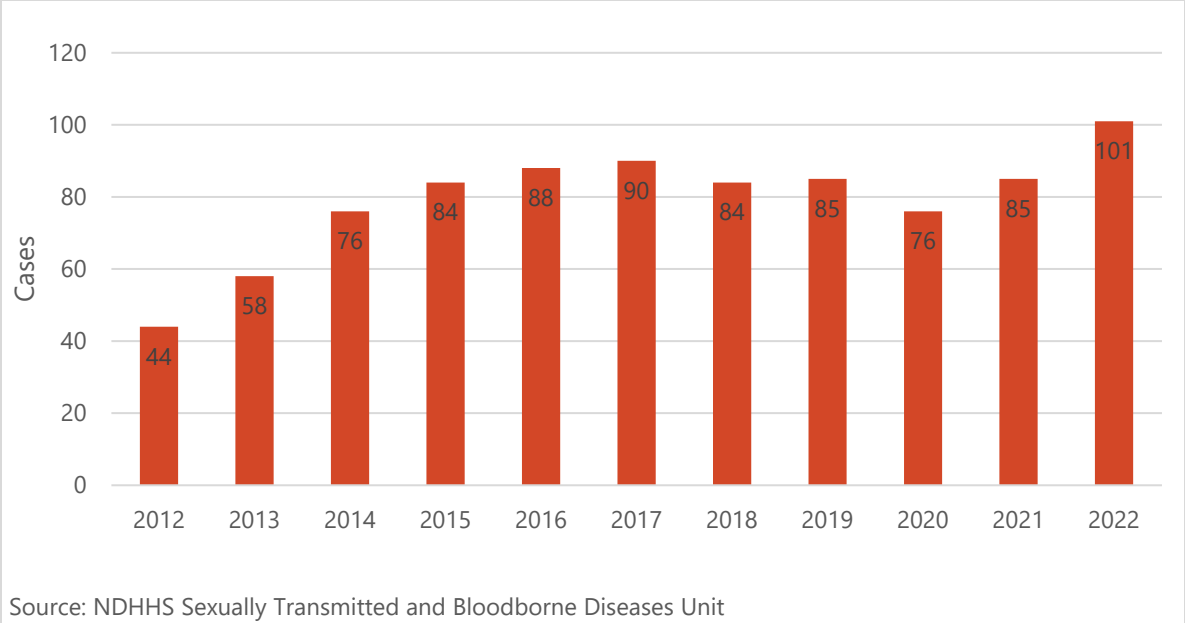
SOCIAL CHARACTERISTICS

The social characteristics estimates of North Dakota include education, place of birth and poverty level. The majority (93.5%) of the population age 25 and older have graduated from high school. The percentage of the population born in a country other than the United States is 4.1%. Roughly ten percent (10.6%) of the North Dakota population live on wages below the federal poverty level. For a household of one, that equates to \$13,590 in 2022.

Human Immunodeficiency Virus (HIV)

In 2022, there were 101 reported cases of HIV/AIDS. This number includes new diagnoses and individuals previously diagnosed who have moved to the state for the first time.

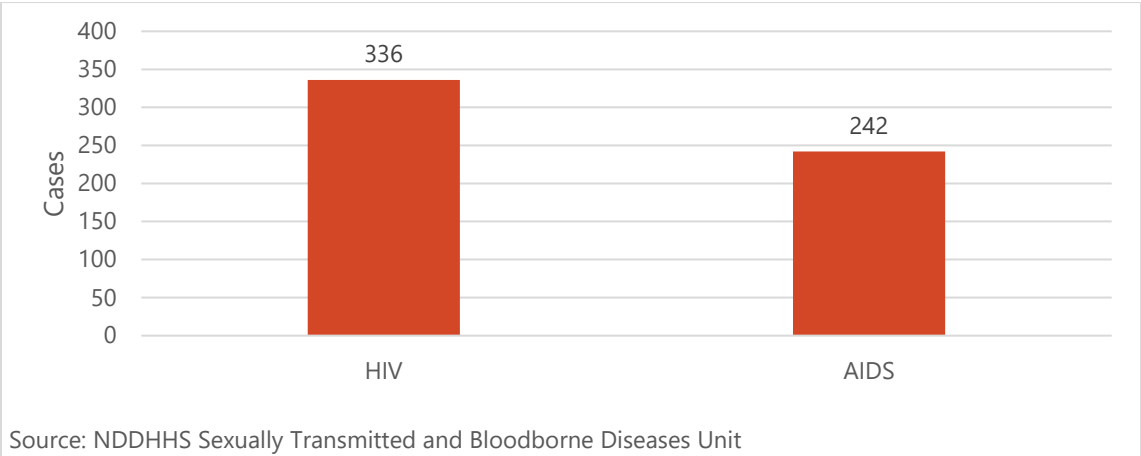
Figure 3. Number of HIV/AIDS cases reported by year in North Dakota, 2012-2022



HIV PREVALENCE

There were 578 people with HIV/AIDS known to be living in North Dakota as of December 31, 2022. Of those, 336 are at the stage of HIV infection, and 242 have progressed to an AIDS diagnosis. The group is made up of 387 males, 189 females and two transgender females. Half (n=291) were diagnosed in North Dakota, with the rest moving to North Dakota sometime after their initial diagnosis.

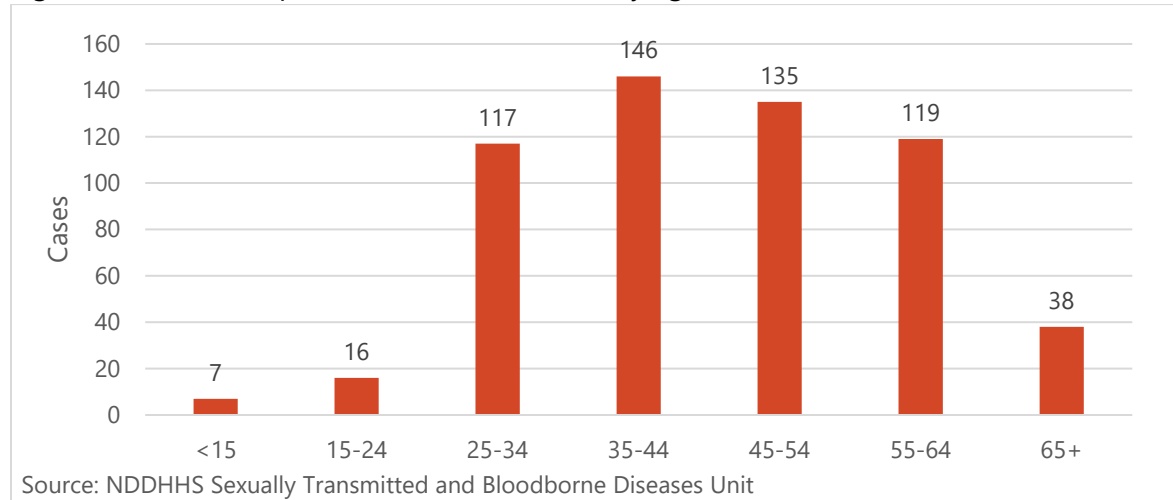
Figure 4. Number of HIV/AIDS cases by infection status in North Dakota, 2022



AGE

Of the prevalent cases of HIV in North Dakota, the average age was 45 years old in 2022 with a range of 1 years old to 80 years old.

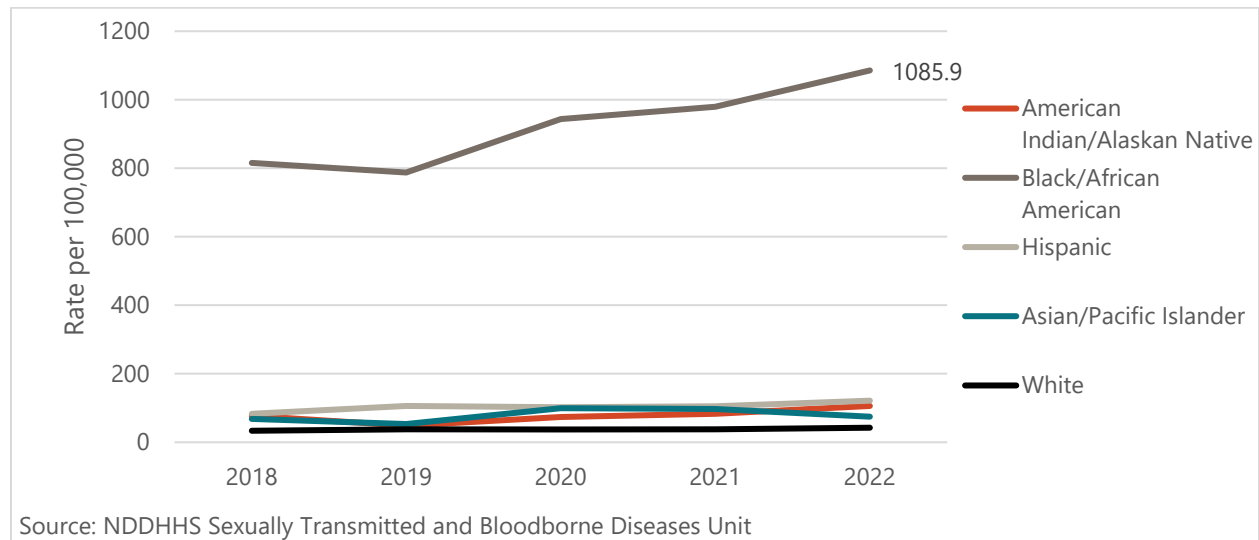
Figure 5. Number of prevalent HIV/AIDS cases by age in North Dakota, 2022



RACE

Asian/Pacific Islander was the only race to see a decrease in the rate of prevalent HIV/AIDS in 2022. The highest rate is among Black/African American North Dakotans with a case rate of 1086 cases per 100,000.

Figure 6. Prevalent HIV/AIDS case rate per 100,000 persons in North Dakota by race group, 2018-2022



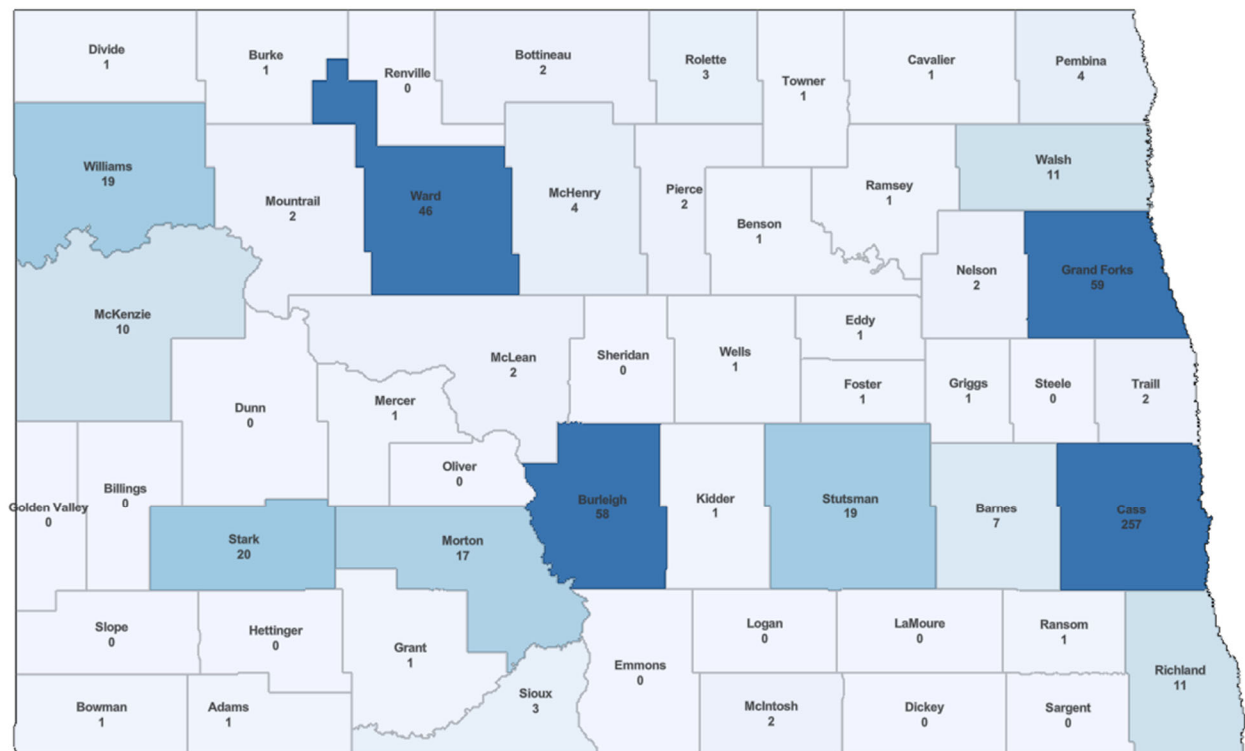
PERINATAL EXPOSURES

Perinatal HIV is the transmission of HIV from mother to child. Treatment of the mother during pregnancy and treatment of the infant after birth can minimize the risk of HIV transmission. The NDHHS follows up regarding the pregnancy status of all females of child-bearing age (14 to 49 years) who are HIV positive. During 2022, there were eight infants born to mothers who are HIV positive, and HIV transmission to the infant was prevented in each instance.

GEOGRAPHY

There was at least one person known to be living with HIV in 38 of 53 counties as of December 31, 2022.

Figure 7. Currently living HIV/AIDS cases in ND by county, 2022



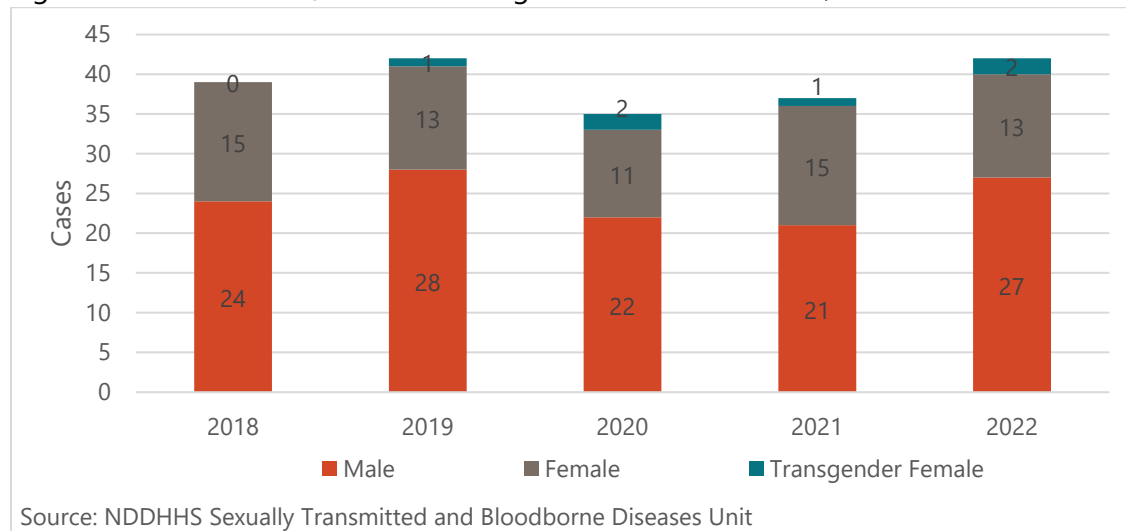
2022 HIV/AIDS INCIDENCE

Incidence refers to cases newly diagnosed within the state during a given year. Persons diagnosed in another state, who then move to North Dakota, are not counted in an incidence report. North Dakota reported 42 new cases of HIV/AIDS in 2022.

GENDER

Of the 42 incident cases, 27 (64%) identify as male, 13 as female, and 2 as transgender female.

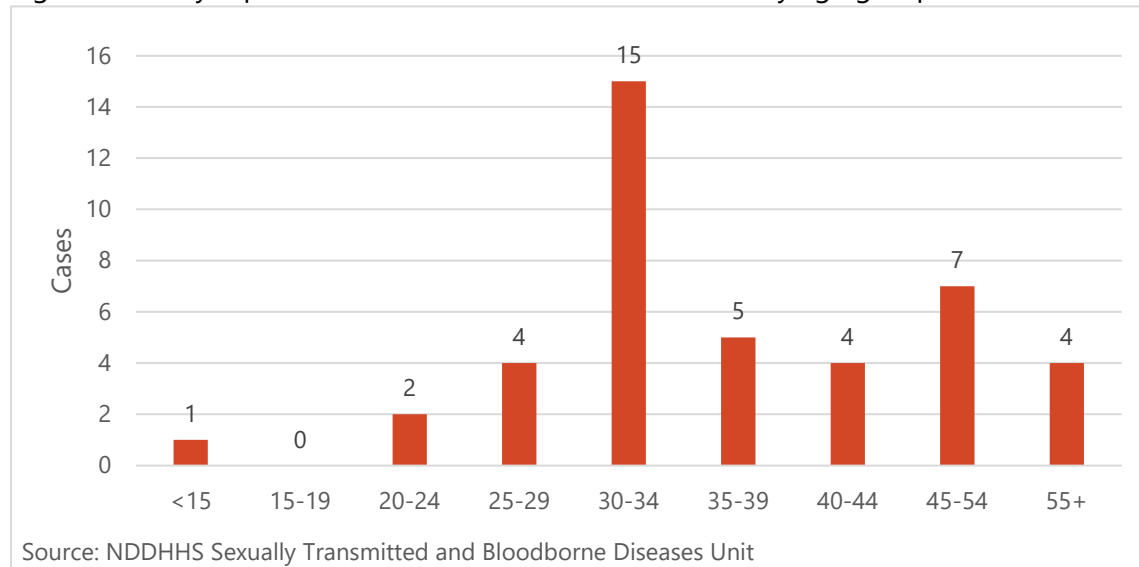
Figure 8. Gender of HIV/AIDS cases diagnosed in North Dakota, 2018-2022



AGE

In 2022, the age range of newly diagnosed HIV cases was 0 to 55+ years old, with a mean age of 27.

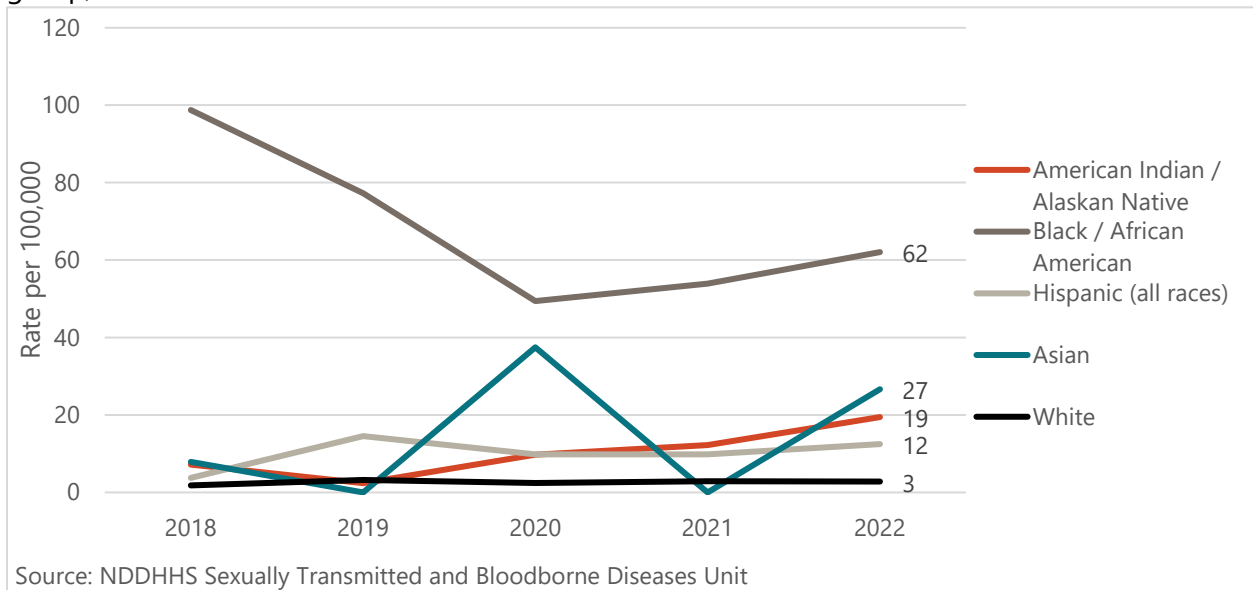
Figure 9. Newly reported HIV/AIDS cases in North Dakota by age group, 2022



RACE

In 2022, white was the most common race reported for incident HIV cases. White North Dakotans accounted for 18 of the cases, with a rate of 2.8 cases per 100,000. Black/African Americans had the second highest number of reported HIV cases with 14. However, due to North Dakota demographics, Black/African Americans reported an incidence rate of 62.1 per 100,000.

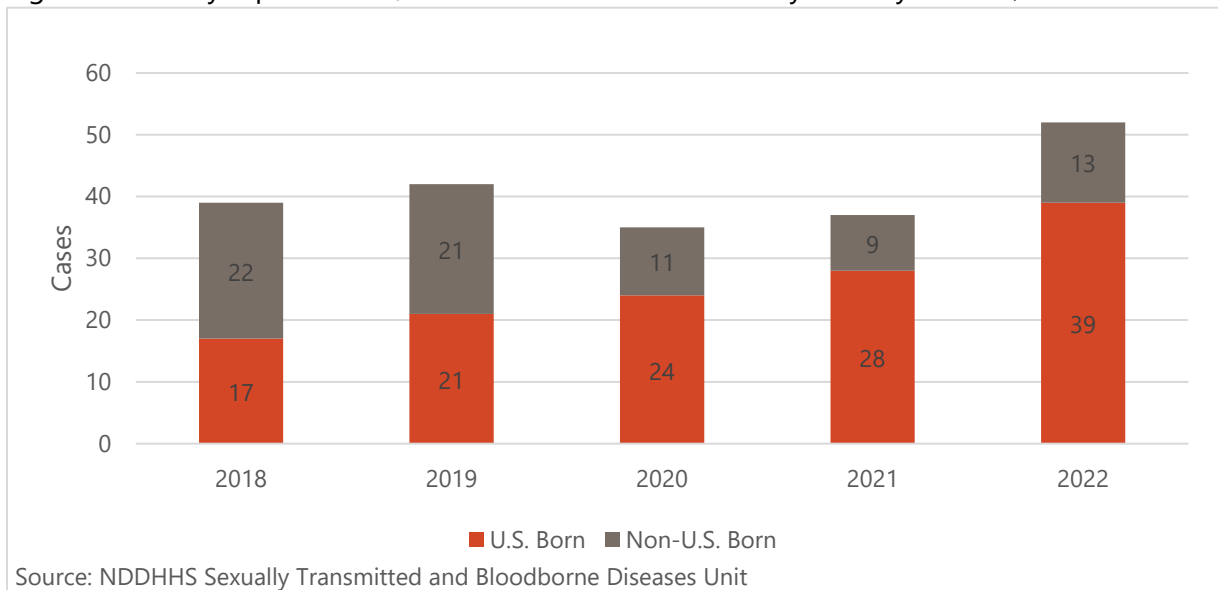
Figure 10. Newly reported HIV/AIDS cases rate per 100,000 persons in North Dakota by race group, 2018-2022



COUNTRY OF BIRTH

HIV incidence includes cases that are newly diagnosed in North Dakota. This can include persons that acquired their infection in a country outside the United States and then move directly to North Dakota. In 2022, 13 (25%) of the incident cases were non-U.S. born.

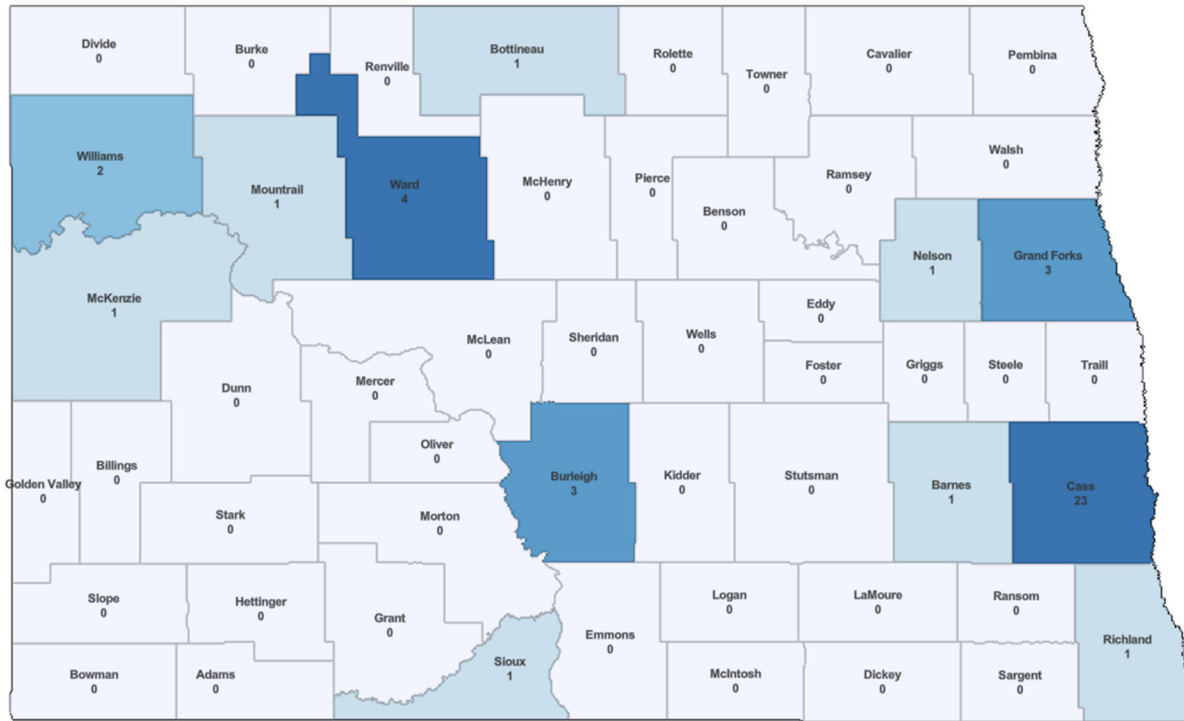
Figure 11. Newly reported HIV/AIDS cases in North Dakota by country of birth, 2018-2022



GEOGRAPHY

In 2022, 12 counties reported at least one new case of HIV with 55% of all cases being from Cass County.

Figure 12. Newly diagnosed cases of HIV in North Dakota by county, 2022.



RISK OF INFECTION

Nationally, HIV is most often reported among men who have sex with men (MSM). North Dakota risk data shows similar patterns between prevalent cases and incident cases among males from 2018 to 2022. In female cases in North Dakota, heterosexual contact remains to be the primary risk factor. According to the Centers for Disease Control and Prevention, nationally, transgender females are disproportionately affected by HIV because of multiple factors including stigma related to gender identity, unstable housing, limited employment options and high-risk behaviors such as unprotected receptive anal intercourse and injection drug use.

Figure 13. Risk factors for males newly diagnosed with HIV, 2018-2022

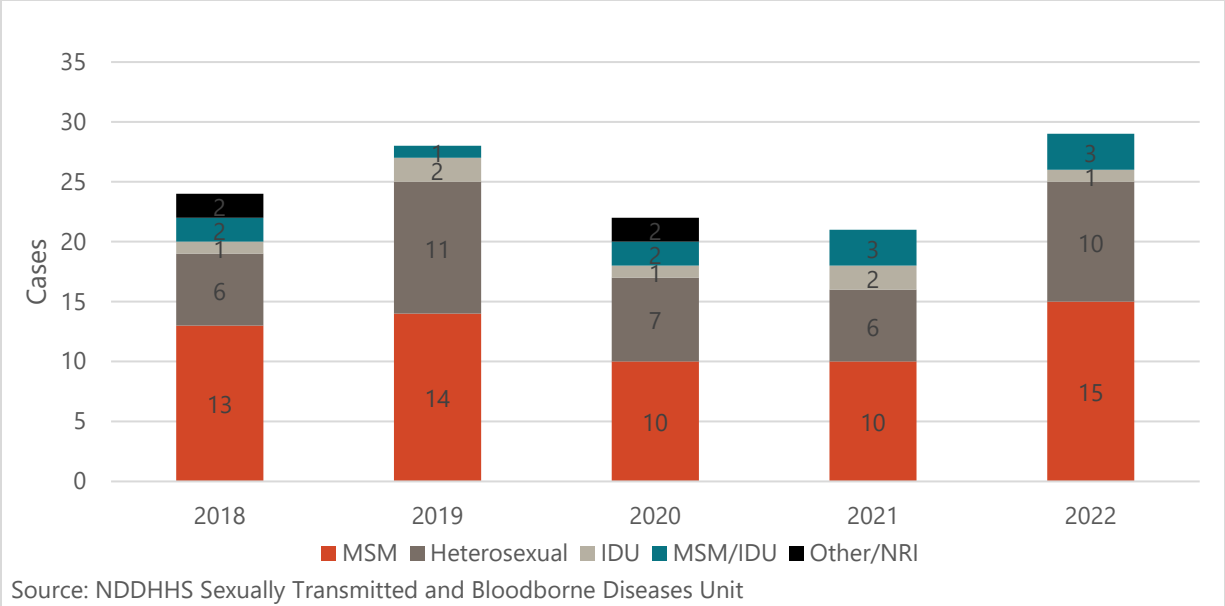
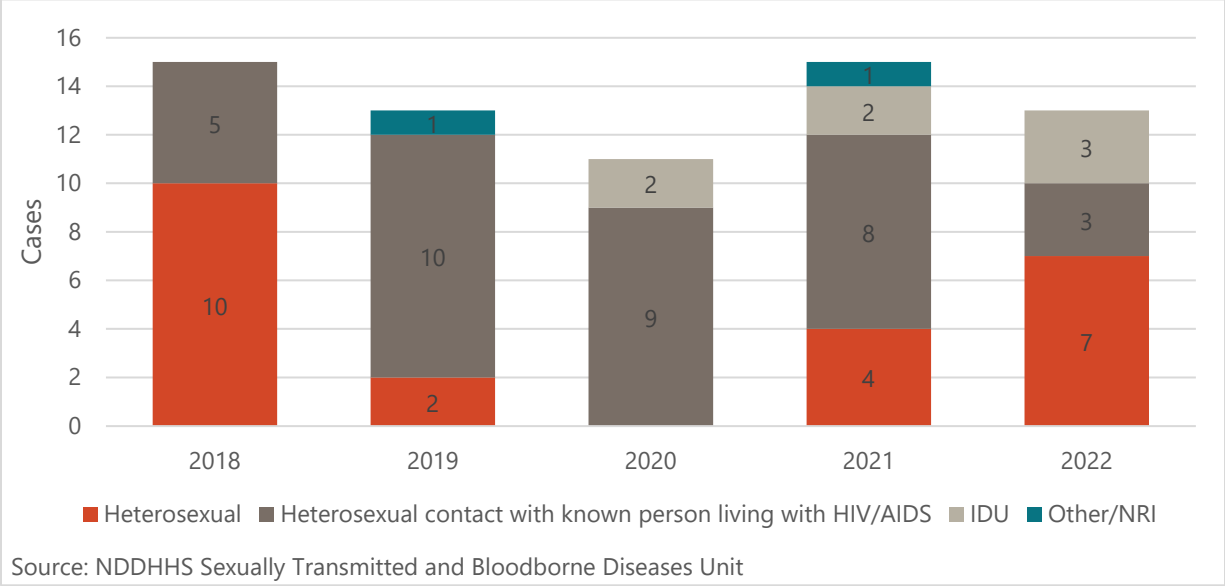


Figure 14. Risk factors for females newly diagnosed with HIV, 2018-2022



HIV CARE – RYAN WHITE PART B PROGRAM

The North Dakota Ryan White Program Part B is federally funded by Health Resources Services Organization (HRSA) and administered by the NDHHS. To be eligible for the program, an individual must be living with HIV, be a North Dakota resident and have a gross household income at or below 500% of the federal poverty level (2022: \$67,950 for a household of one).

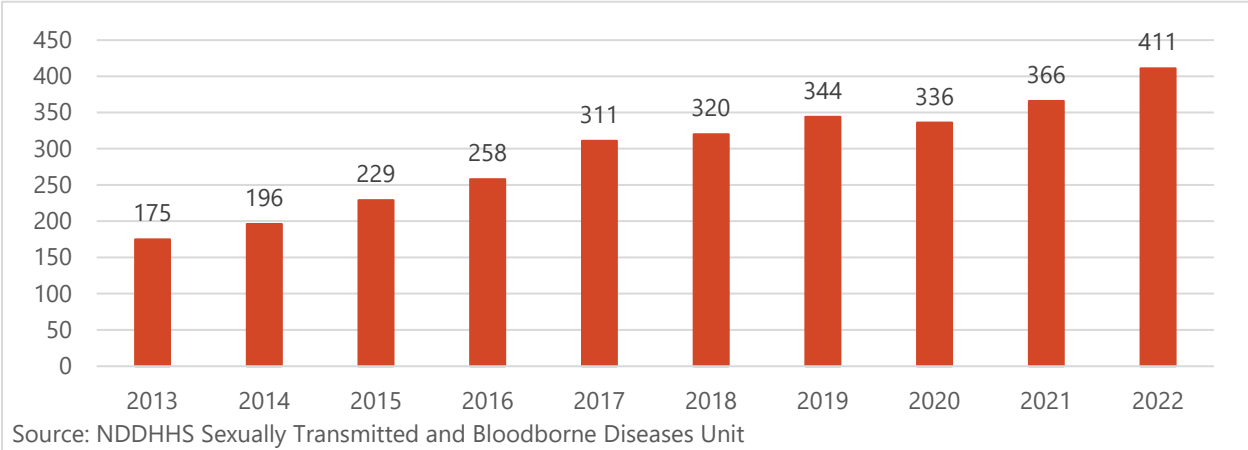
The Ryan White Part B program funds case management and core and support services that help individuals access medical care and treatment and stabilize their living situations to allow them to stay in medical care, gain self-sufficiency, and maintain overall wellbeing. Core services

reimbursed through the Ryan White Part B include HIV-related outpatient ambulatory medical care, oral health care, outpatient mental health services, substance abuse outpatient care and medical case management, as well as medication and insurance premium assistance through AIDS Drug Assistance Program (ADAP). Support services reimbursed include non-medical case management, emergency financial assistance (rent and utilities), medical transportation, group and individual psychosocial services, and nutritional supplements.

The Ryan White Part B program is a safety net program and a payer of last resort where services are reimbursed when another payer is not available. Clients who are eligible for other assistance programs, including Medicaid, Medicare, and private commercial insurance, must seek coverage through those programs first. Ryan White will wrap around those services and cover the remaining costs of treatment and HIV-related medical care.

As of December 31, 2022, of the 578 estimated persons living with HIV in North Dakota, 299 (52%) were enrolled in the ND Ryan White program. The total number of clients enrolled in 2022 was 411. This is an increase of 9% from 2021.

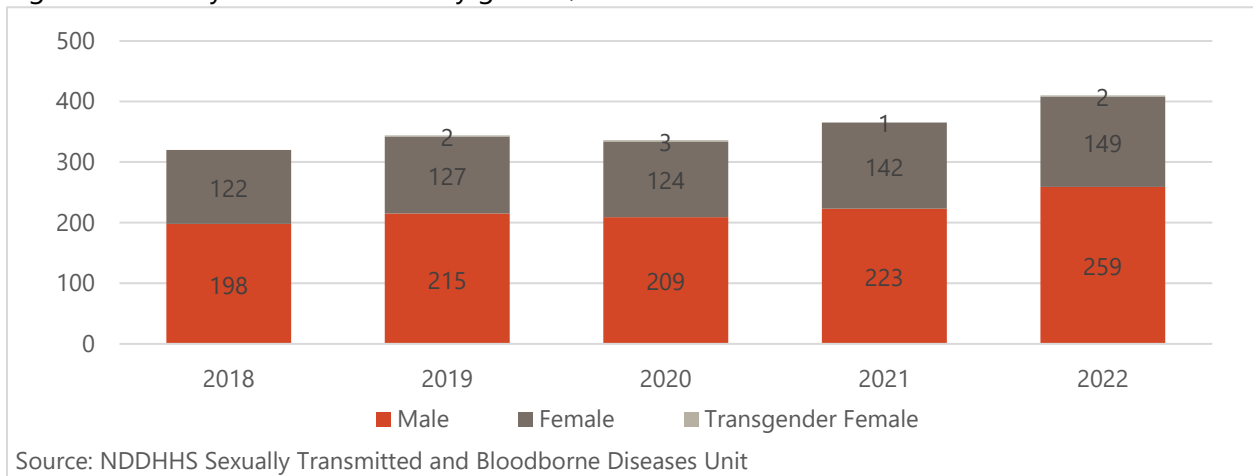
Figure 15. Total number of enrolled Ryan White clients in North Dakota, 2013-2022



GENDER

Of the 411 enrolled clients, 259 (63%) are male, 149 (36%) are female, and two transgender females.

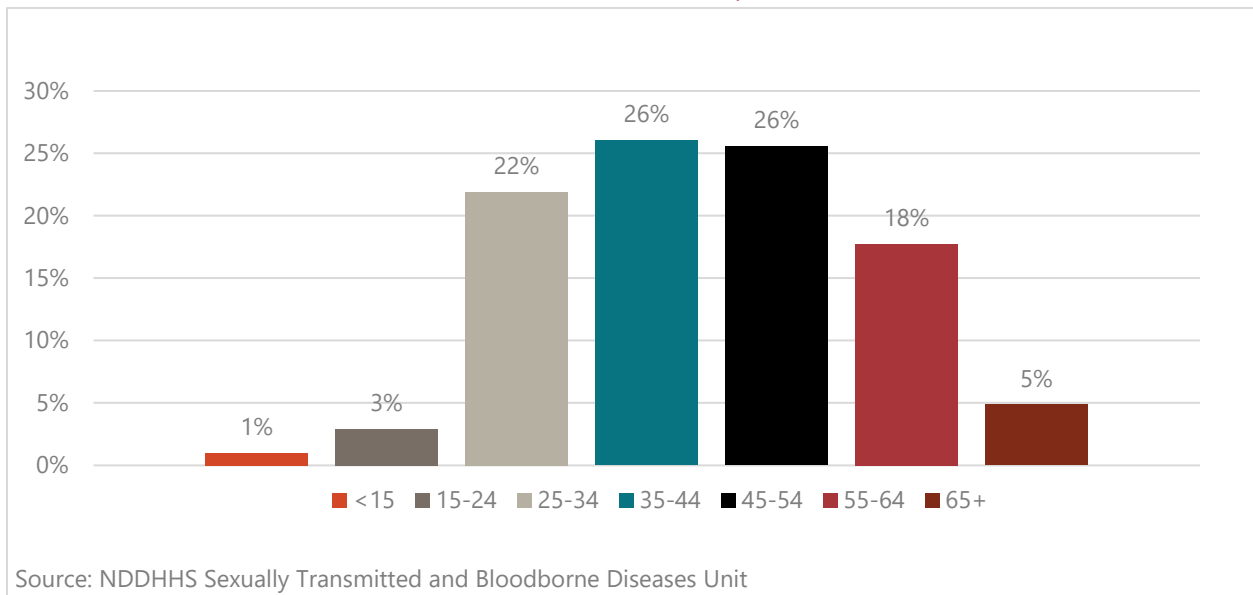
Figure 16. ND Ryan White clients by gender, 2018-2022



AGE

Of the 411 enrolled clients, 107 (26%) are between the ages of 35 and 44, and 105 clients (26%) are between the ages of 45 and 54. The average age is 43.

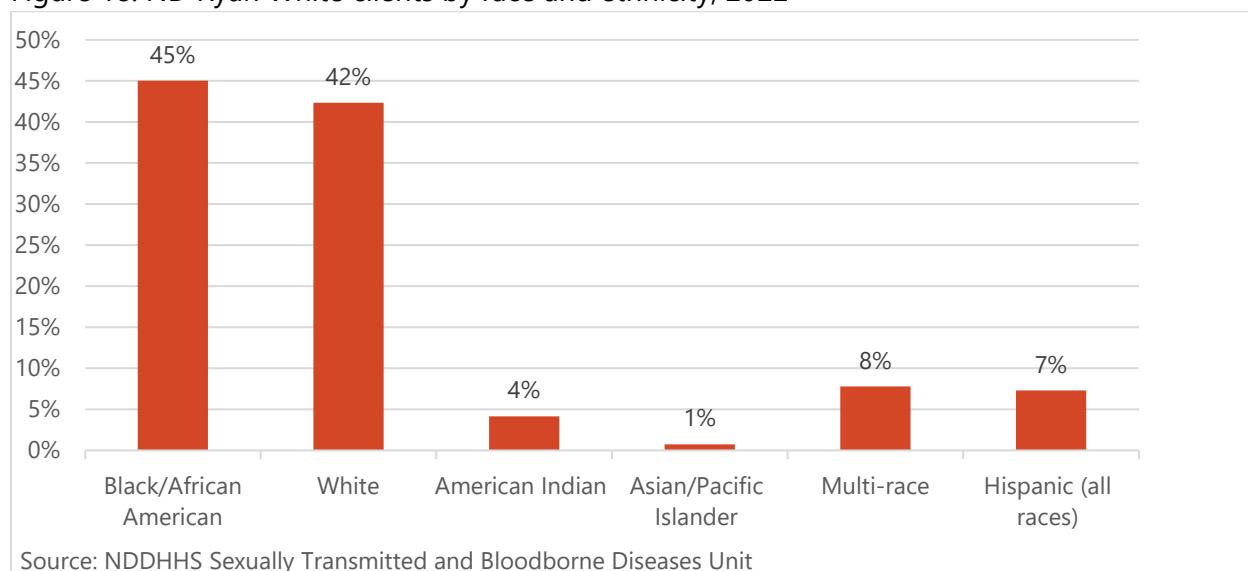
FIGURE 17. ND RYAN WHITE CLIENTS BY AGE GROUP, 2022



RACE

Of the 411 enrolled clients, 185 (45%) are Black/African American, 174 clients (48%) are White and 17 (7%) are American Indian. Thirty-two clients (6%) identified as Hispanic or Latino.

Figure 18. ND Ryan White clients by race and ethnicity, 2022



GEOGRAPHY

Ryan White case management and services reimbursement are provided through 10 local public health units, one community action agency, and one medical clinic.

The eastern region—including the most populated city in the state, Fargo—serves most (63%) of the Ryan White clients in North Dakota. The south-central region—including the state capital, Bismarck—served 18% of the enrolled clients.

Table 2. ND Ryan White clients enrolled by region and case management agency, 2022

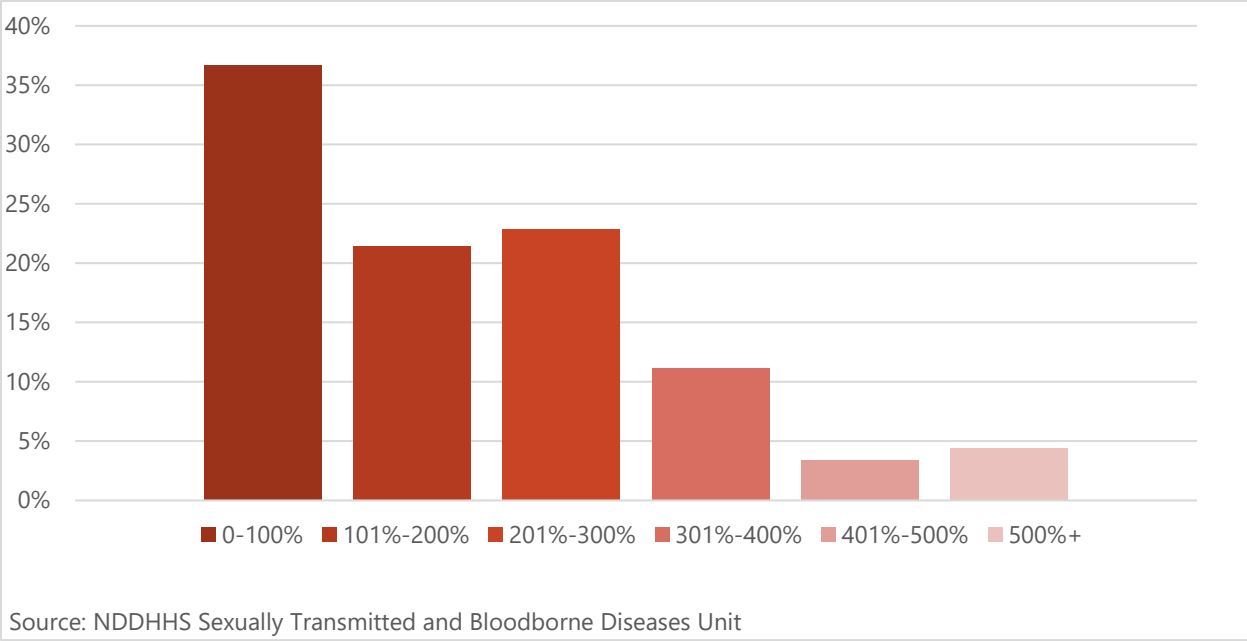
Case Management Agency	Number of Clients (N)	Proportion (%)
Western Region	34	8%
SW District Health Unit – Dickinson	18	4%
Upper Missouri District Health Units (including 3 remote locations)	16	4%
South-central Region	82	20%
Bismarck Burleigh Public Health - Bismarck	10	2%
Central Valley Health Unit – Jamestown	59	14%
Custer Health – Mandan	13	3%
North-central Region	40	10%
First District Health Unit – Minot	38	9%
Lake Region District Health - Devils Lake	2	0%
Eastern Region	265	64%
Grand Forks Public Health - Grand Forks	38	9%
Fargo Cass Public Health – Fargo	222	54%

Richland County Health – Wahpeton	5	1%
Total	411	

POVERTY LEVEL

Majority of Ryan White clients are low income. Of the 411 enrolled clients, 151 (37%) have an annual household income below the federal poverty level.

Figure 19. ND Ryan White clients by federal poverty level, 2022



HOUSING STATUS

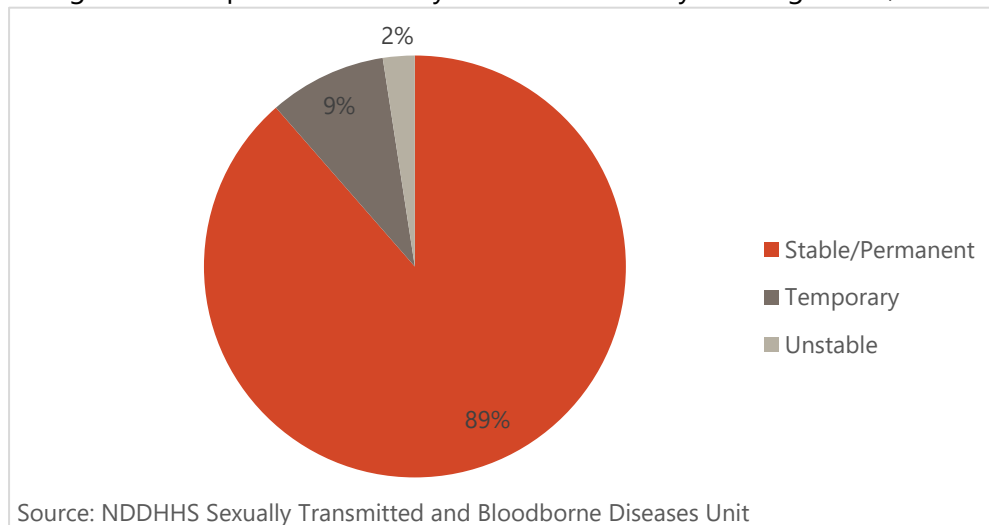
Access to affordable housing is essential for engagement and retention in medical care and treatment. Clients who lack stable housing are more likely to fall out of care and have interruptions in treatment, leading to treatment resistance and ultimately poor medical outcomes.

Of the 411 enrolled clients, 364 (89%) reported having stable housing. Thirty-seven clients (9%) reported temporary housing which includes transitional housing for homeless people, staying with friends or family, staying in institutions such as hospitals, substance use or mental health treatment facilities, correctional facilities or staying in a hotel/motel. Ten clients (2%) reported having unstable housing or being homeless.

Even though most clients report stable housing many still rely on rental assistance from Department of Housing and Urban Development (HUD), Housing Opportunities for Persons

Living with HIV (HOPWA), emergency assistance through the Ryan White program and other housing assistance programs.

Figure 20. Proportion of ND Ryan White clients by housing status, 2022



INSURANCE STATUS

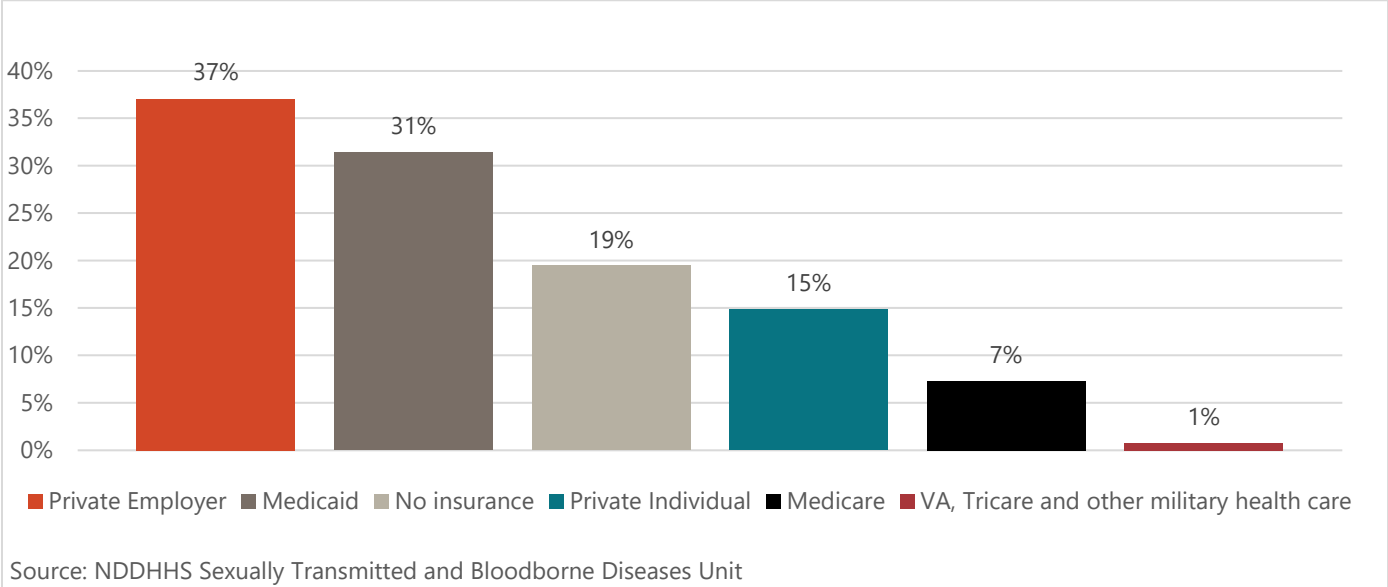
Having health coverage is essential for persons living with HIV to cover medical care and treatment costs. The Ryan White program is not considered health insurance. However, the program provides a safety net for uninsured clients by covering the cost of HIV-related medical care and medications and helps clients enroll in eligible coverage. The program also wraps around public or private health coverage and covers deductibles, copays and select insurance premiums.

Ryan White clients often experience gaps or changes in health coverage. Enrolling in health coverage can also be confusing or overwhelming. Ryan White program and case management agencies work closely with local Federally Facilitated Marketplace to screen Ryan White clients for eligible coverage and help them enroll in private individual insurance through the Marketplace. Clients may receive insurance premium assistance for Marketplace insurance after the tax premium has been applied.

In 2022, 153 clients (37%) were enrolled in private employer coverage; 129 (31%) were enrolled in Medicaid and 80 clients (19%) reported having no insurance at some point during the year.

As Ryan White Program is the payer of last resort, clients must enroll in health coverage they are eligible for. Clients eligible for health coverage are allowed three months of full medication assistance while enrolling in eligible coverage. After three months of coverage clients can receive insurance premium and medication copay assistance only.

Figure 21. ND Ryan White clients by health coverage type, 2022



RYAN WHITE PART B SERVICES

The North Dakota Ryan White Program Part B reimburses core medical services consisting of AIDS Drug Assistance Program (ADAP), HIV related outpatient medical care, dental care, vision care, outpatient mental health, substance abuse services, and medical case management. The reimbursed support services include non-medical case management, emergency assistance, medical transportation and nutritional supplements. Services under ADAP consist of medication assistance and insurance premium, copay, and deductible assistance.

Since the implementation of the Affordable Care Act in 2014, persons living with HIV are no longer barred from purchasing insurance due to a pre-existing condition. In addition, North Dakota expanded Medicaid coverage to include those with income up to 139% of the FPL. With more insured clients, Ryan White program expenses for medications and medical care decreased and program eligibility was expanded from 300% of the poverty level to 400% in 2015 and to 500% in fiscal year 2022 starting on April 1, 2022. Additionally, more funds were available for other core and support services such as dental care.

In 2022, the most utilized services continued to be non-medical and medical case management. Services that increased in cost in 2022 are ambulatory/outpatient medical care and dental care. Services that were expanded in 2022 include psychosocial support services which include HIV support groups and individual peer support services. Clients can access virtual and in-person support groups, as well as receive support from persons living with or having extensive experience with HIV.

Table 3. ND Ryan White Part B services by cost and number of clients served, 2022

Core Service	Clients Served	Cost
--------------	----------------	------

Ambulatory/Outpatient Medical Care	113	\$102,398.45
Dental Care	97	\$216,472.62
Medical Case Management	295	\$77,788.98
Mental Health	23	\$12,014.44
Vision Care	39	\$19,603.15
Support Services		
Case Management (non-medical)	298	\$106,868.83
Emergency Financial Assistance (rent and utilities)	84	\$120,505.32
Nutritional Supplements	15	\$985.12
Transportation	78	\$15,981.04
Psychosocial Services (group and individual)	8	*
Total	394	\$672,617.95

*Tracked separately

ADAP (AIDS DRUG ASSISTANCE PROGRAM)

ADAP provides medication assistance to uninsured clients and insurance assistance to those with health coverage. Insurance assistance covers medication copays and insurance premiums for private insurance and Medicare Part D (drug coverage).

North Dakota ADAP has an open formulary that excludes certain categories of medications. In 2022, the monthly or every-other-month injectable medication, Cabenuva, became more widely available to Ryan White clients.

The graph below shows the number of monthly prescriptions fills for calendar years 2017 through 2022 which includes all medication fills and Tier I fills, which are antiretroviral medications for the treatment of HIV.

Figure 22. ND ADAP medication fills, 2018-2022

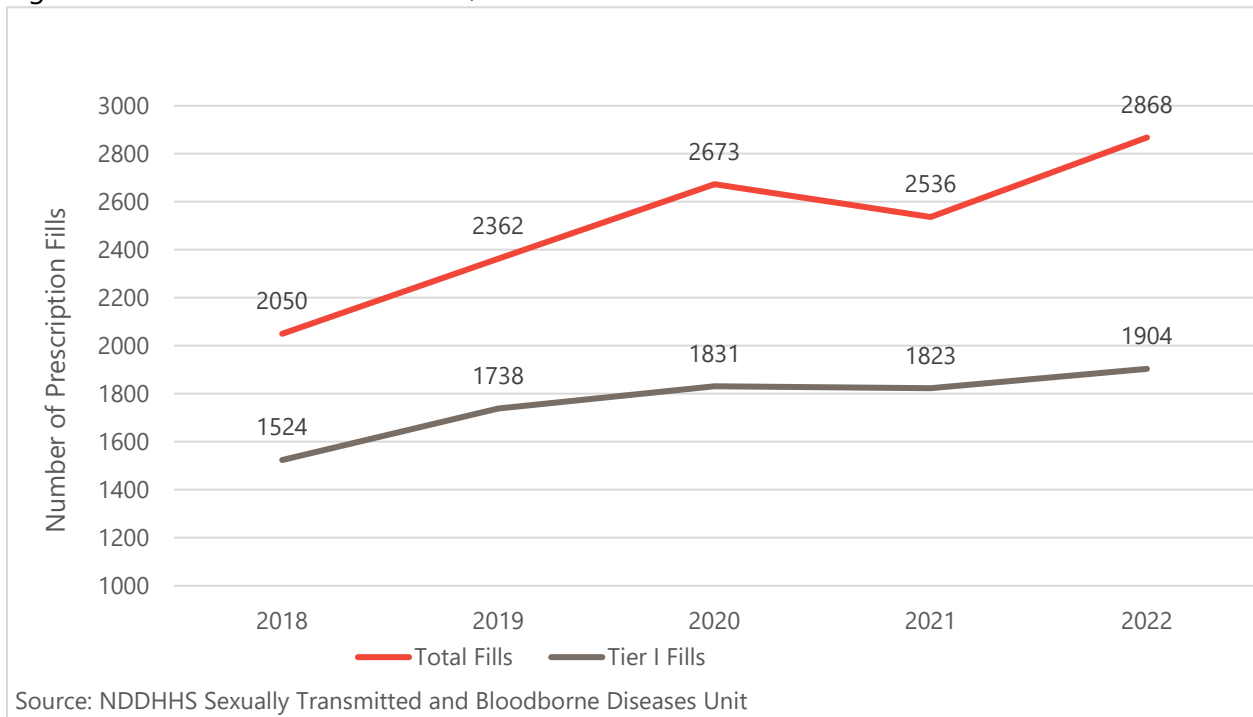
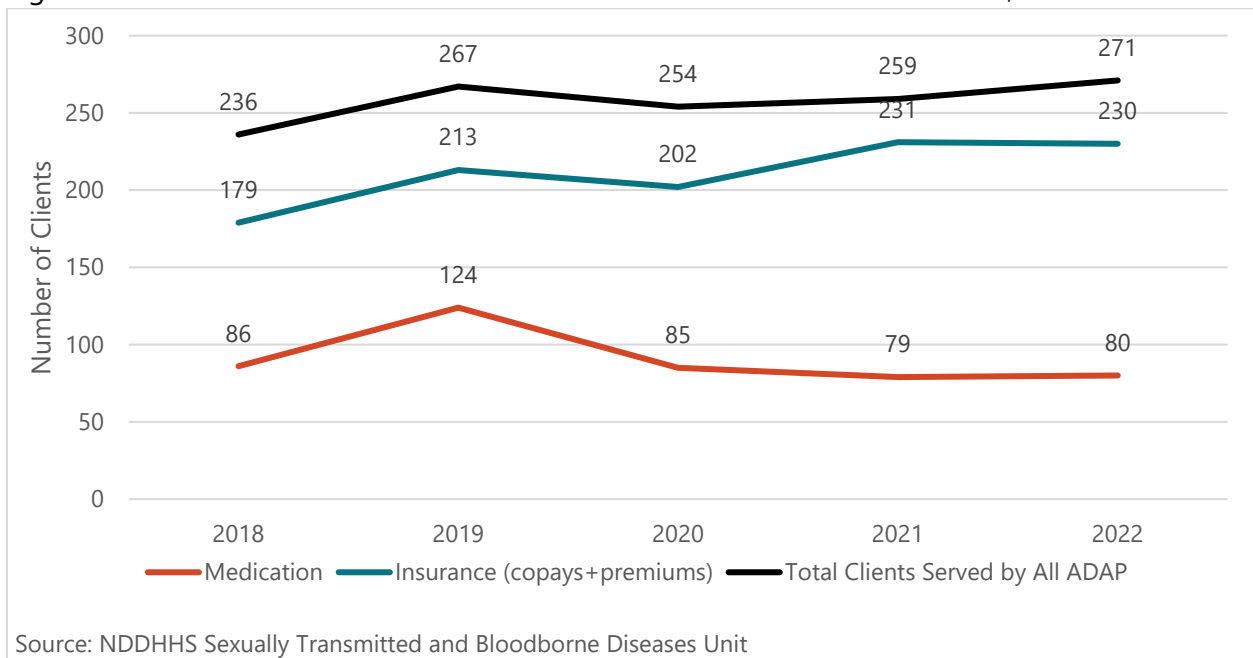


Figure 23. Number of clients who received ADAP medication assistance in ND, 2018-2022



Of the 411 enrolled clients, 271 (66%) received assistance through ADAP. Of those, 80 (30%) received full pay medication assistance through ADAP, 230 clients (85%) received insurance premium and copay/deductible assistance.

Table 4. ND ADAP assistance, 2022

Type of Assistance	Clients Served	Total Cost	Cost/Client
Medication (full pay)	80	\$780,747.89	\$9,759.35
Total insurance (copays & premiums)	230*	\$649,610.97	\$2,368.21
Copays/deductibles	220	\$521,006.06	\$1,863.84
Insurance premiums	69	\$128,604.91	\$2,824.40
Total ADAP	271*	\$1,277,957.14	\$5,459.38

*Unduplicated

The cost per served client for medication assistance, not considering drug rebates, in 2022 was \$9,759.35. This is a 27% increase since 2022 and is more than three times costly than insurance assistance (\$2,368.21). Due to the higher cost per client for medication assistance, clients are required to enroll in eligible insurance. Overall, the annual cost per client served through ADAP, without accounting for rebates received, is \$5,459.38.

HIV Care Continuum

The HIV care continuum is a model that outlines the steps of HIV medical care from the initial diagnosis to achieving the goal of viral suppression and it indicates the proportion of individuals living with HIV who are engaged at each stage. The continuum has the following stages: diagnosis of HIV infection, linkage to care, retention in care, receipt of antiretroviral therapy and achievement of viral suppression. As various obstacles contribute to low engagement in HIV care and limit the effectiveness of efforts to improve health outcomes, the care continuum is used to identify gaps in HIV services and develop strategies to enhance engagement in care and outcomes for PLWH.

The CDC currently uses two different continuums. The HIV prevalence-based continuum shows steps of the continuum as a percentage of the total number, or the prevalence, of PLWH (persons who know and the estimated number of people who do not know their HIV status). The diagnosis-based continuum shows steps as a percentage of the number of PLWH who have been diagnosed. As a low-incidence state, North Dakota has adopted the diagnosis-based continuum.

The continuum steps below are for PLWH in North Dakota as of December 31, 2022. The measurement year is the calendar year 2022.

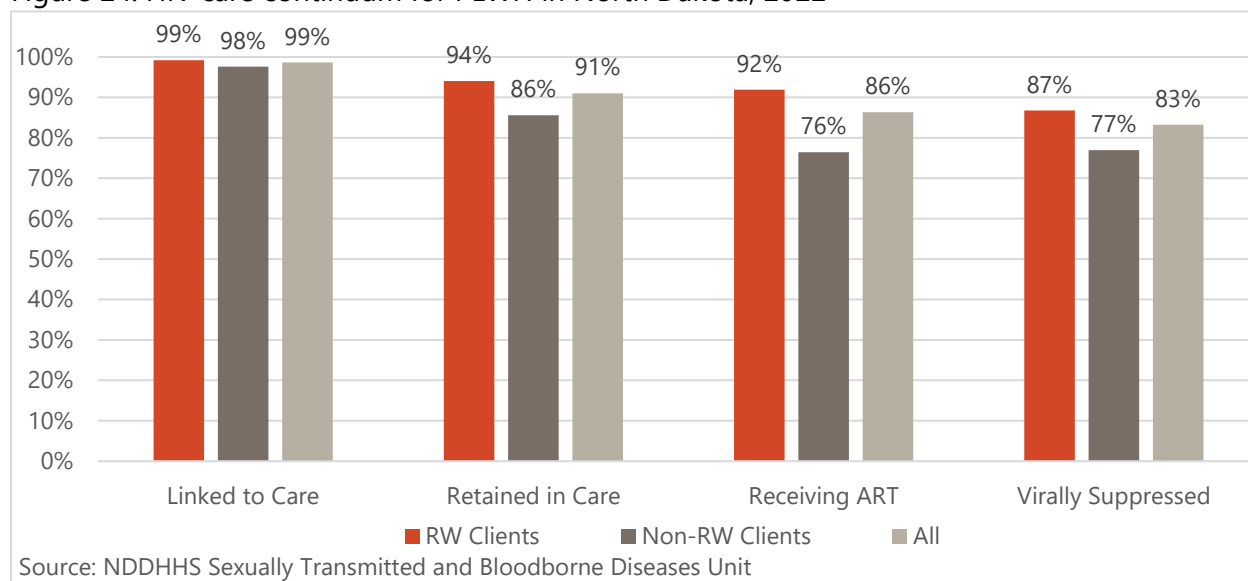
- HIV-diagnosed: number of prevalent HIV cases; prevalent cases include the number of newly diagnosed HIV cases in North Dakota, as well as previously diagnosed HIV cases who moved to the state and were living in North Dakota as of December 31, 2022
- Linked to care: the number of PLWH in the calendar year 2022 who had one or more viral load or CD4 tests after their diagnosis date
- Retained in care: the number of PLWH with one or more viral load or CD4 lab tests in 2022
- Antiretroviral use: number of PLWH who have a documented antiretroviral therapy (ART) prescription in the Maven surveillance system in 2022
- Viral load suppression: number of PLWH whose most recent HIV viral loads in 2022 were less than 200 copies/milliliter (mL).

Limitations: HIV is a reportable condition in North Dakota, and all viral load and CD4 lab tests are electronically reported to the NDHHS. However, the NDHHS does not perform medical chart reviews on PLWH to determine all HIV-related medical visits or antiretroviral use. The lack of review contributes to the possible underreporting of the number of individuals linked and retained in care and underreporting of individuals receiving ART. The number of individuals prescribed ART is determined by using Ryan White ADAP reimbursed claims data. Therefore, only individuals on RW and whose medications are reimbursed through ADAP or those that are virally suppressed are reported as receiving ART. This excludes individuals not on RW and those

on RW but whose medications are reimbursed through primary coverage (i.e., private insurance, Medicaid or Medicare).

In 2022, there were 578 PLWH in North Dakota. Of those, 64% were enrolled in RW. Ninety-nine percent of all PLWH are linked to care and reported at least one medical visit since their diagnosis. Ninety-one percent were retained in care by having a medical visit in 2022 and 83% were virally suppressed.

Figure 24. HIV care continuum for PLWH in North Dakota, 2022



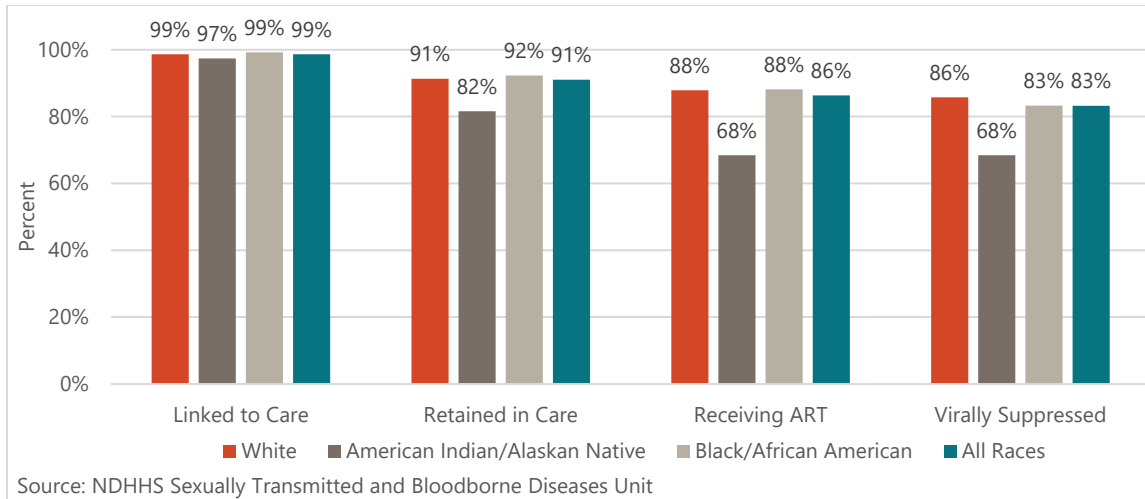
There is a significant disparity between the PLWH not enrolled in RW versus those enrolled (Figure 24). Eighty-six percent of non-RW PLWH are retained in care and 77% are virally suppressed, compared to 94% of RW clients who are retained in care and 87% who are virally suppressed.

Reaching viral load suppression is essential for several reasons. Viral suppression ensures that the health of the person is maintained or restored. It also minimizes or eliminates short- or long-term damage caused by the virus, and it lowers the risk of HIV transmission since there is a lower amount of virus in the blood and body fluids.

DISPARITIES BY RACE

In 2022, American Indian/Alaskan Natives reported the lowest viral suppression rate with a rate of 68%. This population has the lowest denominator of 38 PLWH and can widely differ due to the law of small numbers. Whites have a denominator of 288, and Black/African Americans have a denominator of 245. There was no difference in viral suppression among those that were born in the United States versus born in a foreign country.

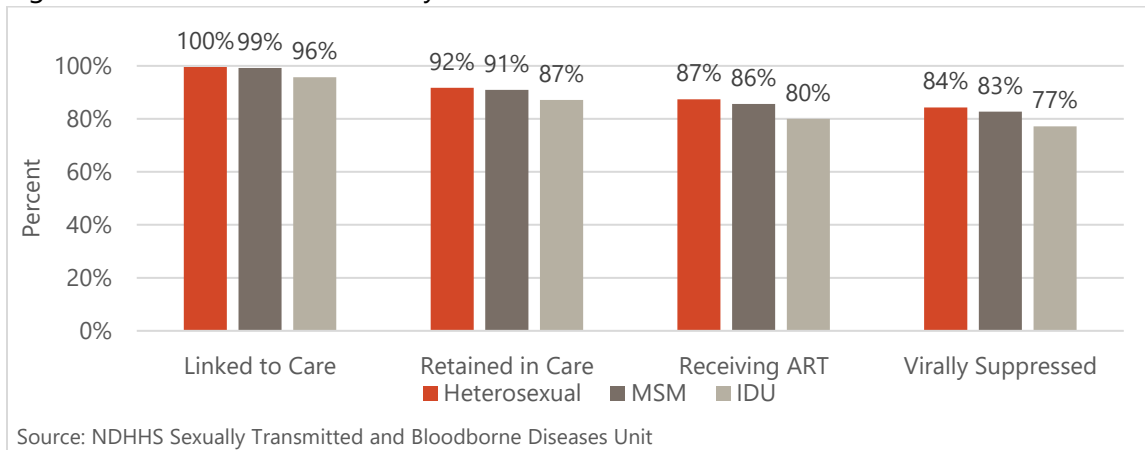
Figure 25. HIV care continuum by race in ND, 2022.



DISPARITIES BY RISK

Persons who inject drugs have a lower viral suppression rate than those with other risk factors.

Figure 26. HIV care continuum by risk factor in ND, 2022



DISPARITIES BY GEOGRAPHY

There are also disparities in achieving viral suppression by geographic region. Region II (Burke, Mountrail, Renville, Ward, Bottineau, McHenry and Pierce County) has the lowest viral suppression rate of all PLWH.

Table 5. Viral suppression rate by region, 2022.

Region	Viral Suppression
I – Divide, Williams, McKenzie	80%
II – Burke, Mountrail, Renville, Ward, Bottineau, McHenry, Pierce	74%
III – Rolette, Towner, Cavalier, Ramsey, Eddy, Benson	75%
IV – Pembina, Walsh, Nelson, Grand Forks	87%
V – Steele, Traill, Cass, Ransom, Richland, Sargent	85%
VI – Wells, Foster, Griggs, Stutsman, Barnes, Logan, LaMoure, McIntosh, Dickey	81%
VII – McLean, Mercer, Oliver, Morton, Grant, Sioux, Emmons, Burleigh, Kidder, Sheridan	83%
VIII – Dunn, Billings, Golden Valley, Slope, Bowman, Adams, Hettinger, Stark	90%

The HIV Care Continuum provides a model to monitor progress toward the ND Integrated HIV and Viral Hepatitis Prevention and Care Plan's objectives that follow the National HIV/AIDS Strategy. The NDHHS continues to identify appropriate interventions to address the racial and socio-economic disparities and determine necessary re-engagement activities to improve outcomes at each stage of the care continuum. The NDHHS will reevaluate the existing services, such as partner services, additional testing for comorbidities, educational opportunities regarding care and treatment and prevention with positives activities to assess their effectiveness and potential improvement areas.

Viral Hepatitis

Hepatitis is the general term that means “inflammation of the liver.” Many factors can cause hepatitis, including toxins, drugs, viruses, parasites and other factors. There are several types of viral hepatitis, but hepatitis A (HAV), hepatitis B (HBV) and hepatitis C (HCV) are the most common types of viral hepatitis in the U.S. and North Dakota. HAV is transmitted via fecal-oral route. HBV and HCV will be discussed in this document.

HEPATITIS B VIRUS (HBV)

In 2022, 76 cases of HBV were reported in North Dakota as meeting the CDC case definition. Reported numbers include both confirmed and probable cases.

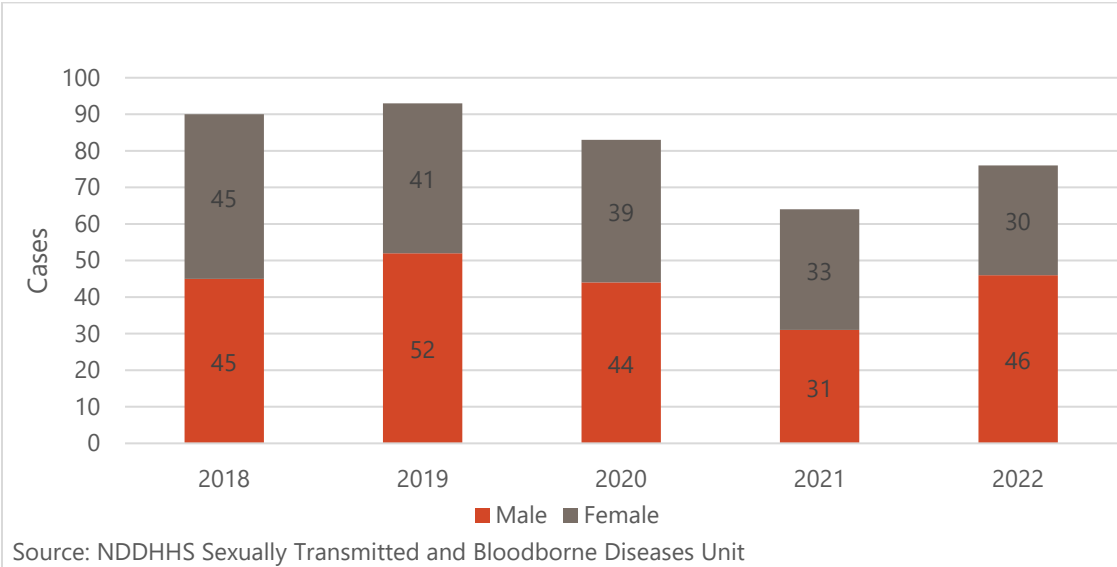
ACUTE HBV

One of the 76 cases were acute, meaning they were recently infected within the past six months. The rest of the cases were chronic but being reported for the first time.

GENDER

Of the 76 reported cases, 61% were male. Gender is reported by the laboratory/provider. Current gender identity data is unavailable.

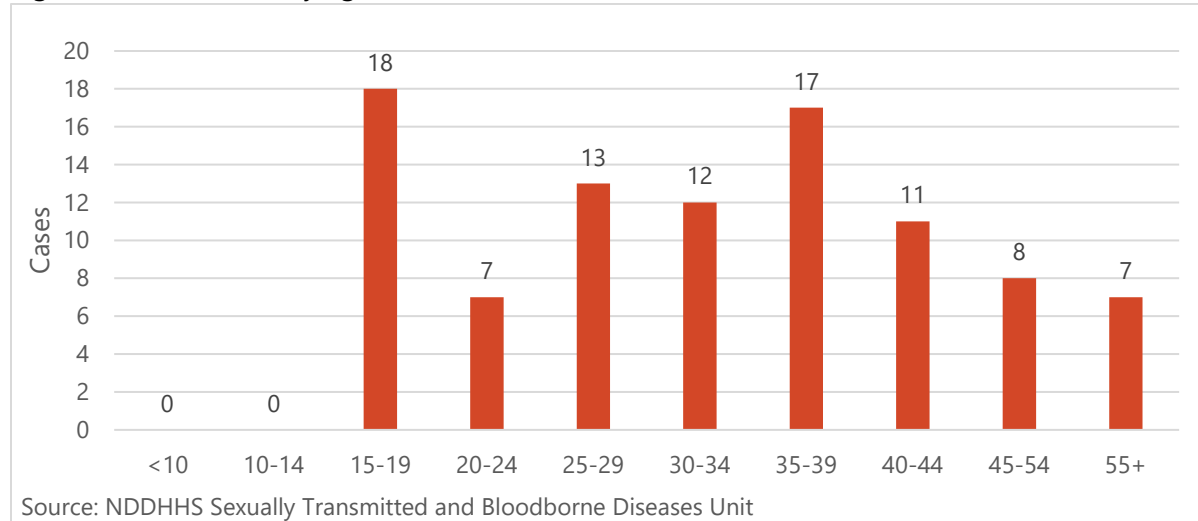
Figure 27. HBV cases by gender in North Dakota, 2018-2022



AGE

The age range of newly reported HBV cases in 2022 was 18 to 74 years old, with an average age of 38.

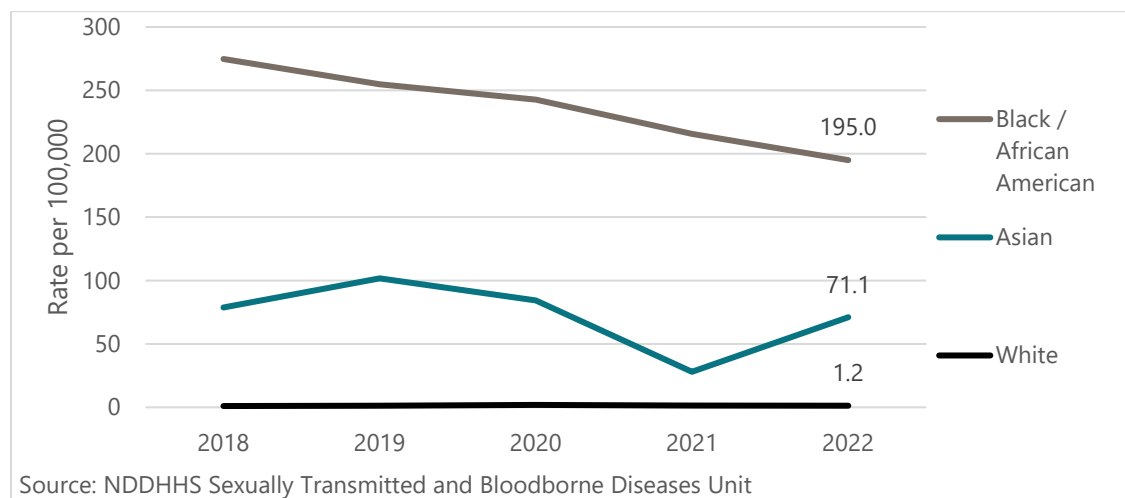
Figure 28. HBV cases by age in North Dakota, 2022



RACE

Most HBV cases are Black/African American or Asian and occur in persons born in countries where HBV is endemic. Since vaccination programs were started in the United States, the number of HBV infections among American-born individuals has been drastically reduced. Of the 32 cases with a known country of birth, 28 were born outside of the United States.

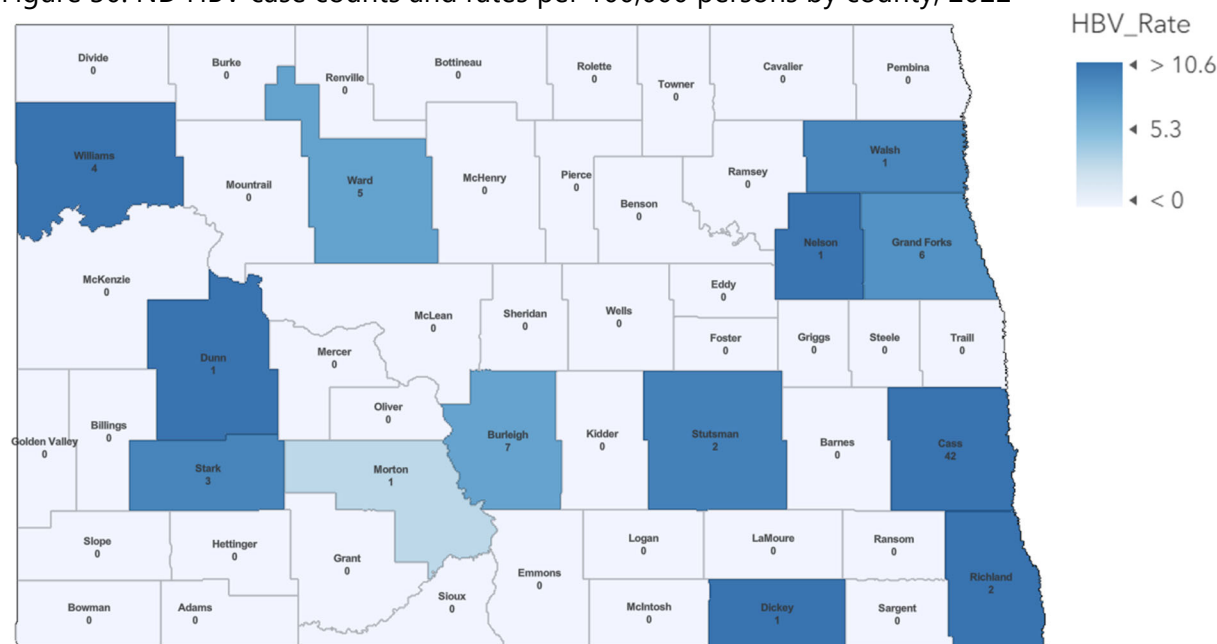
Figure 29. HBV rates by race in North Dakota, 2018-2022



GEOGRAPHY

In 2022, 13 counties reported at least one HBV case. The map below lists the number of cases reported by county. The shading indicates the rate of HBV per 100,000 persons by county.

Figure 30. ND HBV case counts and rates per 100,000 persons by county, 2022

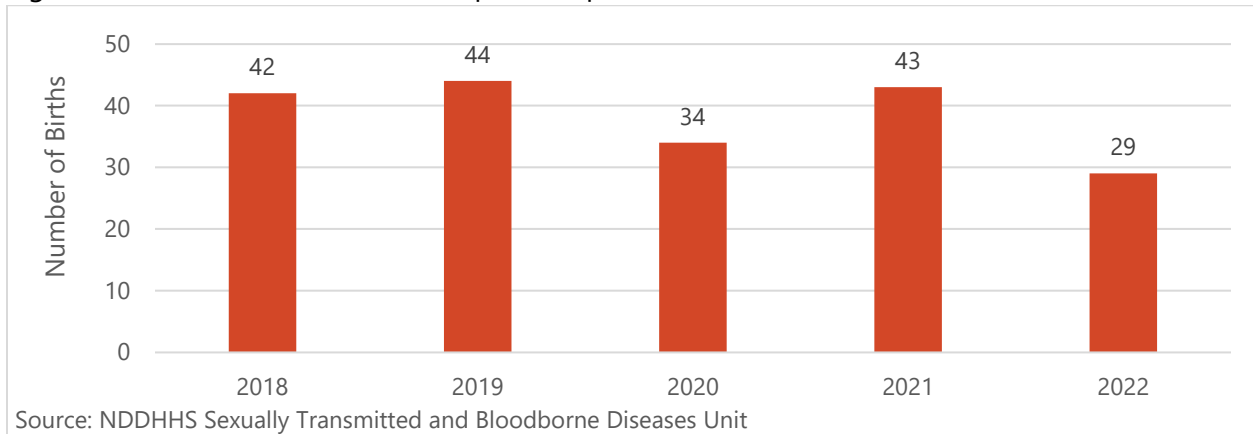


PERINATAL FOLLOW-UP

The North Dakota Perinatal Hepatitis B Prevention Program seeks to prevent perinatal hepatitis B infections by managing infants born to hepatitis B positive women. Case management includes contacting hepatitis B positive women before delivery to educate them regarding hepatitis B virus transmission and the importance of hepatitis B immune globulin (HBIG) and hepatitis B vaccine for their infant. The perinatal hepatitis B coordinator then notifies the hospital where the woman is planning to deliver so they are prepared to administer HBIG and hepatitis B vaccine to the infant at birth.

After delivery, the perinatal hepatitis B coordinator works with the infant's health care provider to ensure that all three doses of vaccine are given and that hepatitis B serology testing is performed at nine months of age, 1-2 months after the last dose of vaccine. Hepatitis B serology testing is essential to determine if the infant gained protection from the vaccine and ensure they did not develop hepatitis B infection. In 2022, there were 29 births to hepatitis B positive women with all infants being negative for hepatitis B infection.

Figure 31. North Dakota births to hepatitis B positive women, 2018-2022



HEPATITIS C VIRUS (HCV)

In 2022, North Dakota received 501 reports of persons newly identified as having a positive laboratory result that indicates past or present HCV infection. This number includes cases that may be chronic, acute, or unknown.

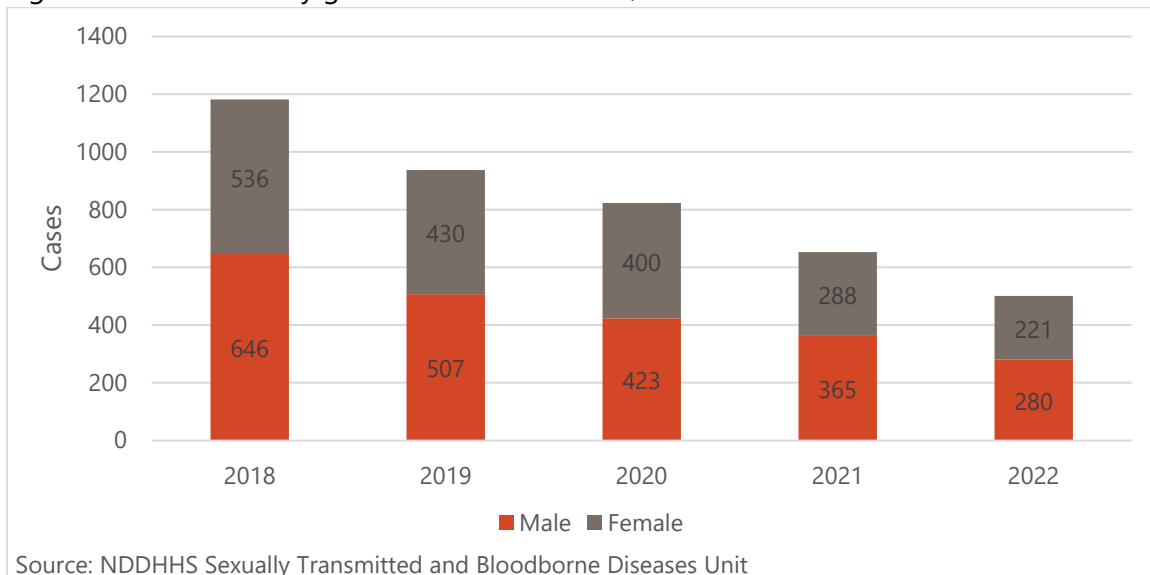
ACUTE HCV

Of the 501 cases, none were reported as acute. Acute hepatitis C is not often identified in North Dakota due to symptom history not being reported and/or testing occurring outside the acute phase.

GENDER

Of the 501 HCV positive reports, 56% were male as reported by the laboratory or provider. Current gender identity data is unavailable.

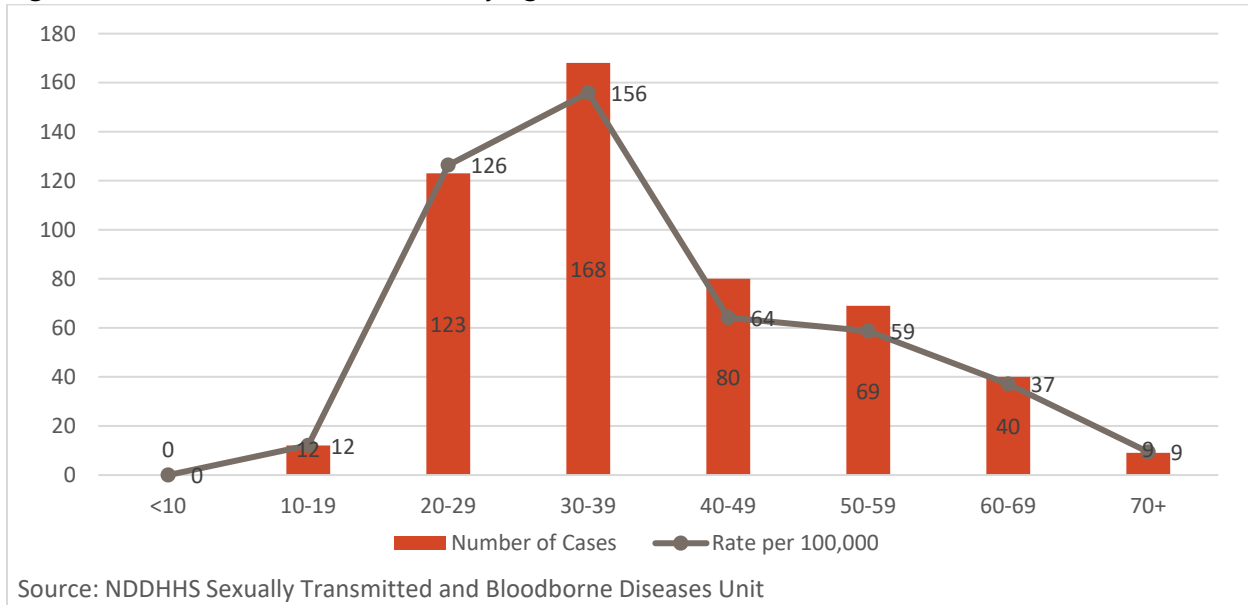
Figure 32. HCV cases by gender in North Dakota, 2018-2022



AGE

HCV infections in North Dakota are predominantly adult infections. The 30 to 39 age group has the highest rate of infection compared to all other age groups at 168 cases per 100,000. The average age of HCV cases in 2022 was 39 years.

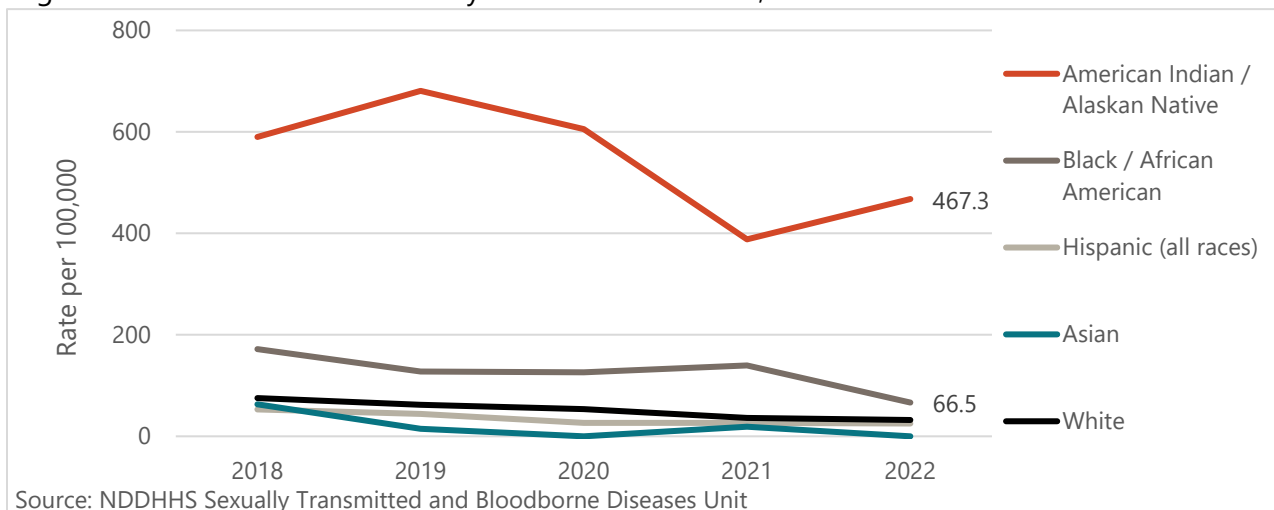
Figure 33. HCV case count and rate by age in North Dakota, 2022



RACE

Of the 501 cases in 2022, 395 had a documented race. American Indian/Alaskan Natives had a case count of 167 and had the highest rate of 467.3 cases per 100,000 followed by Black/African Americans with a case count of 16, a rate of 66.5 cases per 100,000. There were 208 cases reported among Whites, with a case rate of 32.0 cases per 100,000.

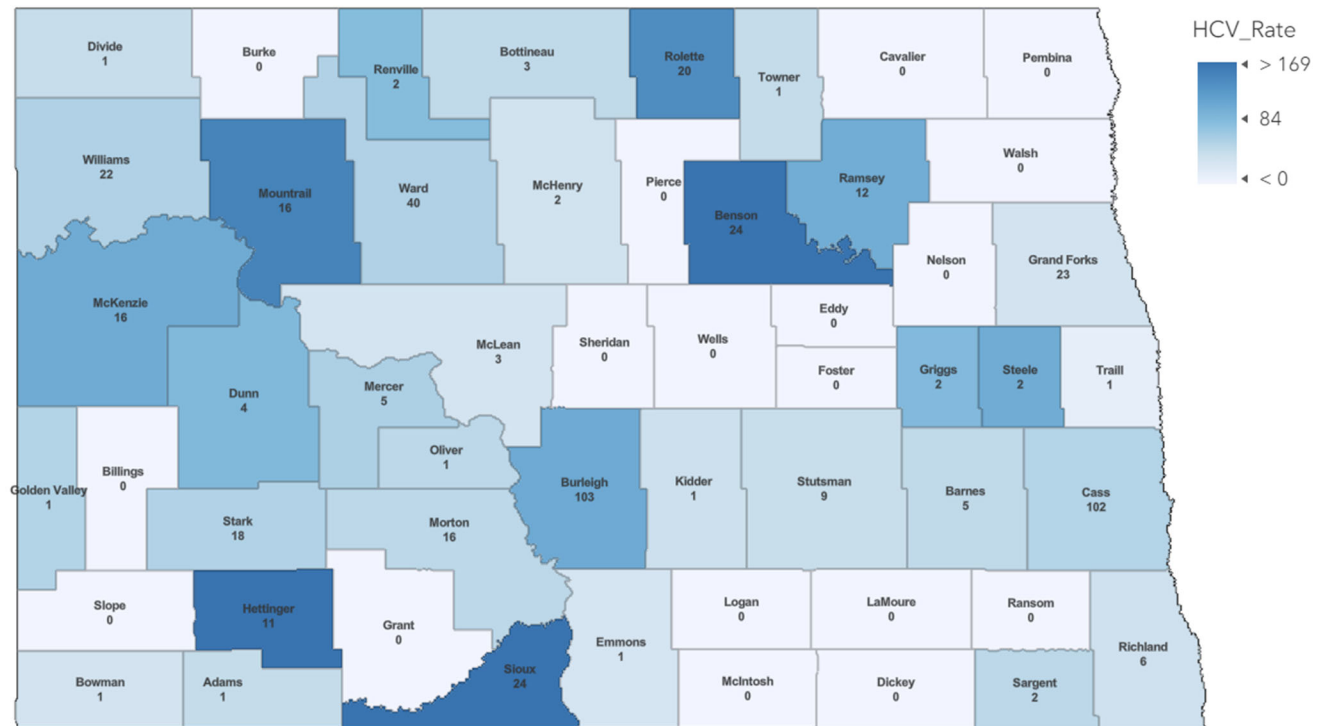
Figure 34. HCV incident case rate by race in North Dakota, 2018-2022



GEOGRAPHY

In 2022, 35 counties reported at least one HCV case. The map below lists the number of reported cases by county. The shading indicates the rate of HCV per 100,000 persons by county. Sioux County had the highest rate with 567 cases per 100,000.

Figure 35. ND HCV case counts and rate per 100,000 by county, 2022

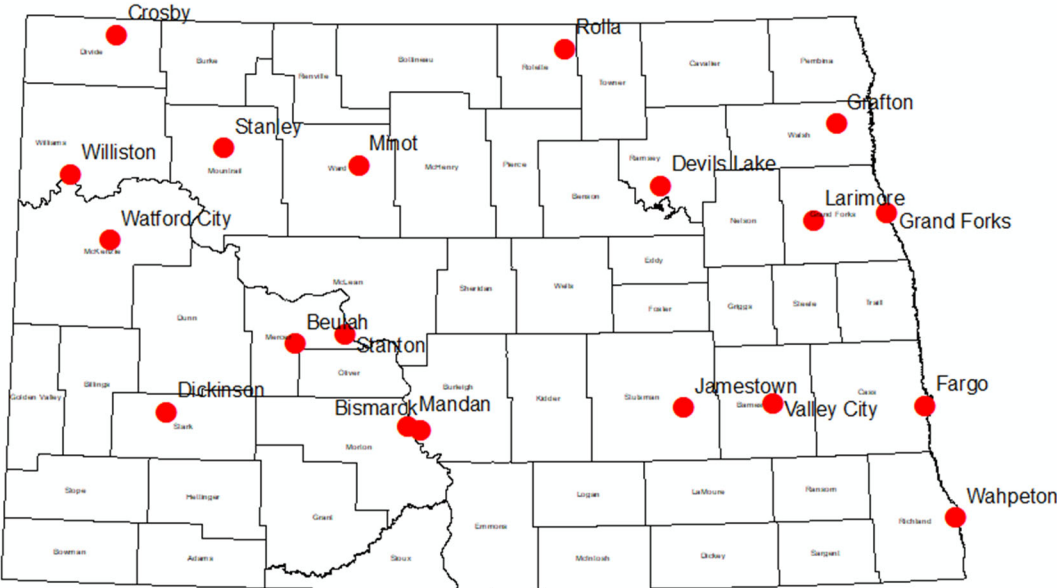


HIV and HCV Counseling, Testing and Referral Program

The Counseling, Testing and Referral (CTR) Program offers HIV and HCV testing. Additionally, CTR cites provide HAV and HBV vaccinations to those at risk for HCV. This program aims to increase the accessibility of HIV and HCV health care services for populations at risk. CTR sites seek to inform clients of their HIV and HCV status, counsel and support risk reduction and secure needed referrals (i.e., medical, social, prevention and partner services).

The NDHHS contracted with 21 free and confidential CTR sites in 2022. With contracted sites, their satellite clinics and non-contracted partners, 35 facilities across North Dakota are offering CTR services (Figure 38). Please note in the figure below some cities have multiple CTR sites; thus, the number of dots does not equate to the total number of sites offering CTR services. Contracted CTR sites consist of eight family planning clinics, seven local public health units, three student health centers, two pregnancy/sexual health clinics and one clinic that specializes in LGBTQ+ healthcare. Note that seven family planning clinics or local public health units also offer services at their county correctional facilities. CTR sites often have the advantages of providing comprehensive health care, including STI testing and treatment, additional vaccinations, primary health care, substance abuse referrals and many other services, and integrated HIV and HCV testing.

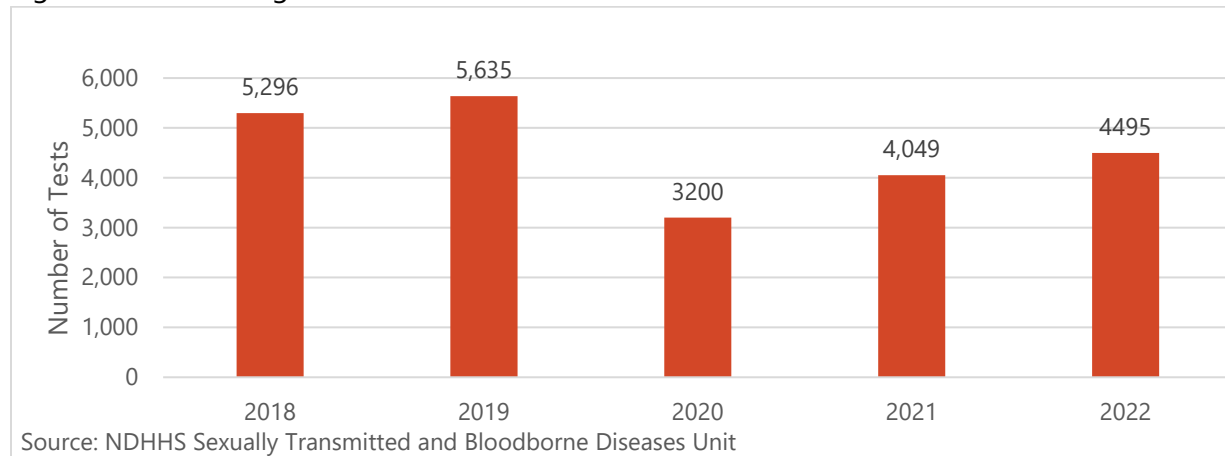
Figure 36. Location of CTR sites



HIV COUNSELING, TESTING AND REFERRAL DATA

In 2022, CTR sites conducted 4,496 HIV tests, an 11% increase from 2021 but still lower than pre-pandemic levels. During the COVID-19 pandemic response, many CTR sites experienced diversion to pandemic activities including contact tracing, testing and vaccination. Several facilities closed for a period of time during the pandemic and/or stopped offering services for the CTR program.

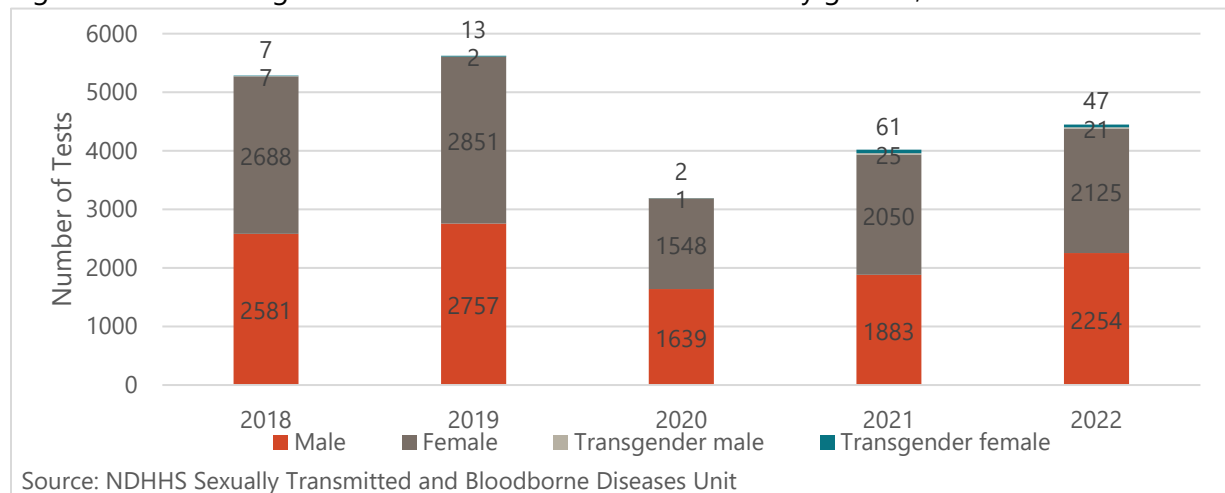
Figure 37. HIV testing conducted at North Dakota CTR sites, 2018-2022



GENDER IDENTITY

Of the 4,496 tests in 2022, 2,255 (50.2%) were male and 2,125 (47.3%) were female. Sixty-eight (68) HIV tests were performed among individuals identifying as transgender - 47 transgender females and 21 transgender males. Thirty-seven (37) individuals reported having a gender identity that is not male, female, or transgender and 11 individuals refused to report or had an unknown current gender identity.

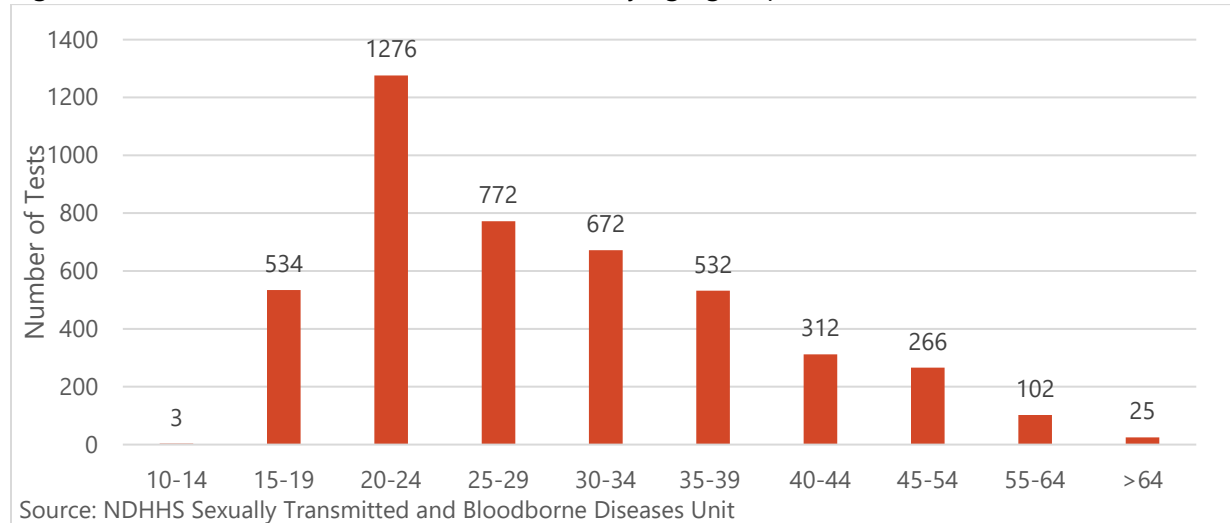
Figure 38. HIV testing conducted at North Dakota CTR sites by gender, 2018-2022



AGE

Over half (59.9%) of clients tested for HIV in 2022 were between 20 and 34. This is consistent with the same age groups with the highest number of incident cases of HIV in North Dakota.

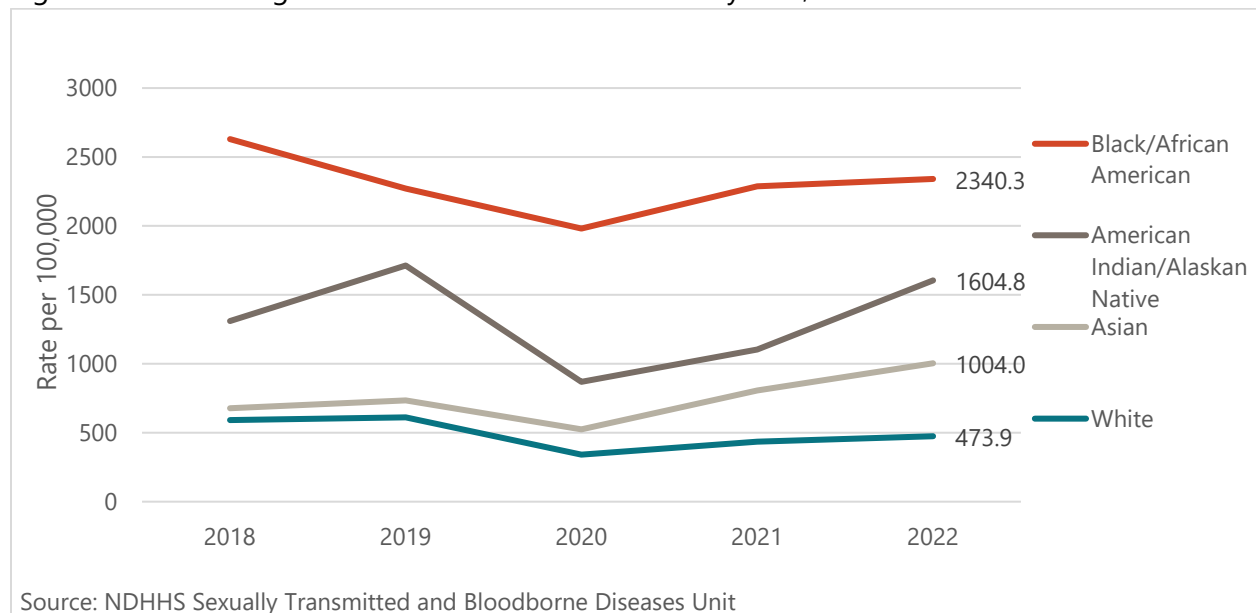
Figure 39. HIV tests at North Dakota CTR sites by age group, 2022



RACE

In 2022, North Dakota CTR sites tested 3,053 people for HIV that identify as white, 528 as Black/African Americans, 578 as American Indian/Alaskan Native and 113 as Asian. Testing rates and incident rates of HIV are highest among Black/African Americans.

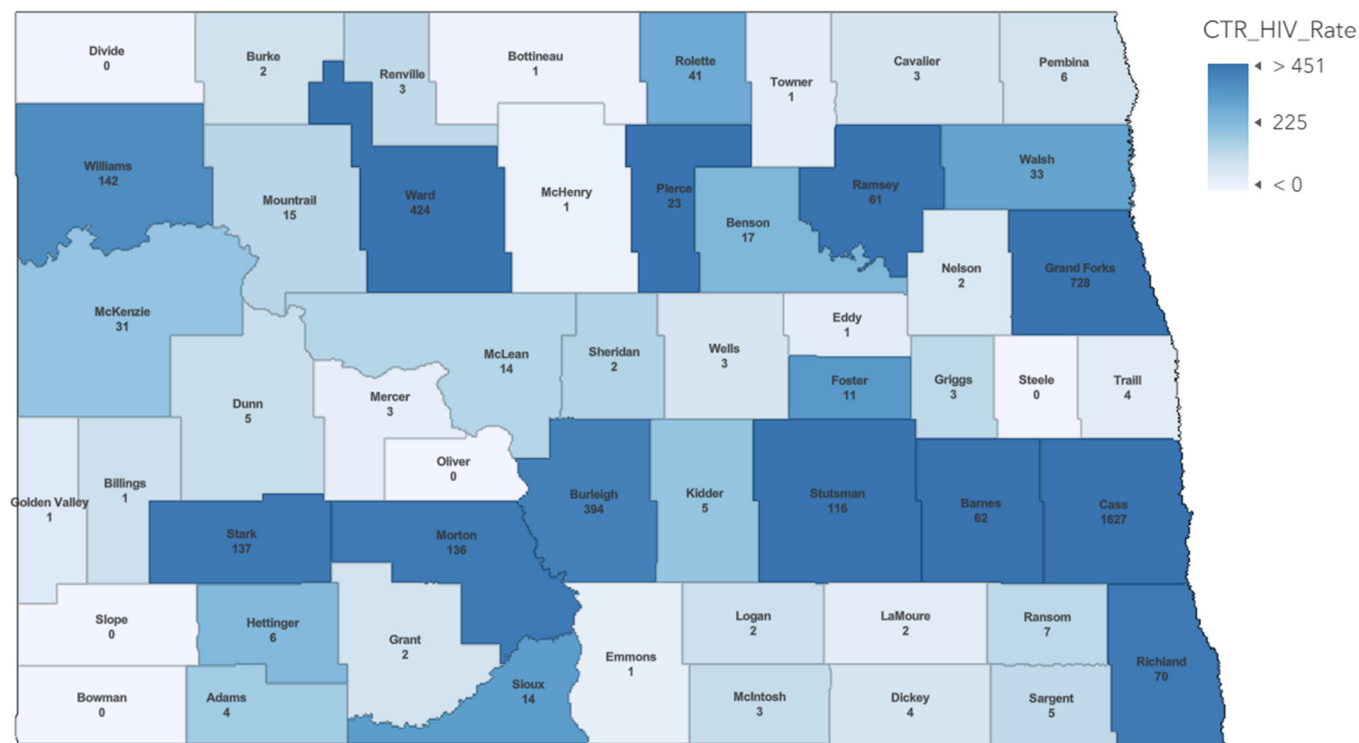
Figure 40. HIV testing rates at North Dakota CTR sites by race, 2018-2022



GEOGRAPHY

Of the HIV tests performed at CTR sites in 2022, 4,180 or 93.0% of those tested were North Dakota residents. The remaining individuals resided in different states, or an address was not reported. In North Dakota, residents in 48 of 53 counties were reported to have received an HIV test.

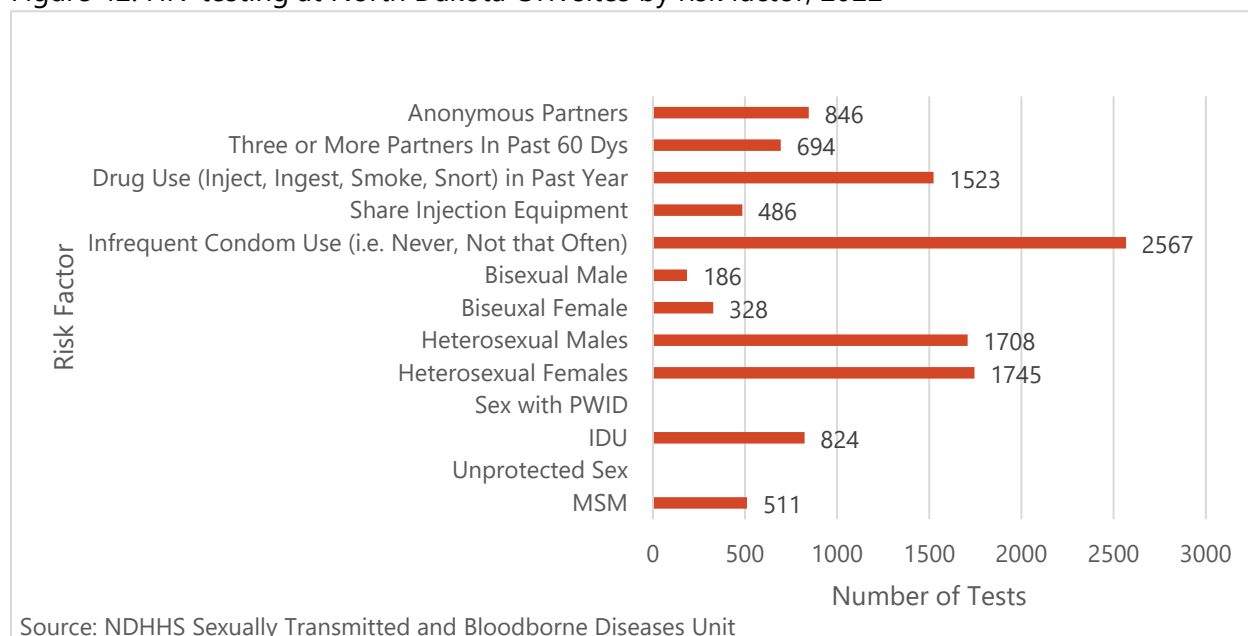
Figure 41. Number of HIV tests and rates per 100,000 by North Dakota county, 2022



RISK FACTORS

In 2022, 18.3% of clients identify as a person who injects drugs (PWID) either currently or in the past. Of males tested at CTR sites, 21.3% identified as having sex with other men (MSM). Other behavioral factors for those tested for HIV include 57.1% reported never using condoms or not that often in the previous 12 months, 15.4% had three or more partners in the past 60 days and 18.8% reported having anonymous sex partners over the last 12 months. The risk factors reported by those tested for HIV in 2022 was very similar to those reported in 2022.

Figure 42. HIV testing at North Dakota CTR sites by risk factor, 2022



HIV POSITIVES IDENTIFIED AT CTR SITES

In 2022, 13 individuals were identified as being rapid HIV positive. Of those 13, four were confirmed to be newly identified HIV cases, two were previous HIV diagnosis and seven were confirmed to be HIV negative. The rapid HIV test used at CTR sites had a 0.16% false positive rate in 2022 with seven clients identified to have a false positive rapid HIV test. This false positive rate is higher to the rate of 0.09% reported in 2022.

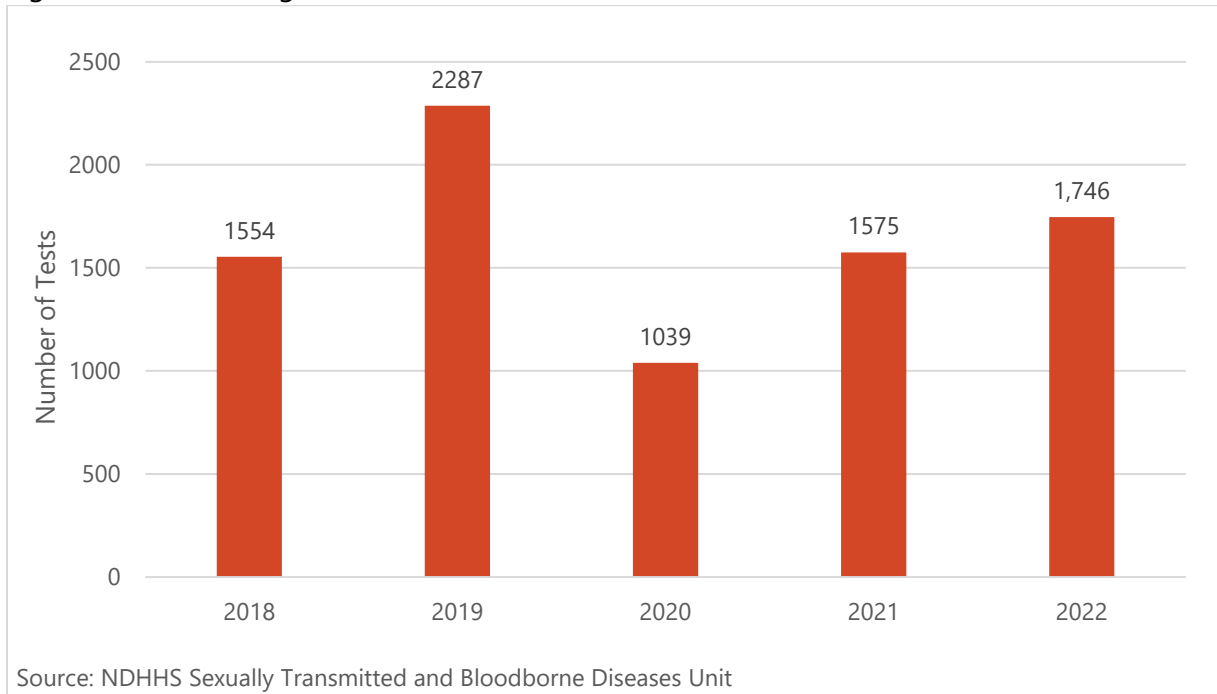
HIV PREP REFERRALS CTR SITES

In 2022, 34.3% of those tested for HIV reported having ever heard of HIV PrEP compared to 31% in 2011 and 26% in 2020. One hundred ninety-nine clients reported using PrEP in the previous 12 months and 152 were currently on PrEP which is an increase of almost 40% of clients on PrEP compared to 2022. CTR staff determined that PrEP was recommended for 1,137 (25.3%) of those tested for HIV. Of those individuals, 598 (52.6%) had never heard of PrEP. The CTR programs aim to provide education to clients tested for HIV about the many HIV prevention tools available, including increasing the number of clients recommended for PrEP to be referred and linked to a PrEP care provider.

HCV Counseling, Testing and Referral Data

In 2022, 1,746 patients were tested for HCV, a 10.9% increase from 2022 but still lower than the height of pre-pandemic testing in 2019. During the COVID-19 pandemic response many of CTR sites experienced diversion to pandemic activities including contact tracing, testing and vaccination. Several facilities closed for a period of time during the pandemic and/or stopped offering services for the CTR program.

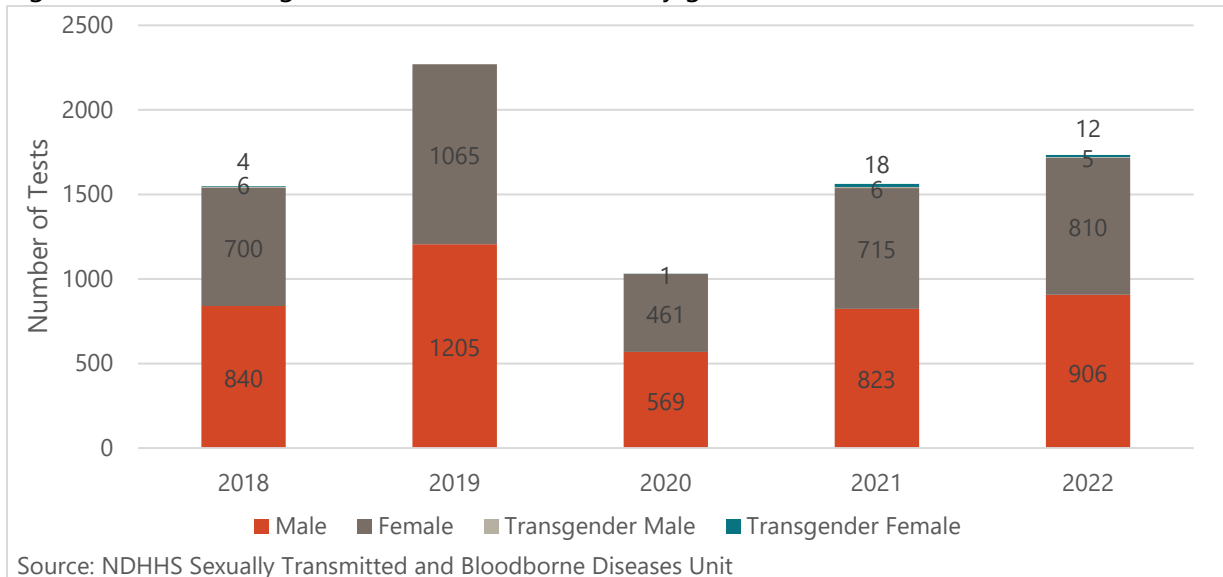
Figure 43. HCV testing at North Dakota CTR sites, 2018-2022



GENDER

In 2022, CTR sites tested 906 (51.9%) males, 810 (46.4%) females, five individuals identifying as transgender males, 12 individuals identifying as transgender females, 10 individuals identified as another gender and three individuals had an unknown gender or refused to report their gender were tested for HCV.

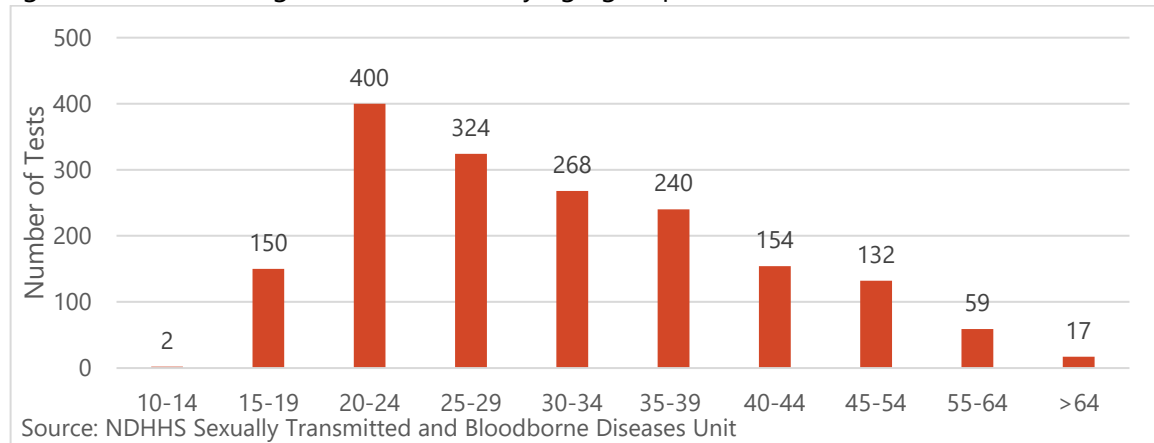
Figure 44. HCV testing at North Dakota CTR sites by gender, 2018-2022



AGE

There has been an increase in HCV infections in North Dakota and nationwide among persons under 35 years of age. CTR sites are excellent places for testing young individuals in North Dakota. In 2022, 65.5% of individuals tested for HCV were under the age of 35. Baby boomers, those born between 1945 and 1965, also have a higher rate of hepatitis C infection in the U.S. and North Dakota. CTR sites may screen baby boomers if they have an identified risk or have no health insurance as many baby boomers are referred to a primary care provider. CTR sites tested 76 individuals aged 55 and older.

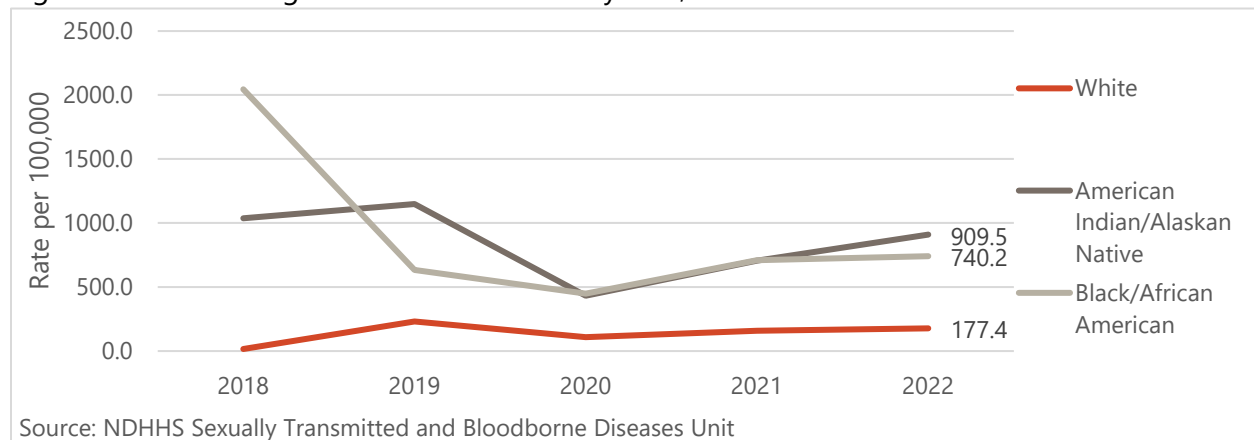
Figure 45. HCV testing at ND CTR sites by age group, 2022



RACE

In 2022, the majority (65.5%) of those tested for HCV were White. Clients also identified as 18.7% American Indian/Alaska Native, and 9.6% were Black/African Americans. Testing rates were highest among American Indians/Alaskan Natives Black/African Americans followed closely by Black/African Americans. American Indian/Alaskan Natives are the population in North Dakota with the greatest HCV disparity in North Dakota.

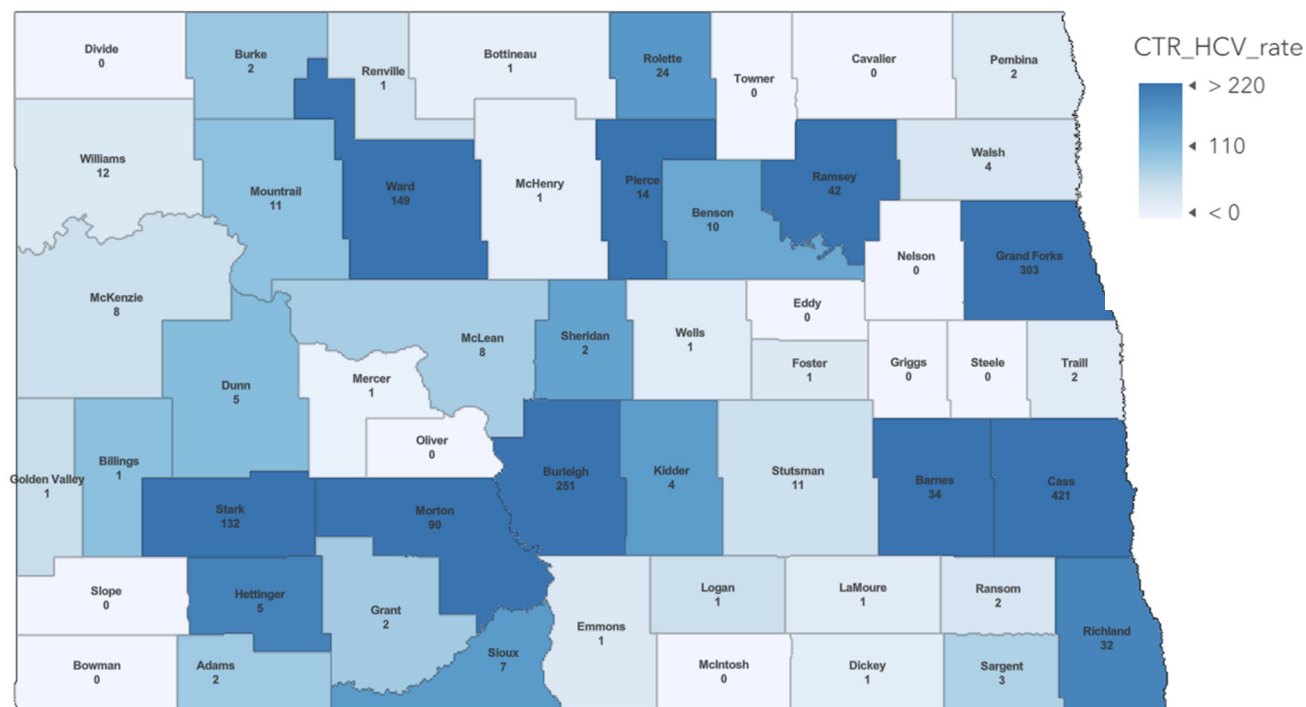
Figure 46. HCV testing rates at ND CTR sites by race, 2018-2022



GEOGRAPHY

Of all HCV tests performed at CTR sites in 2022, 1,606 (92.0%) were among ND residents. Residents of 42 of 53 counties were reported to have received an HCV test at CTR sites in 2022.

Figure 47. Number of HCV tests and rates per 100,000 persons by ND county, 2022



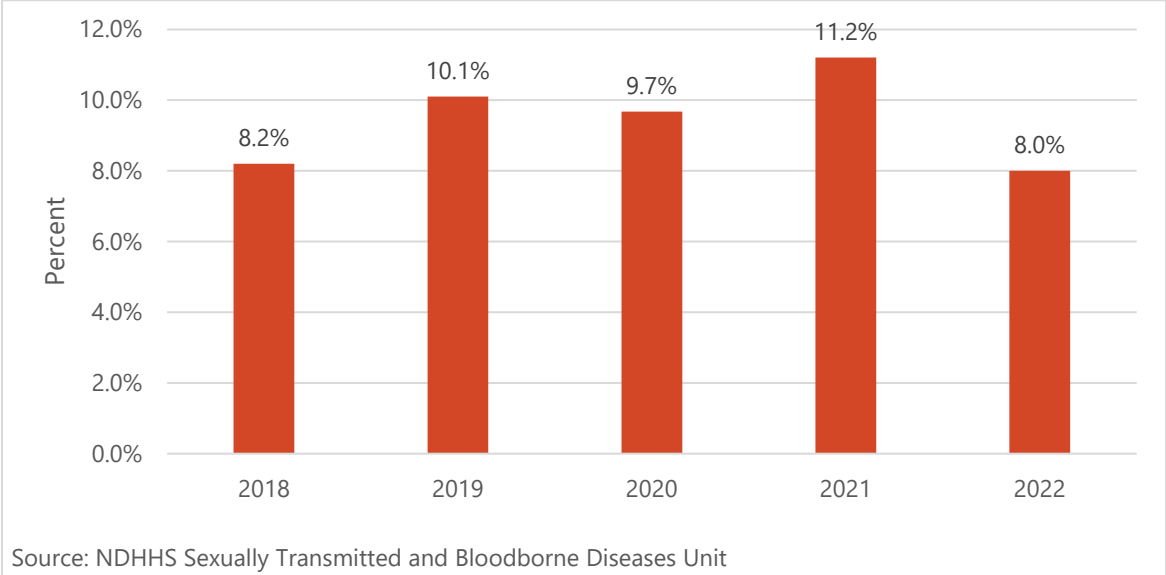
RISK FACTORS

Many clients tested for HCV at CTR sites have multiple risk factors. Of those tested, 31.2% identified injecting drugs, either currently or in the past. Of those who had a history of injection drug use, 64.2% reported sharing injection equipment. One commonly reported additional risk factor reported by 13.2% of individuals was receiving tattoos or piercings in an unsterile environment. Of all the males tested for HCV, 26.0% identified as MSM.

HCV POSITIVES IDENTIFIED AT CTR SITES

In 2022, 133 (8.0%) individuals were identified as being rapid HCV positive. Between those who were tested by rapid and conventional technologies, there were a total of 149 individuals who had a positive hepatitis C test result. Of those, 62 were identified as currently infected with HCV or have a chronic HCV infection. Forty-five individuals were identified as RNA negative and have resolved HCV infections and 15 individuals only had a positive rapid HCV result thus had an unknown HCV status. CTR sites often provide linkage to care services, ensuring that clients are referred to appropriate health care such as a substance abuse provider or a health care provider for hepatitis C treatment evaluation.

Figure 48. Percentage of HCV rapid positives in North Dakota, 2018-2022

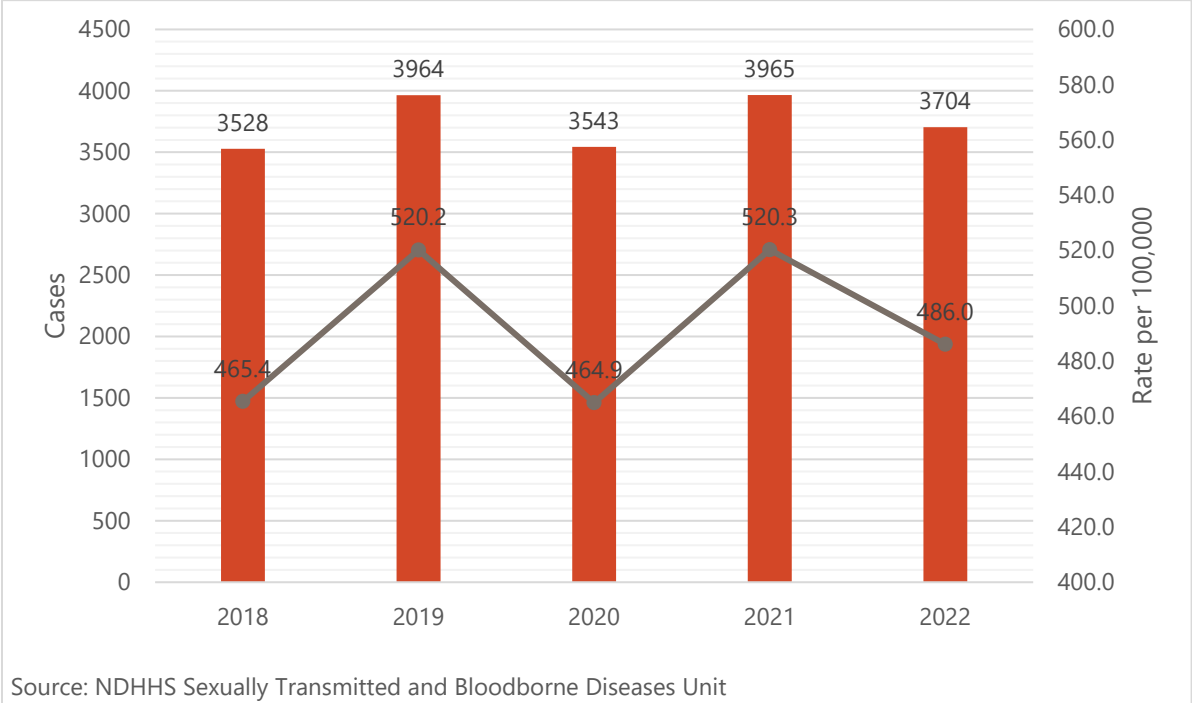


Sexually Transmitted Infections (STIs)

CHLAMYDIA

Chlamydia is the most common notifiable disease in the United States reported to the CDC. In 2022, North Dakota reported 3,704 cases of chlamydia, a rate of 486.0 cases per 100,000 persons.

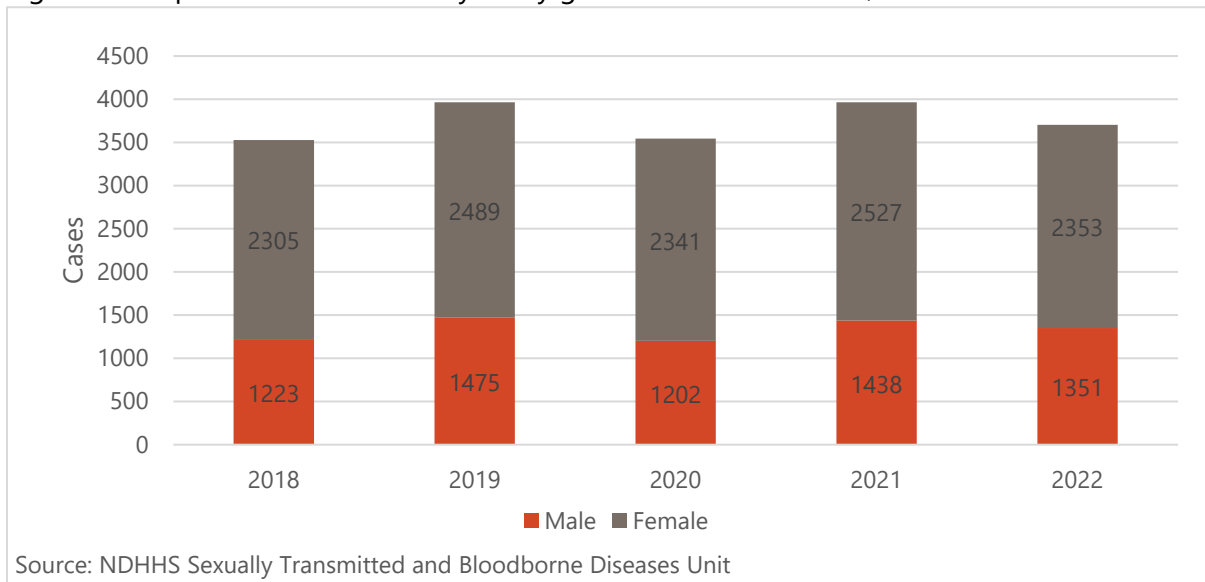
Figure 49. Reported cases of chlamydia and North Dakota incident rate, 2018-2022



GENDER

Of the chlamydia cases reported in 2022, 2353 (64%) were female as reported by the laboratory and/or provider. This distribution is expected as females are screened more frequently for the disease through annual gynecological visits, prenatal care and age-based screening recommendations. Current gender identity data is unavailable.

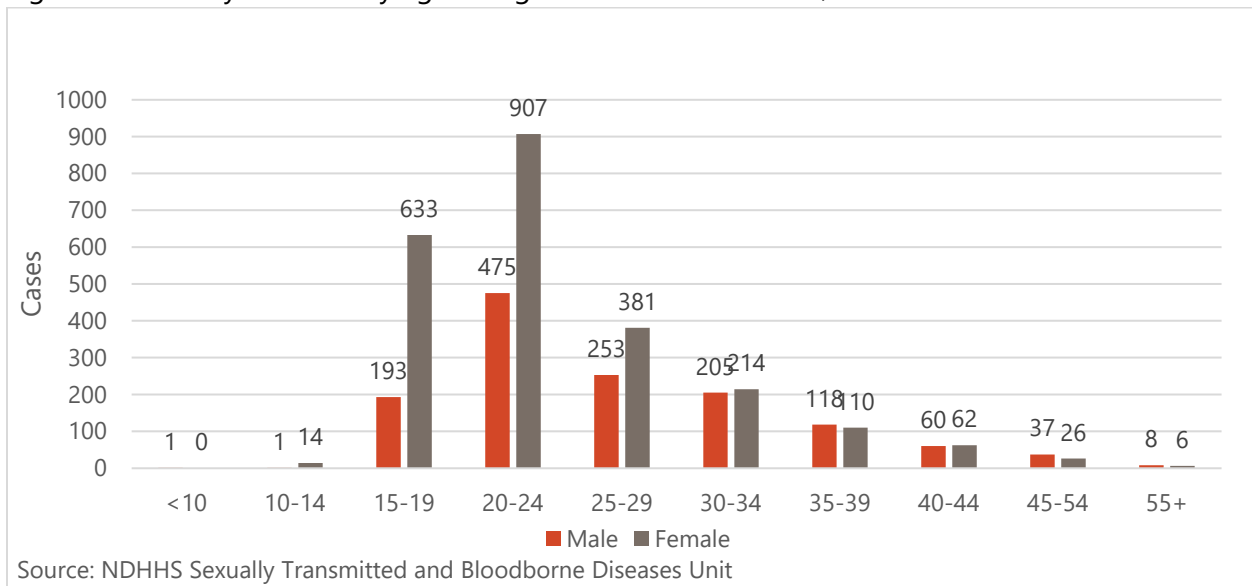
Figure 50. Reported cases of chlamydia by gender in North Dakota, 2018-2022



AGE

Over 40% of chlamydia cases over the past five years have been in adults between the ages of 20 and 24. The second highest age category is teenagers aged 15 to 19. Male cases of chlamydia are on average older than female cases.

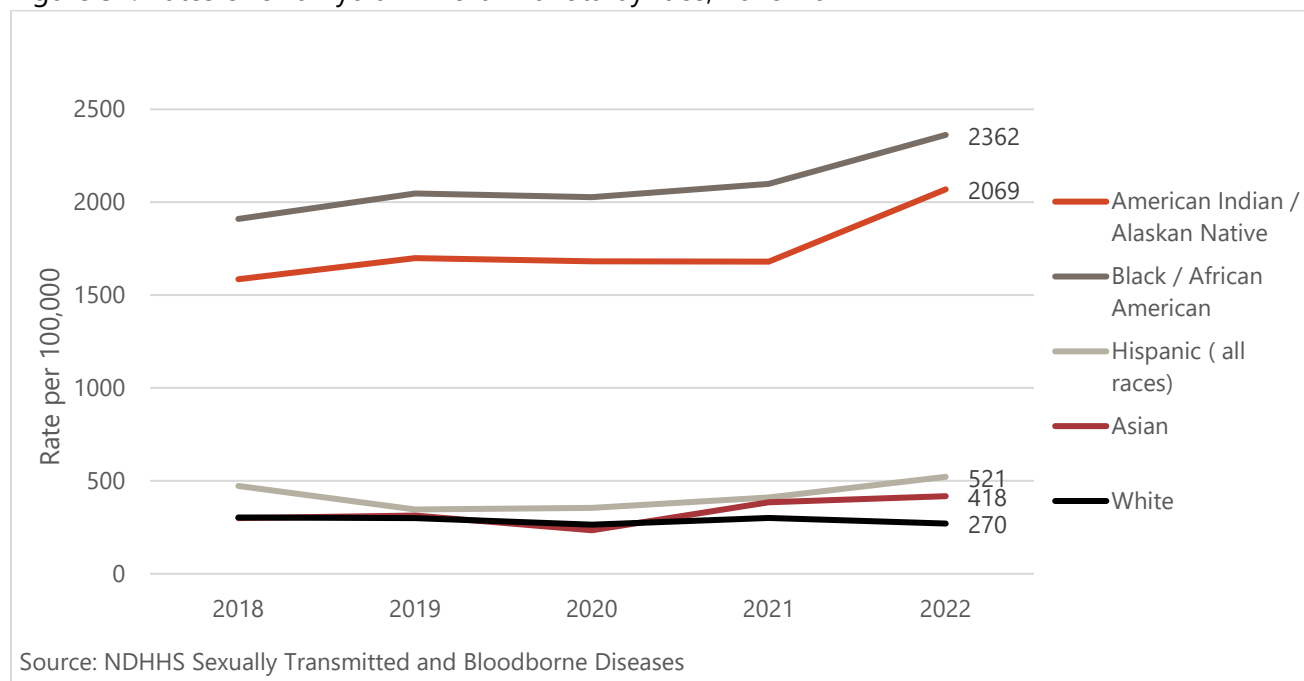
Figure 51. Chlamydia cases by age and gender in North Dakota, 2022



RACE

Of the cases with a known race (n=3,245), 1,738 cases were reported among Whites, followed by American Indian/Alaskan Natives with 744 cases and Black/African Americans with 533 cases. Due to smaller population sizes, Black/African Americans had the highest rate of 2,362 cases per 100,000 persons.

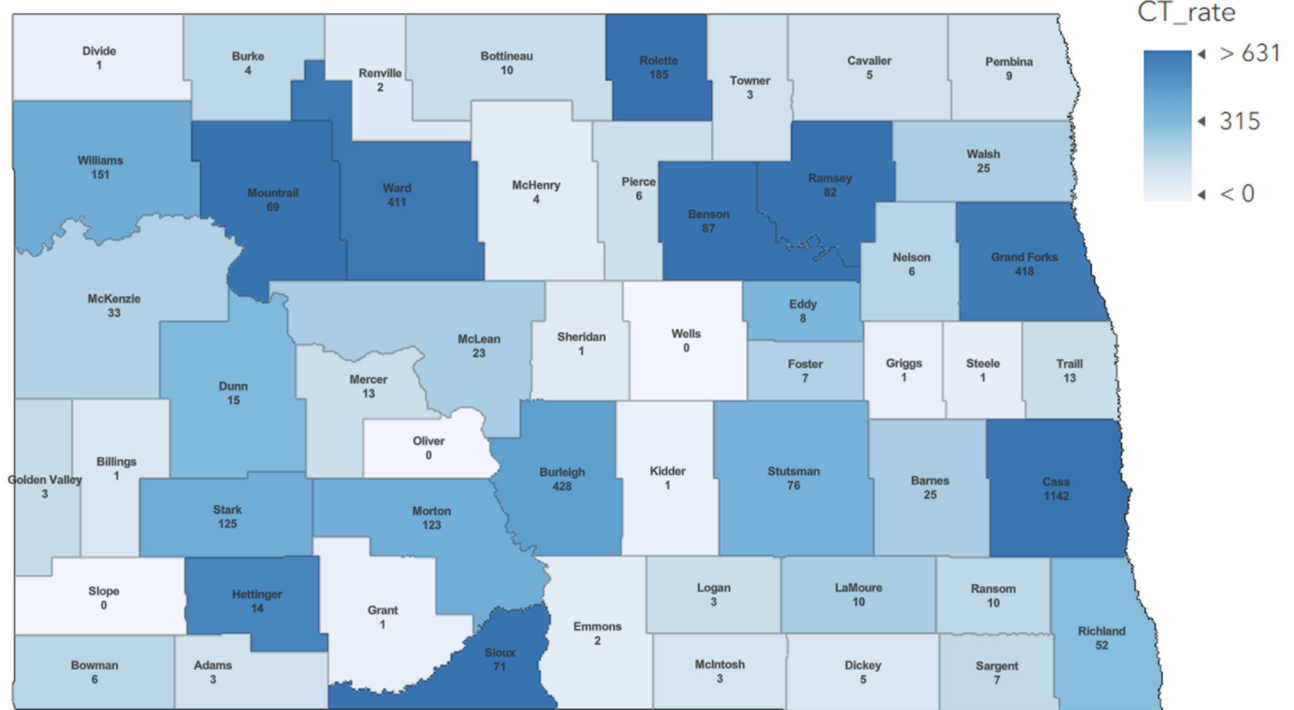
Figure 52. Rates of chlamydia in North Dakota by race, 2018-2022



GEOGRAPHY

In 2022, 52 of 53 counties reported at least one case of chlamydia. The map below lists the number of reported cases by county. The shading indicates the rate of chlamydia per 100,000 persons by county. Sioux, Rolette and Benson Counties reported the highest rates of chlamydia in 2022. See Appendix A for detailed counts and rates by county for 2018-2022.

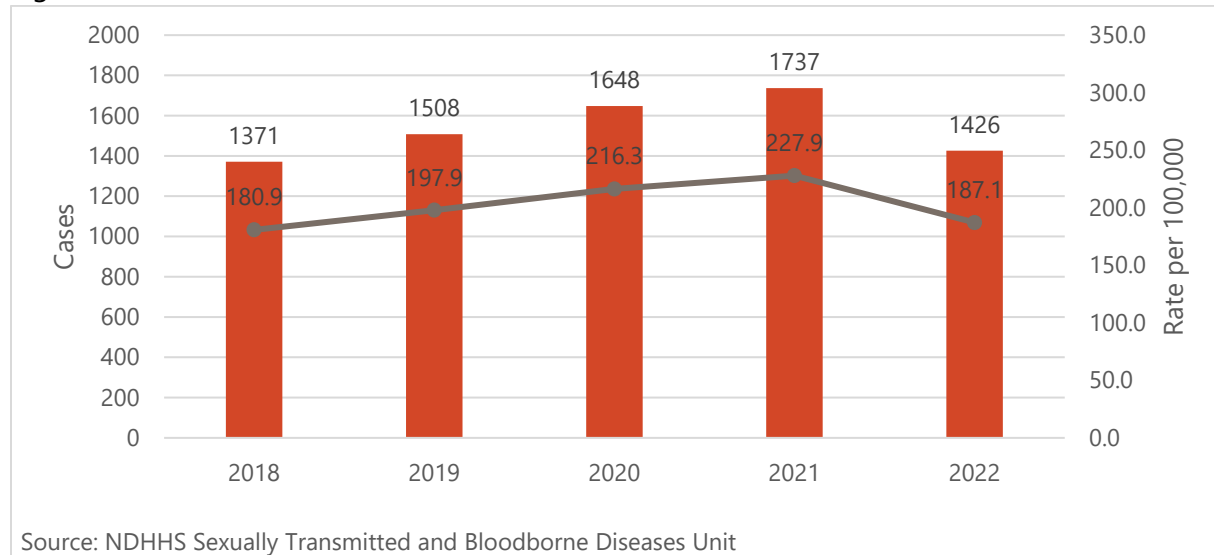
Figure 53. Chlamydia cases by North Dakota county shaded by rate, 2022



GONORRHEA

Gonorrhea decreased in 2022 for the first time in 5 years in North Dakota with a total of 1,426 cases reported. Gonorrhea cases have increased across the United States at unprecedented rates.

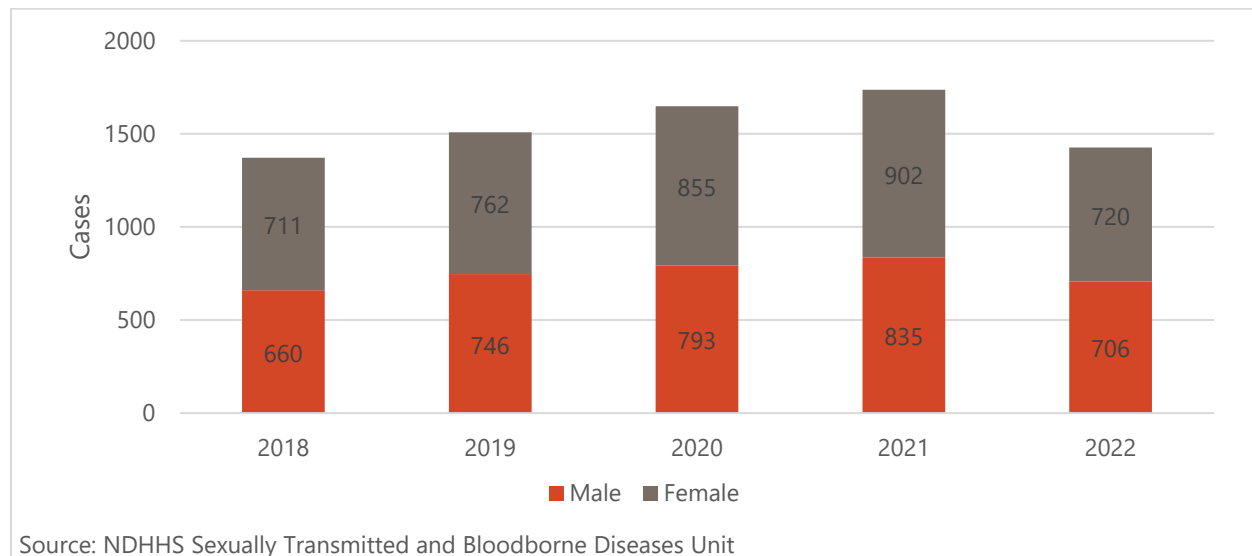
Figure 54. Gonorrhea cases and North Dakota rate, 2018-2022



GENDER

The gender distribution of gonorrhea is more evenly spread than chlamydia. Of the 1426 cases in 2022, 720 (50.5%) were female and 706 (49.5%) were male as reported by the laboratory and/or provider. Current gender identity data is unavailable.

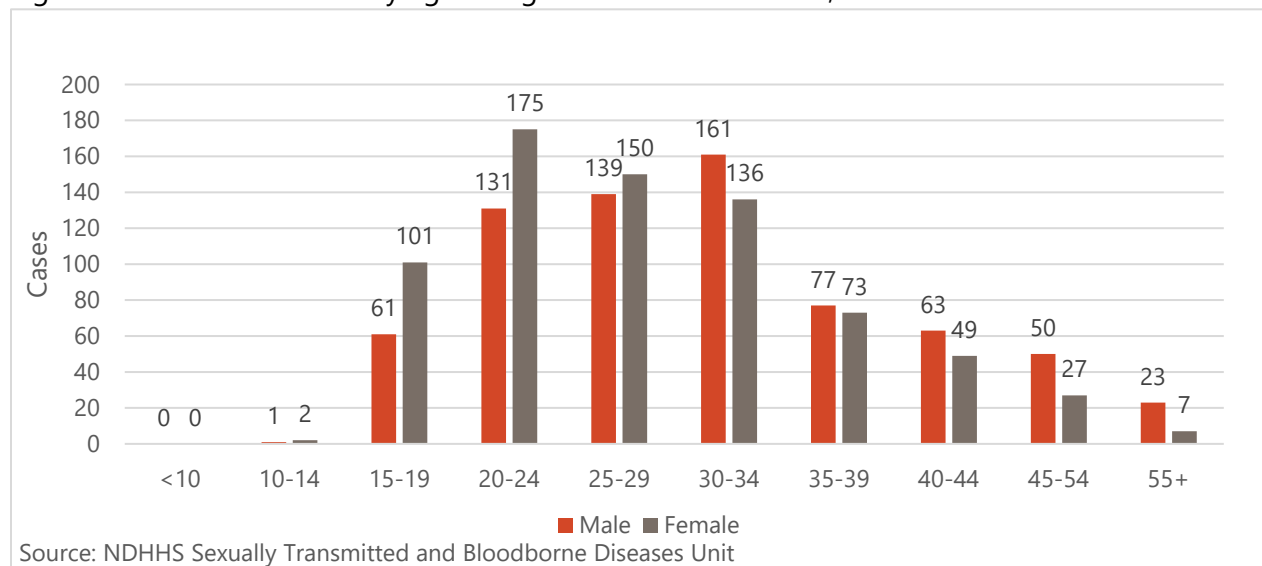
Figure 55. Gonorrhea cases by gender in North Dakota, 2018-2022



AGE

Teenagers and young/early adults continue to be disproportionately affected by gonorrhea. The majority (42%) of cases reported are among persons between the age of 20-29. Male cases are on average older than female cases.

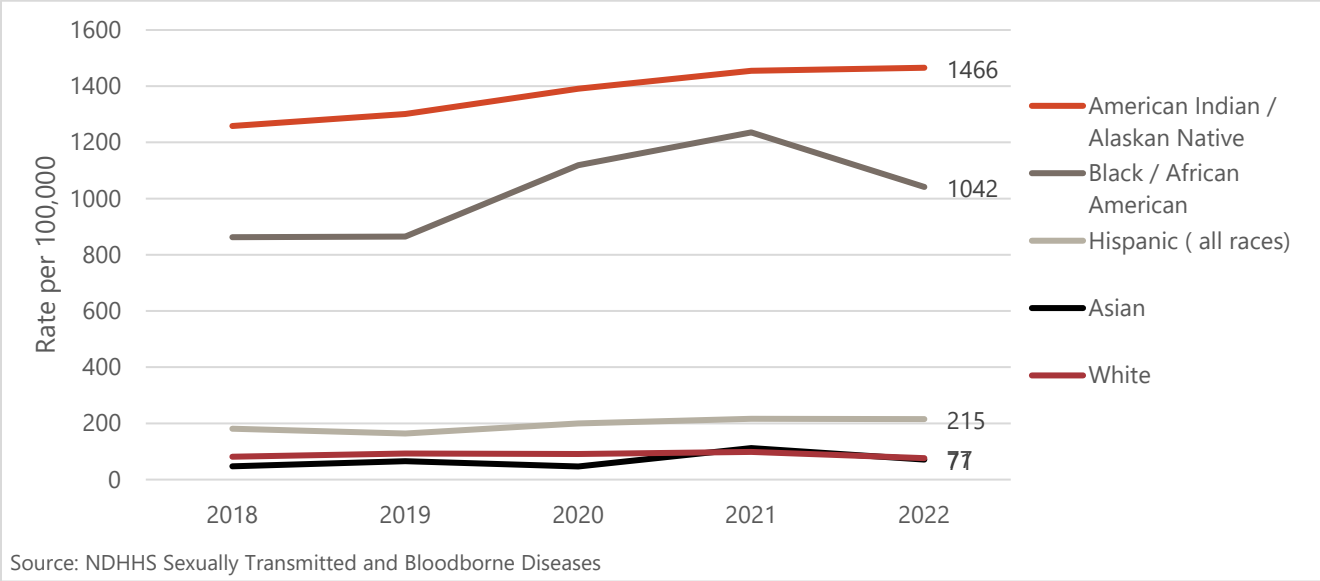
Figure 56. Gonorrhea cases by age and gender in North Dakota, 2022



RACE

North Dakota reported decreased gonorrhea rates among most races in 2022. American Indians/Alaskan Natives accounted for 527 cases, a rate of 1,466 cases per 100,000 persons. 235 cases were reported among Black/African Americans, a rate of 1042 cases per 100,000. White North Dakotans reported a total of 494 cases, with a rate of 77 cases per 100,000.

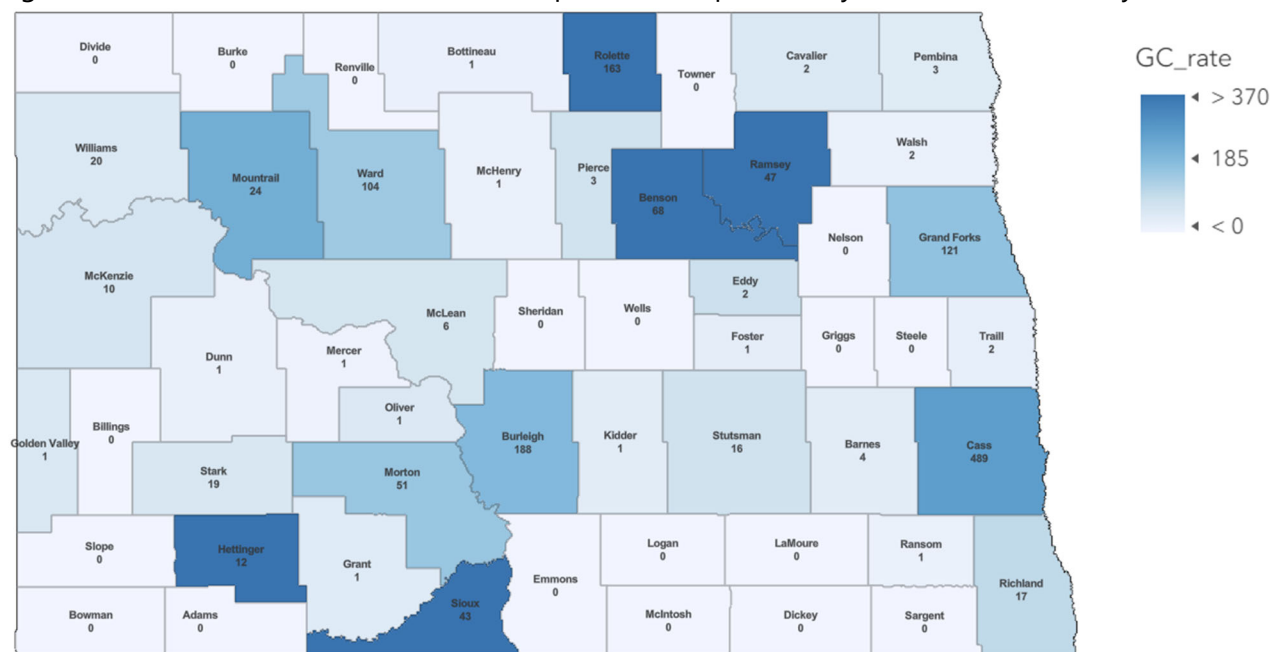
Figure 57. Gonorrhea rates by race in North Dakota, 2018-2022



GEOGRAPHY

In 2022, 41 counties reported at least one case of gonorrhea. The map below lists the number of reported cases by county. The shading indicates the rate of gonorrhea per 100,000 persons by county. Sioux, Rolette and Benson Counties reported the highest rates of gonorrhea in 2022. See Appendix B for detailed counts and rates by county for 2018-2022.

Figure 58. Gonorrhea case counts and rate per 100,000 persons by North Dakota county, 2022



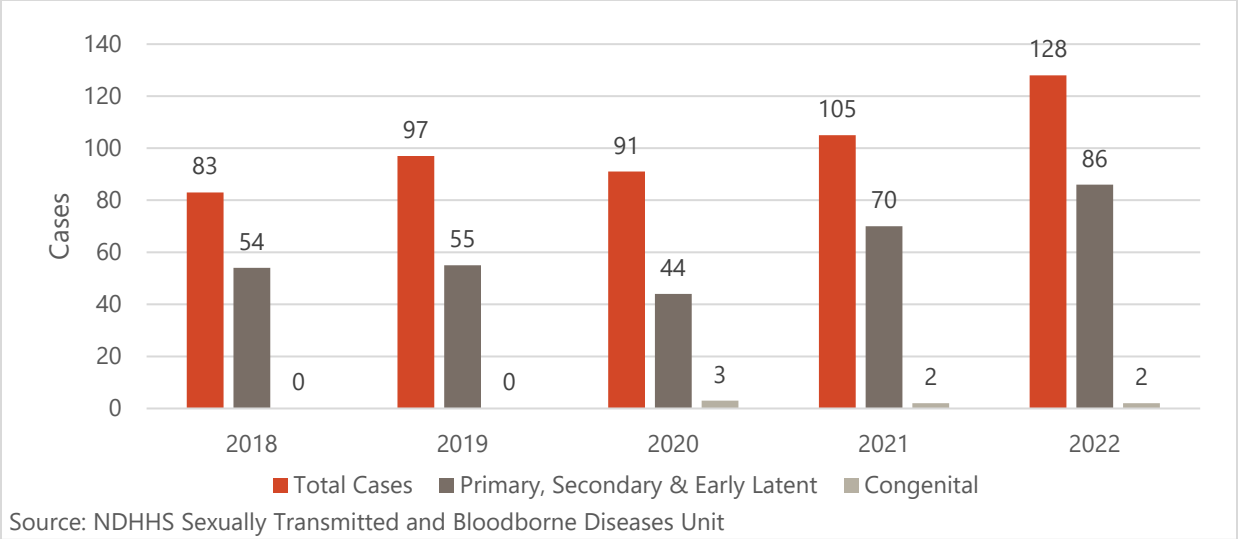
TREATMENT, PARTNER SERVICES AND COMORBIDITY TESTING

Of the 1,737 cases of gonorrhea reported in 2022, 1,609 (93%) were appropriately treated for their infection. The untreated cases were either due to inappropriate treatment (incorrect antibiotic, dosing etc.) and/or lost to follow-up. Anyone who tests positive for a STI, should also be tested for HIV. Only 630 (36%) of the 1,737 cases had a documented HIV test.

SYPHILIS

In 2022, a total of 128 cases of syphilis were reported. Of the cases reported, 86 were early stage (primary, secondary, or early latent stages) of syphilis. Primary and secondary syphilis cases are diagnosed based on the presence of symptoms at the time of testing. Early latent is diagnosed based on the exposure occurring within the last 12 months in the absence of symptoms.

Figure 59. Syphilis cases by stage in North Dakota, 2018-2022



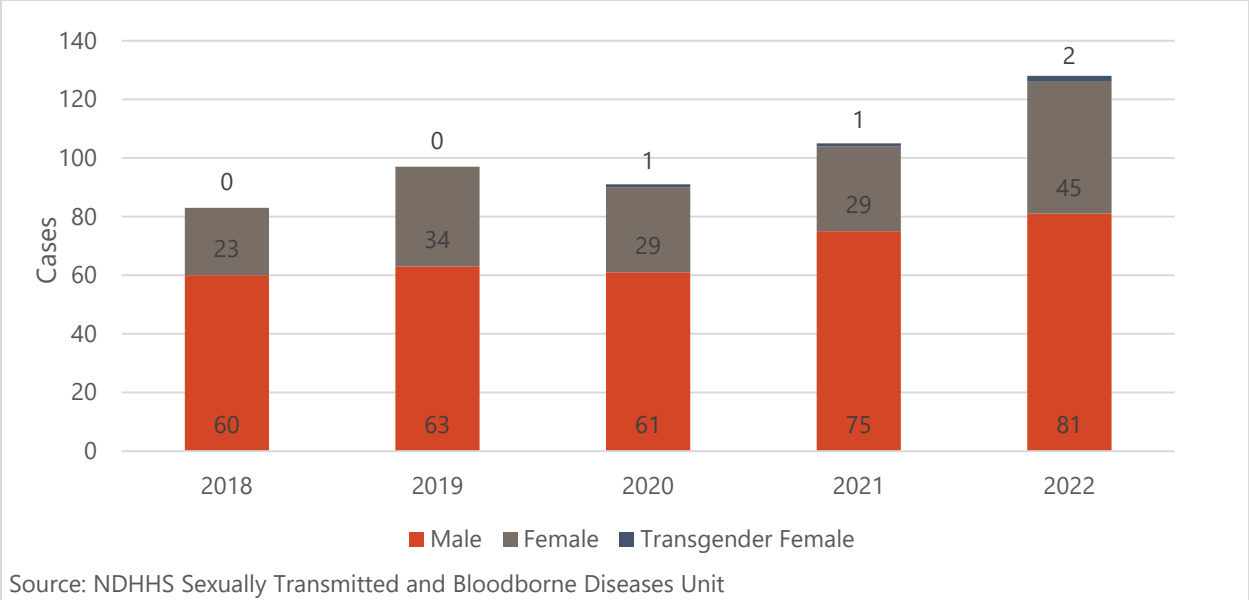
CONGENITAL SYPHILIS

For the first time in over a decade, the NDHHS received reports of congenital syphilis in 2020. In 2022, there were two additional congenital syphilis cases reported. Congenital syphilis is acquired by a fetus before birth due to mom not being diagnosed and/or not treated appropriately. In 2018, due to the increase of syphilis cases among woman of childbearing age, the NDHHS recommended pregnant women be tested three times throughout pregnancy for syphilis, at first prenatal visit, 28-32 weeks and at the time of delivery. Both cases in 2022 were due to lack of prenatal care. The infants were appropriately treated for their infections.

GENDER

Of the 128 syphilis cases in 2022, 81 (63%) cases were reported among males. Female rates of syphilis have remained steady but high.

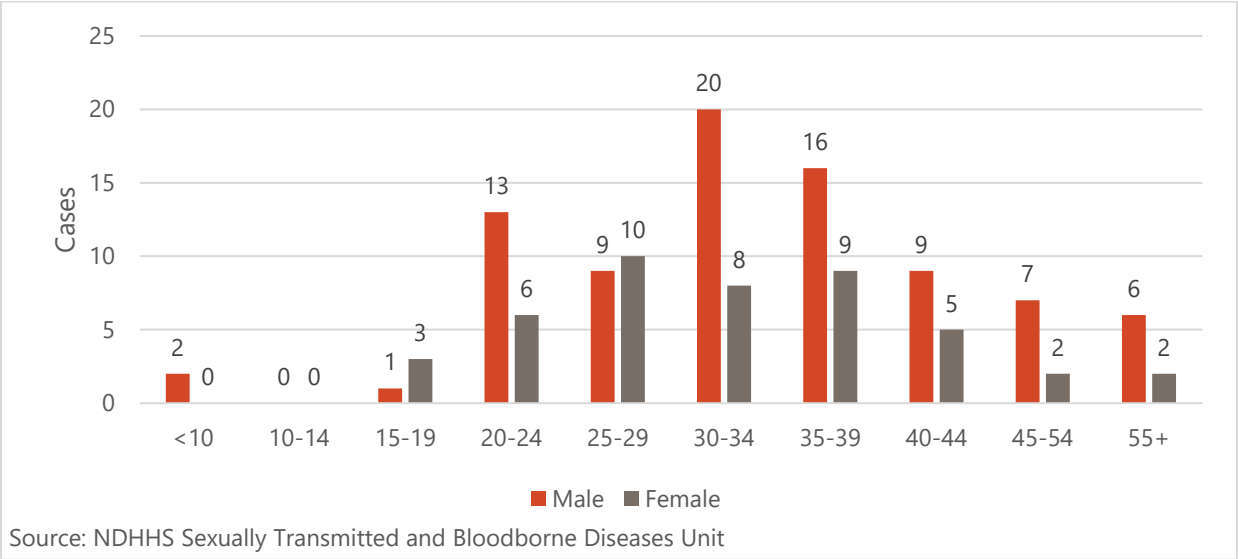
Figure 60. Number of syphilis cases by gender in North Dakota, 2018-2022



AGE

The mean age of syphilis cases is higher than for chlamydia and gonorrhea cases. In 2022, the average age of syphilis cases was 27 years old.

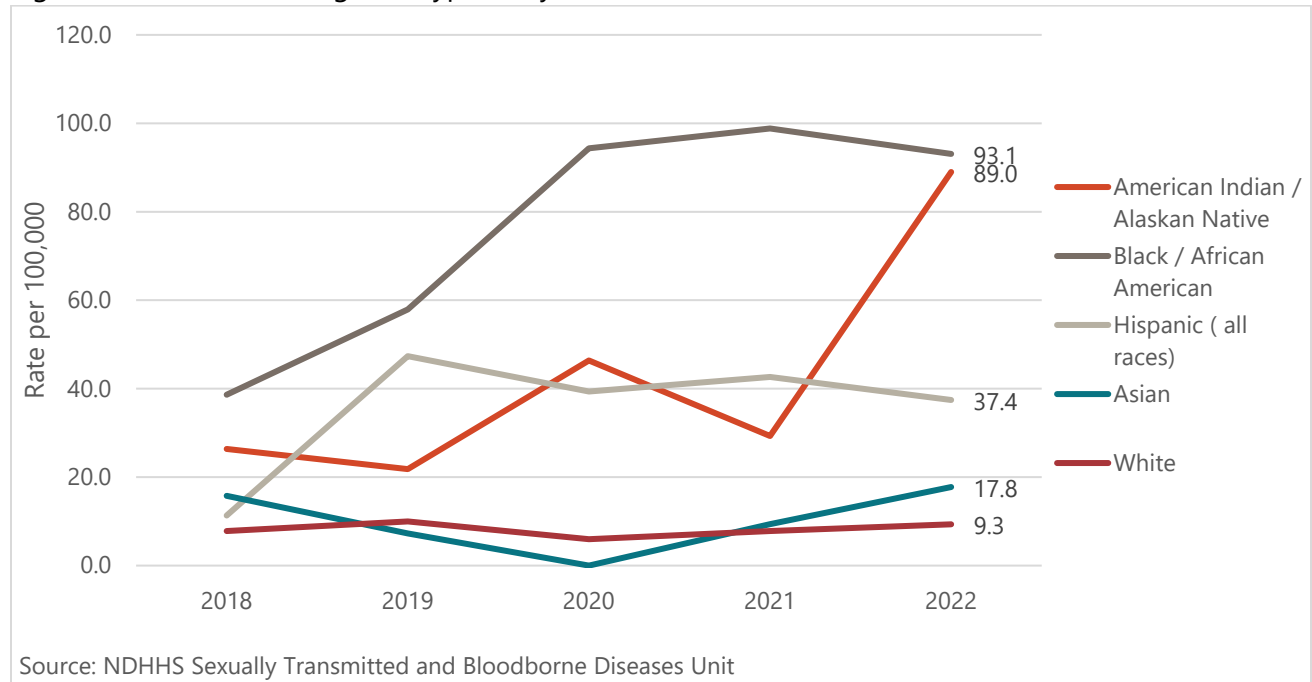
Figure 61. Syphilis cases by age and gender assigned at birth in North Dakota, 2022



RACE

Black/African Americans and Whites reported decreased rates in 2022. Black/African Americans had the greatest rate at 93.1 infections per 100,000 persons followed by American Indians/Alaskan Natives with a rate of 89.0 infections per 100,000 persons. Hispanics, of all races, had a rate of 37.4 infections per 100,000 persons.

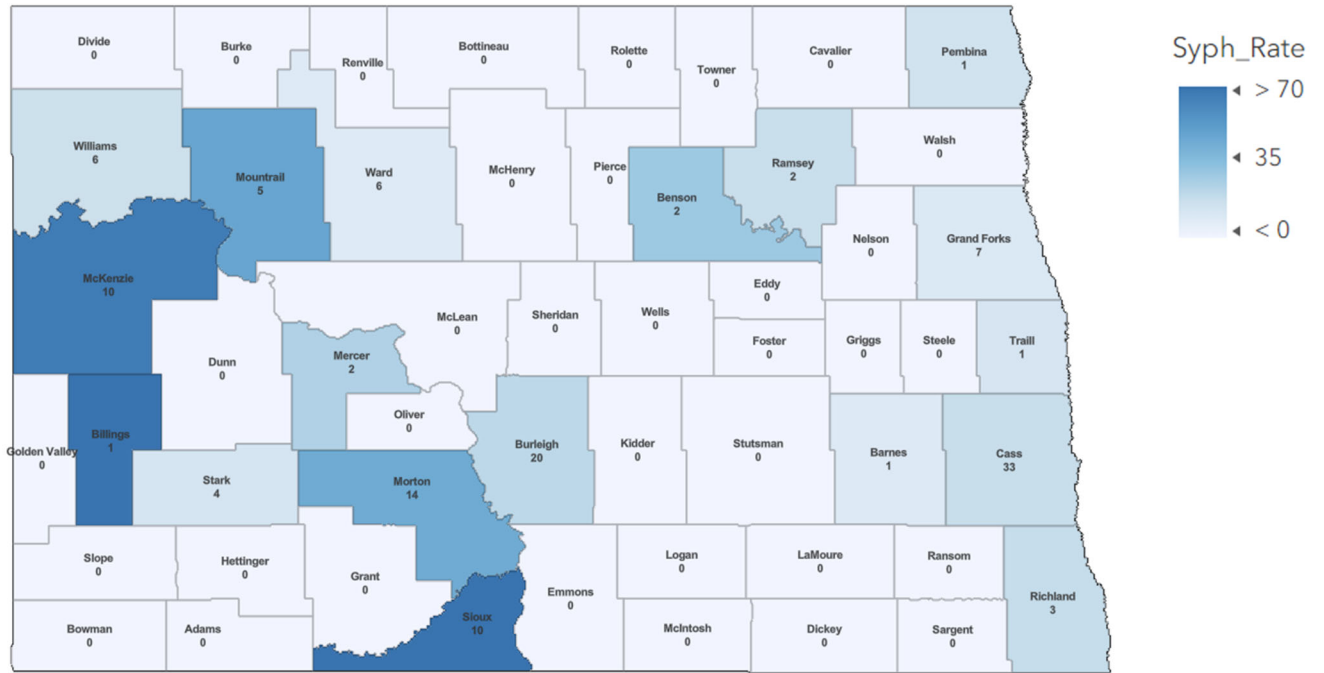
Figure 62. Rates of all stages of syphilis by race in North Dakota, 2018-2022



GEOGRAPHY

Syphilis cases were reported in 17 counties across the state. Counts by county ranged from one case to 26. The map below lists the number of reported cases by county. The shading indicates the syphilis rate per 100,000 persons by county.

Figure 63. Syphilis case counts and rates per 100,000 persons by North Dakota county, 2022



TREATMENT AND COMORBIDITY TESTING

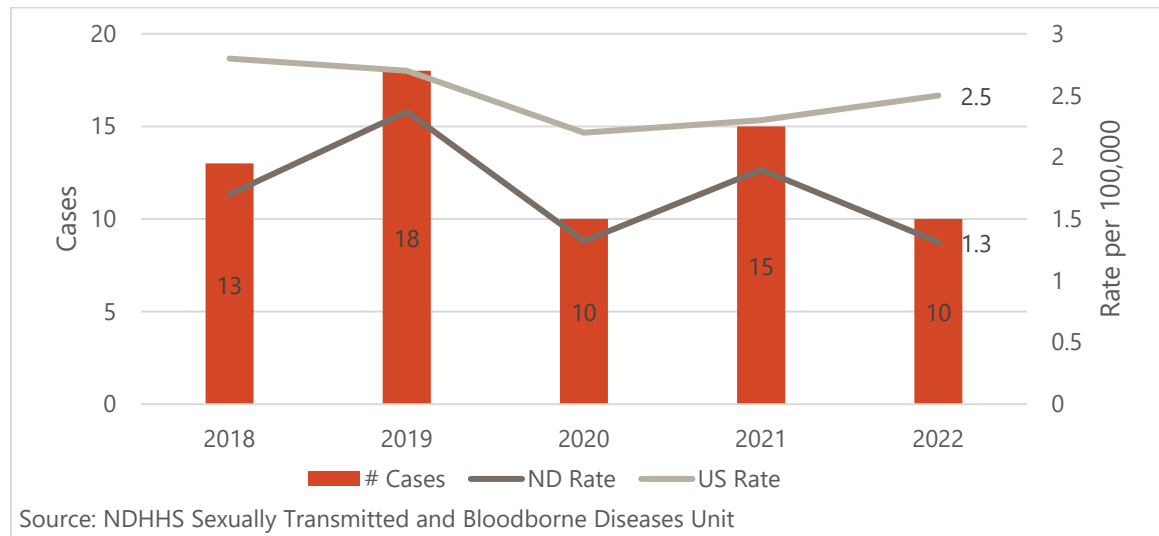
Of the 128 syphilis cases reported in 2022, 120 (94%) were appropriately treated and cured of their infection. The untreated cases were either due to inappropriate treatment (incorrect antibiotic, dosing etc.) and/or lost to follow-up. Anyone who tests positive for a STI, should also be tested for HIV. Of the 128 syphilis cases, 93 (73%) had a documented HIV test.

Tuberculosis

TUBERCULOSIS DISEASE

Ten cases of active tuberculosis (TB) were reported to the NDHHS in 2022, decreasing from fifteen in the previous year. A total of 8,300 cases of active TB were reported in the United States (CDC, 2022). TB incidence in the United States has steadily declined since 1993, but the pace of decline has slowed in recent years. The rate of TB in the U.S. is 2.5 cases per 100,000. This is higher than the North Dakota rate of 1.3 cases per 100,000 persons.

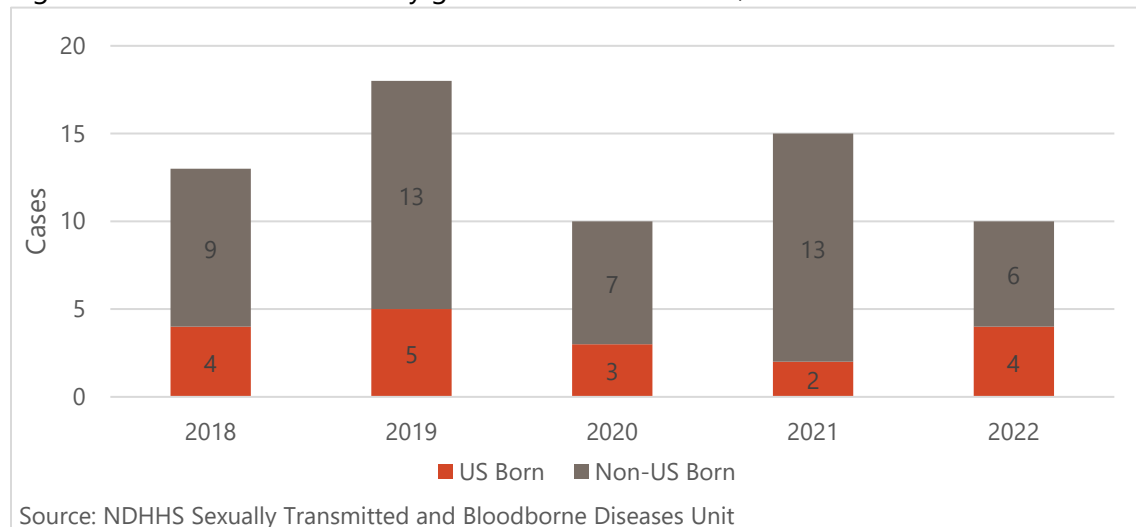
Figure 64. Active tuberculosis cases and incident rate per 100,000 persons in North Dakota, 2018-2022



GENDER

In 2022, six cases of active TB were identified in males and four cases in females.

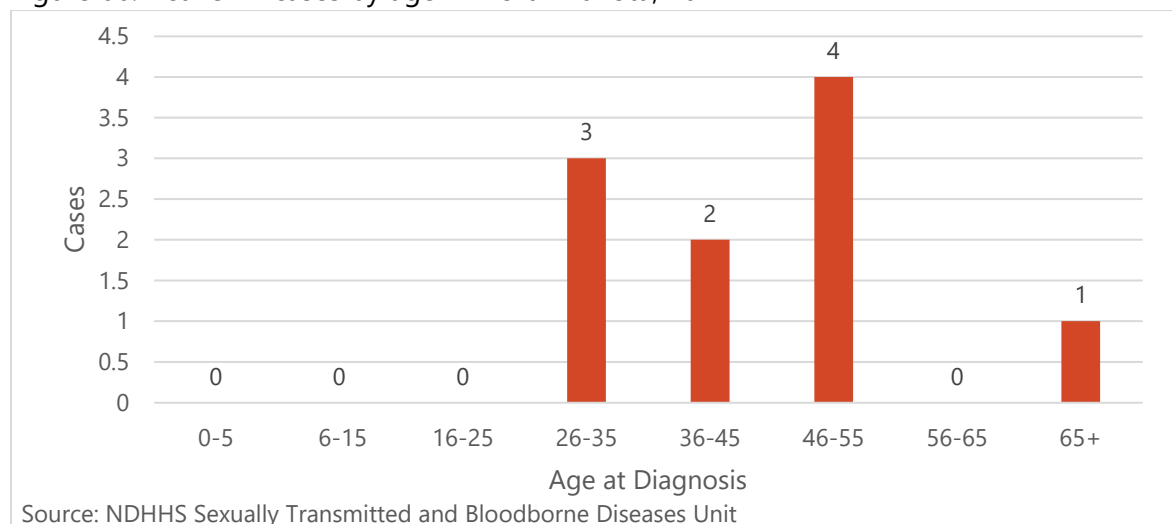
Figure 65. Tuberculosis cases by gender in North Dakota, 2018-2022



AGE

The age span of active TB cases in North Dakota ranged from 27-74 years, with the average age at diagnosis being 44 years in 2022.

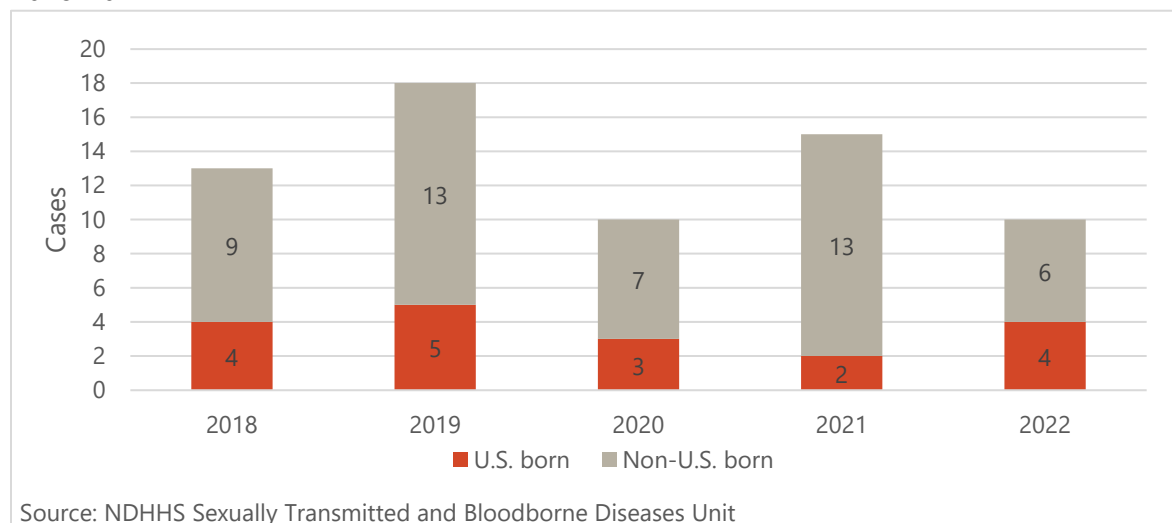
Figure 66. Active TB cases by age in North Dakota, 2022



RACE

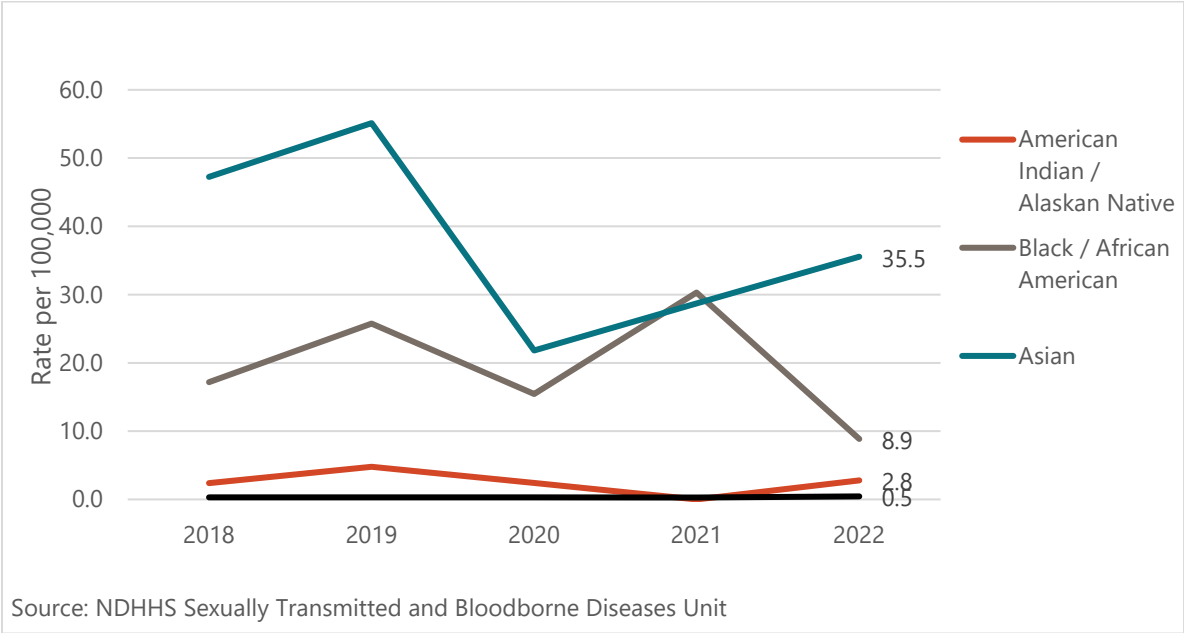
Active TB in the United States is most often found among people who travel to or who were born in countries with high TB rates. In 2022, 40% of TB cases reported to NDHHS were U.S. born and 60% of cases were non-U.S. born.

Figure 67. Number of active TB cases in North Dakota born in the U.S. and non-U.S. countries, 2018-2022



Although the incidence of TB in North Dakota is low, cases that are reported demonstrate a racial disparity. Among all North Dakota cases, the highest TB incidence rate was among Asians (35.5 cases per 100,000 persons) followed by Black/African Americans (8.9 cases per 100,000 persons).

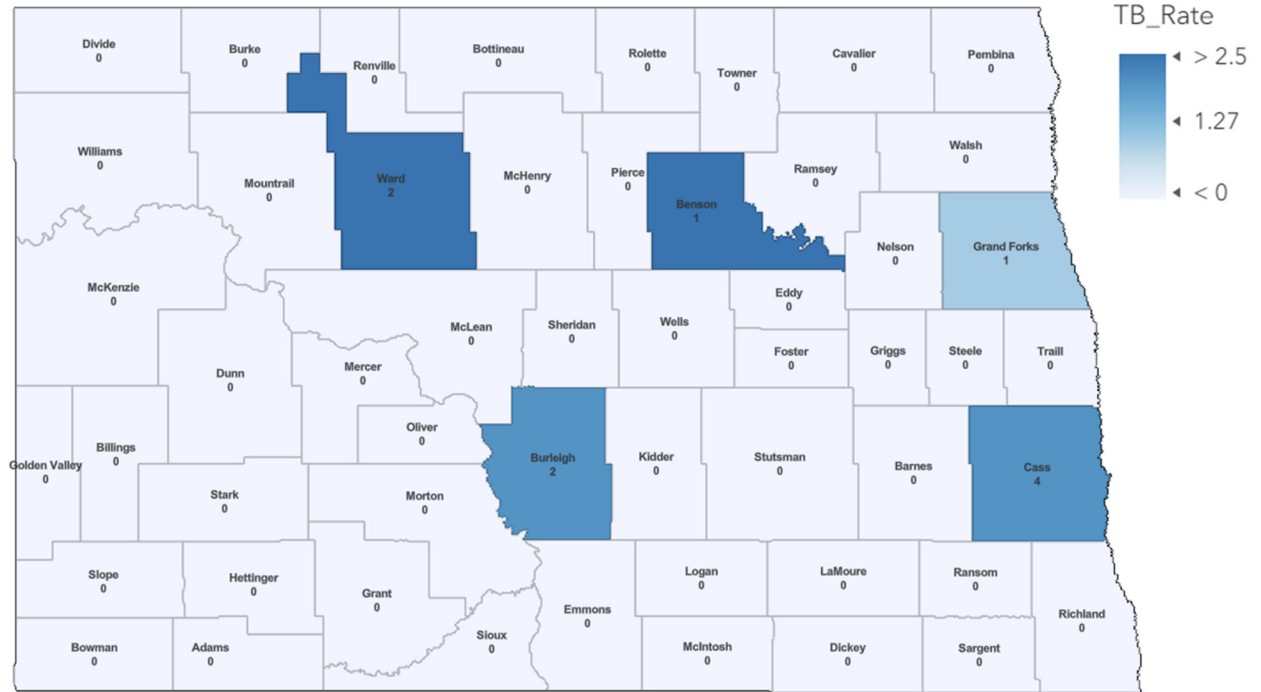
Figure 68. TB incidence rates by race in North Dakota, 2018-2022



GEOGRAPHY

In 2022, the 10 TB cases were reported from five counties. The map below lists the number of reported cases by county. The shading indicates the rate of TB per 100,000 persons by county.

Figure 69. Active TB case counts and rate per 100,000 persons by ND county, 2022



TUBERCULOSIS INFECTION

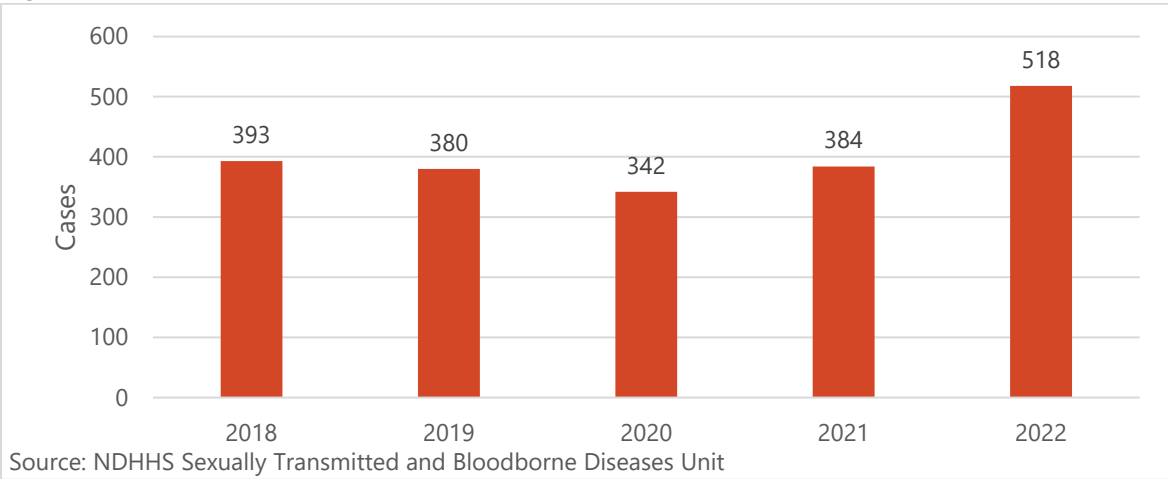
People can be infected with the bacteria that causes tuberculosis without causing disease. This is called TB infection. For most people who breathe in TB bacteria and become infected, the body can contain the bacteria and prevent it from spreading.

Many people who have TB infection never develop TB disease. In these individuals, the TB bacteria remains inactive for a lifetime without causing disease. However, in others, especially those with a weak immune system or those who have a change in their health, the bacteria become activated, multiply, and cause TB disease. The identification and treatment of TB infection is an essential component towards controlling and eliminating TB in the United States.

While many providers have reported TB infections to NDHHS for years, latent TB infection (LTBI) officially became a reportable disease in North Dakota in 2018. The case definition used by NDHHS follows the guidance of CSTE and CDC. For cases to meet the CSTE case definition, providers must report the laboratory, clinical, and radiologic findings as part of the assessment to rule out active TB disease. The TB Program does not perform chart reviews on electronically reported positive TB tests to obtain missing data elements to confirm TB infection. The data below shows reports of laboratory evidence of TB infection for 2017-2022 and only cases that meet the confirmed case definition starting in 2018.

In 2022, 518 cases of TB infection were reported to NDHHS. Of those, 188 persons (36%) are known to have treatment prescribed and medication provided through the state-supplied medication program.

Figure 70. TB infections reported in North Dakota, 2018-2022



In 2022, among those confirmed positive for LTBI in North Dakota who were prescribed treatment, 79% completed treatment. Of the confirmed LTBI who were prescribed medication, about 95% started treatment. For those that started treatment, 84% completed treatment. Reasons for not completing treatment include adverse reactions to the medication or loss to follow-up. This review of steps from initial LTBI test through treatment is called the latent tuberculosis cascade of care.

Appendices

APPENDIX A

Chlamydia counts and rates by county, North Dakota, 2018-2022

COUNTY	Chlamydia, counts					Chlamydia, rates per 100,000				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Adams	1	2	2	5	3	43.9	90.3	90.3	225.6	135.4
Barnes	22	40	38	32	25	209.0	384.1	364.9	307.2	240.0
Benson	98	96	96	127	87	1408.5	1405.2	1405.2	1858.9	1273.4
Billings	2	0	1	2	1	217.9	0.0	107.8	215.5	107.8
Bottineau	13	22	15	25	10	203.2	350.2	238.8	398.0	159.2
Bowman	5	1	3	1	6	163.0	33.1	99.2	33.1	198.4
Burke	2	2	1	2	4	95.5	94.6	47.3	94.6	189.1
Burleigh	465	446	404	505	428	488.1	466.4	422.5	528.1	447.6
Cass	882	1024	893	1143	1142	489.2	562.9	490.9	628.3	627.7
Cavalier	2	5	3	3	5	52.5	132.9	79.7	79.7	132.9
Dickey	4	1	8	4	5	81.1	20.5	164.2	82.1	102.6
Divide	2	3	4	4	1	88.3	132.5	176.7	176.7	44.2
Dunn	8	8	10	10	15	184.8	180.8	226.0	226.0	339.1
Eddy	5	3	6	3	8	216.5	131.2	262.4	131.2	349.8
Emmons	5	1	1	2	2	152.5	30.9	30.9	61.7	61.7
Foster	1	4	2	5	7	31.2	124.6	62.3	155.8	218.1
Golden Valley	8	8	7	10	3	453.8	454.3	397.5	567.9	170.4
Grand Forks	421	448	397	493	418	598.4	645.1	571.6	709.9	601.9
Grant	4	3	4	4	1	169.9	131.9	175.9	175.9	44.0
Griggs	7	2	0	2	1	314.2	89.6	0.0	89.6	44.8
Hettinger	15	14	12	18	14	599.3	560.2	480.2	720.3	560.2
Kidder	4	0	2	2	1	163.1	0.0	80.6	80.6	40.3
LaMoure	11	3	9	4	10	269.9	74.1	222.4	98.9	247.2
Logan	2	1	1	2	3	106.0	54.1	54.1	108.1	162.2
McHenry	8	11	7	7	4	137.7	191.5	121.8	121.8	69.6
McIntosh	0	1	2	5	3	0.0	40.0	80.1	200.2	120.1
McKenzie	42	67	55	46	33	309.0	446.0	366.1	306.2	219.6
McLean	21	22	26	20	23	220.4	232.8	275.1	211.6	243.4
Mercer	12	15	10	10	13	145.2	183.2	122.1	122.1	158.8
Morton	144	147	143	111	123	463.6	468.7	455.9	353.9	392.2
Mountrail	77	83	104	68	69	752.0	787.1	986.2	644.9	654.3
Nelson	4	7	2	2	6	138.6	243.1	69.5	69.5	208.4
Oliver	0	2	1	1	0	0.0	102.1	51.0	51.0	0.0
Pembina	3	13	11	13	9	43.5	191.1	161.7	191.1	132.3
Pierce	6	5	5	11	6	147.4	125.8	125.8	276.7	150.9
Ramsey	46	57	58	97	82	397.2	494.8	503.5	842.1	711.9
Ransom	13	13	5	9	10	248.9	249.1	95.8	172.5	191.6
Renville	3	7	1	4	2	127.2	300.8	43.0	171.9	85.9
Richland	60	63	47	58	52	369.7	389.4	290.5	358.5	321.4
Rolette	160	170	206	217	185	1115.1	1199.2	1453.2	1530.8	1305.0
Sargent	3	6	8	11	7	77.9	153.9	205.2	282.2	179.6
Sheridan	0	2	3	3	1	0.0	152.1	228.1	228.1	76.0
Sioux	100	89	72	62	71	2284.7	2104.0	1702.1	1465.7	1678.5
Slope	0	1	0	0	0	0.0	133.3	0.0	0.0	0.0
Stark	146	125	104	123	125	472.6	397.0	330.3	390.6	397.0
Steele	1	3	0	1	1	52.9	158.7	0.0	52.9	52.9
Stutsman	72	77	80	102	76	344.9	371.9	386.4	492.7	367.1
Towner	6	4	7	8	3	274.6	182.7	319.8	365.5	137.0
Traill	27	30	21	21	13	336.7	373.3	261.3	261.3	161.8
Walsh	20	16	34	28	25	187.9	150.4	319.5	263.1	234.9
Ward	355	547	418	362	411	524.3	808.7	618.0	535.2	607.6
Wells	3	1	6	3	0	76.8	26.1	156.5	78.2	0.0
Williams	207	243	188	154	151	583.6	646.5	500.1	409.7	401.7

APPENDIX B

Gonorrhea counts and rates by county, North Dakota, 2018-2022

COUNTY	Gonorrhea, counts					Gonorrhea, rates per 100,000				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Adams	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Barnes	6	10	13	5	4	57.0	96.0	124.8	48.0	38.4
Benson	54	60	67	111	68	776.1	878.2	980.7	1624.7	995.3
Billings	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Bottineau	4	2	2	3	1	62.5	31.8	31.8	47.8	15.9
Bowman	2	0	1	1	0	65.2	0.0	33.1	33.1	0.0
Burke	0	1	1	2	0	0.0	47.3	47.3	94.6	0.0
Burleigh	249	238	220	182	188	261.3	248.9	230.1	190.3	196.6
Cass	278	322	363	466	489	154.2	177.0	199.5	256.2	268.8
Cavalier	1	2	0	1	2	26.2	53.2	0.0	26.6	53.2
Dickey	0	2	2	3	0	0.0	41.1	41.1	61.6	0.0
Divide	1	0	4	0	0	44.2	0.0	176.7	0.0	0.0
Dunn	1	0	5	1	1	23.1	0.0	113.0	22.6	22.6
Eddy	1	1	2	3	2	43.3	43.7	87.5	131.2	87.5
Emmons	4	0	0	2	0	122.0	0.0	0.0	61.7	0.0
Foster	1	2	1	4	1	31.2	62.3	31.2	124.6	31.2
Golden Valley	2	0	2	4	1	113.4	0.0	113.6	227.1	56.8
Grand Forks	93	127	173	187	121	132.2	182.9	249.1	269.3	174.2
Grant	1	0	1	4	1	42.5	0.0	44.0	175.9	44.0
Griggs	2	1	1	1	0	89.8	44.8	44.8	44.8	0.0
Hettinger	10	8	5	13	12	399.5	320.1	200.1	520.2	480.2
Kidder	0	1	0	0	1	0.0	40.3	0.0	0.0	40.3
LaMoure	0	0	0	2	0	0.0	0.0	0.0	49.4	0.0
Logan	0	0	1	0	0	0.0	0.0	54.1	0.0	0.0
McHenry	2	2	2	2	1	34.4	34.8	34.8	34.8	17.4
McIntosh	0	1	0	0	0	0.0	40.0	0.0	0.0	0.0
McKenzie	13	20	26	16	10	95.6	133.1	173.1	106.5	66.6
McLean	13	1	10	8	6	136.4	10.6	105.8	84.7	63.5
Mercer	8	5	4	8	1	96.8	61.1	48.9	97.7	12.2
Morton	77	82	80	61	51	247.9	261.4	255.1	194.5	162.6
Mountrail	39	53	55	37	24	380.9	502.6	521.6	350.9	227.6
Nelson	1	1	0	1	0	34.7	34.7	0.0	34.7	0.0
Oliver	0	3	2	1	1	0.0	153.1	102.1	51.0	51.0
Pembina	1	1	3	1	3	14.5	14.7	44.1	14.7	44.1
Pierce	7	6	3	6	3	172.0	150.9	75.5	150.9	75.5
Ramsey	35	41	36	61	47	302.2	355.9	312.5	529.6	408.0
Ransom	3	0	0	1	1	57.4	0.0	0.0	19.2	19.2
Renville	1	1	2	0	0	42.4	43.0	85.9	0.0	0.0
Richland	9	22	18	29	17	55.5	136.0	111.3	179.3	105.1
Rolette	168	156	191	179	163	1170.8	1100.5	1347.3	1262.7	1149.8
Sargent	3	1	1	0	0	77.9	25.7	25.7	0.0	0.0
Sheridan	0	2	1	0	0	0.0	152.1	76.0	0.0	0.0
Sioux	62	50	59	56	43	1416.5	1182.0	1394.8	1323.9	1016.5
Slope	1	0	0	0	0	131.4	0.0	0.0	0.0	0.0
Stark	15	21	22	21	19	48.6	66.7	69.9	66.7	60.3
Steele	1	0	0	0	0	52.9	0.0	0.0	0.0	0.0
Stutsman	10	12	24	37	16	47.9	58.0	115.9	178.7	77.3
Towner	2	3	4	6	0	91.5	137.0	182.7	274.1	0.0
Trails	7	3	6	4	2	87.3	37.3	74.7	49.8	24.9
Walsh	5	2	6	3	2	47.0	18.8	56.4	28.2	18.8
Ward	122	185	173	157	104	180.2	273.5	255.8	232.1	153.8
Wells	0	0	5	0	0	0.0	0.0	130.4	0.0	0.0
Williams	56	57	51	47	20	157.9	151.6	135.7	125.0	53.2