NMDOH
NEW MEXICO DEPARTMENT OF HEALTH

Investing for tomorrow, delivering today.

Syphilis/STI Update

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Disclosure

- Nothing to disclose

Objectives

1. Review epidemiologic data regarding sexually transmitted infections (STIs) in the state of NM

2. Review early syphilis infection and testing strategies that can be used to address recent increases in syphilis

3. Increase awareness of current public health interventions developed to decrease STIs in NM

Now Available!

Reportable STIs in New Mexico

Some STIs are reportable:

- Chlamydia
- Gonorrhea
- Syphilis
- HIV, hepatitis B, hepatitis C (different program/different form)

Other STIs (e.g., trichomoniasis) not reportable

New Mexico is a dual reporting state:

- Reporting by clinical providers and practices
- Electronic reporting by laboratories (ELR)

STIs are Rising Nationwide and in NM

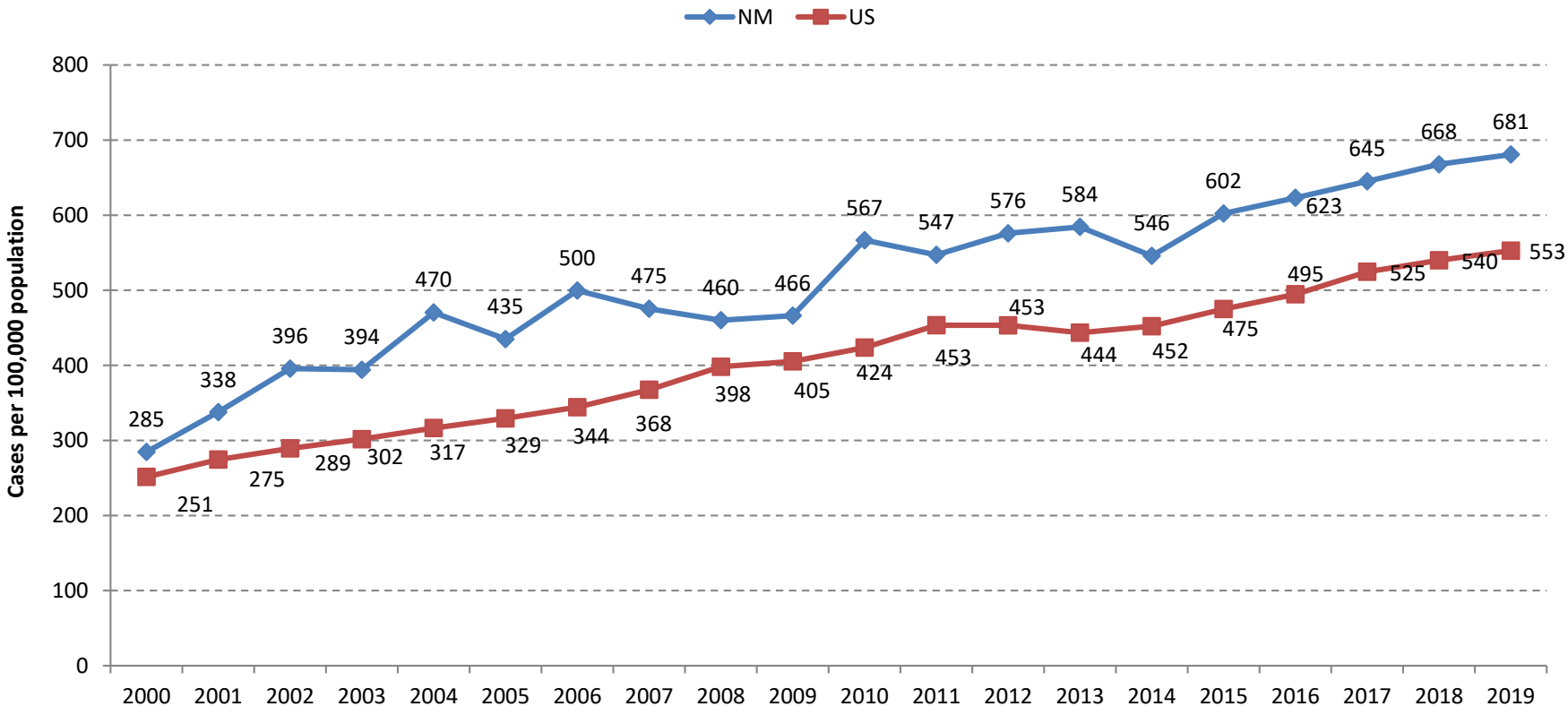
CHLAMYDIA: NM rates were 5th in US in 2018 and 2019

GONORRHEA: NM had lower rates of Gonorrhea than the nation until 2015. The state went from 6th in 2018 to 11th in 2019.

SYPHILIS: NM syphilis rates lagged the nation 2006-2016. Cases have risen rapidly since then: 69% increase from 2018 to 2019 for rates of primary and secondary syphilis.

New Mexico ranked 6th in the nation for syphilis in 2018 and 2nd in 2019.

Chlamydia Rates: NM and US, 2000-2019

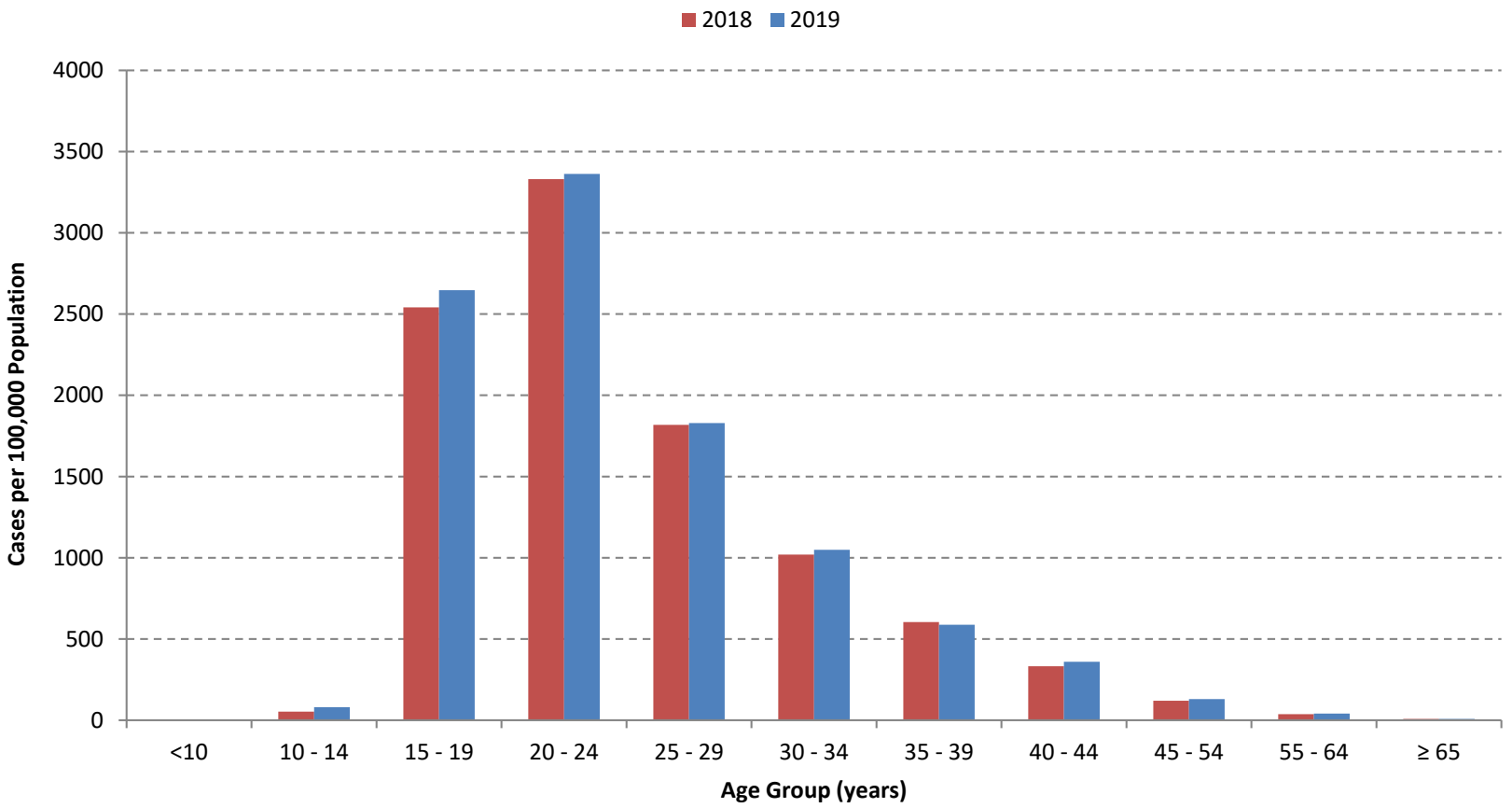


New Mexico experienced an 18.8% increase in chlamydia from 2018 to 2019.
NM ranked 5th in the nation for rates of chlamydia in both 2018 and 2019.

Source: PRISM for NM Rates, CDC Surveillance Reports for US Rates

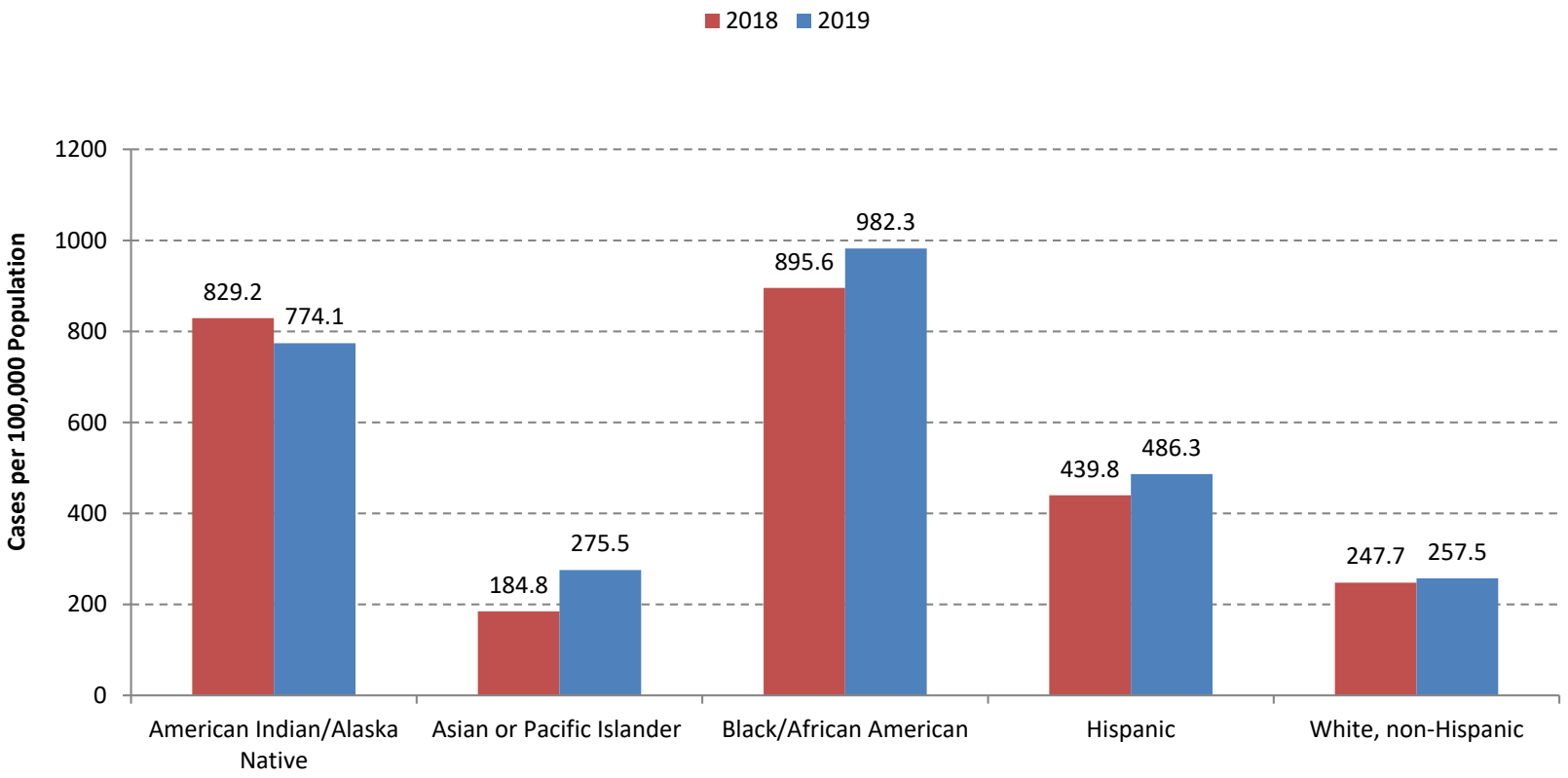
HIV, STD and Hepatitis Section • Public Health Division • 1190 S. St. Francis Drive, Suite S1300, Santa Fe, NM 87505
www.nmhivguide.org • nmhealth.org

Chlamydia Rates by Age Group
New Mexico, 2018 - 2019

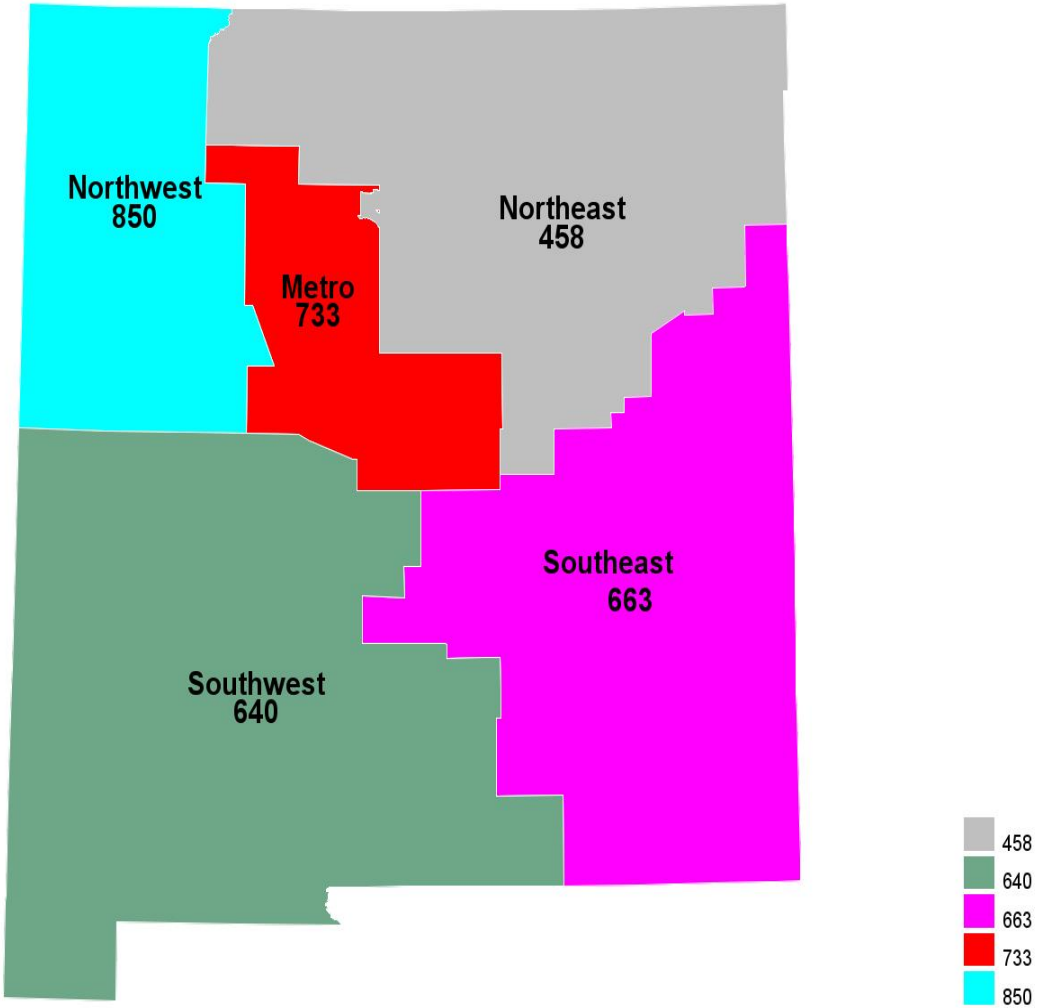


Chlamydia predominantly affects adolescents and young adults, with rates of infection highest among 20-24 year olds followed by 15-19 year olds.

Chlamydia Rates by Race/Ethnicity New Mexico, 2018 - 2019

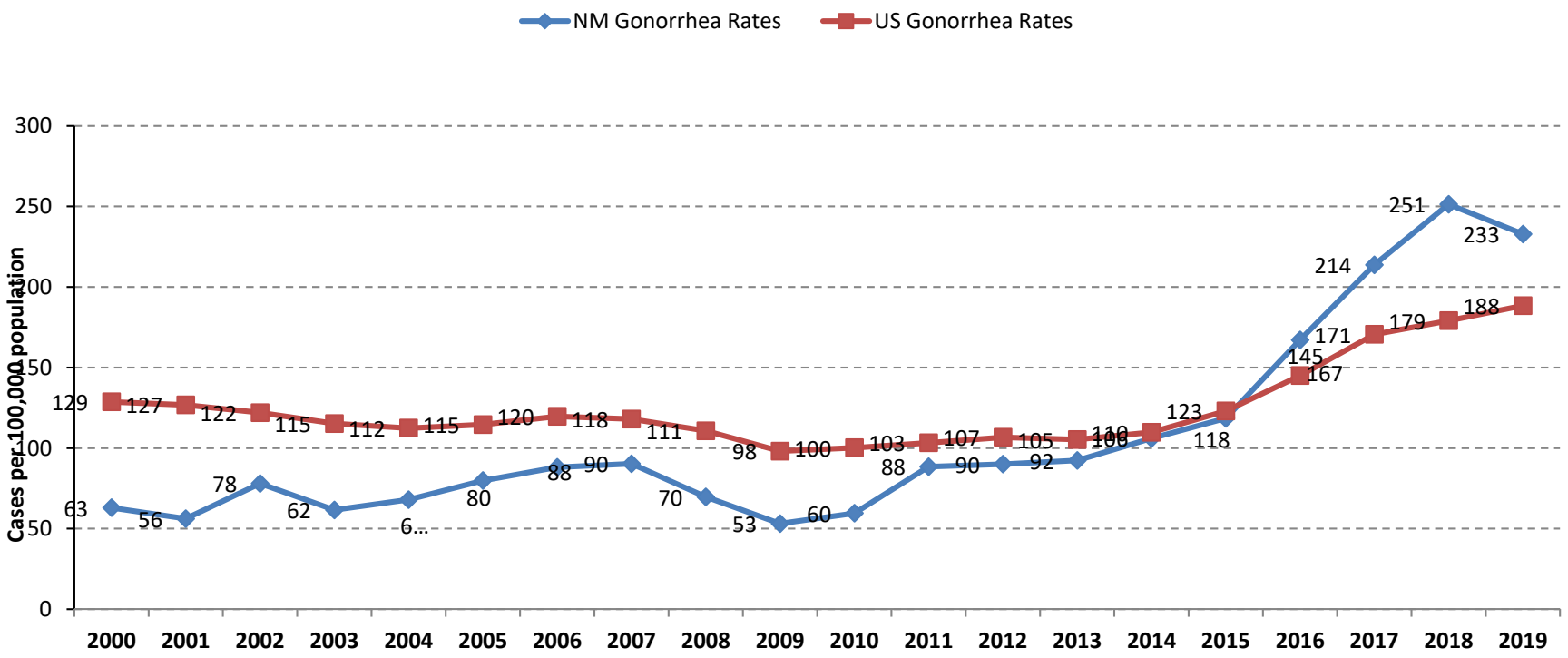


Similar to national level data, chlamydia rates have disparities by ethnic and racial groups. Chlamydia disproportionately affects African American, American Indian, and Hispanic populations in New Mexico.



Chlamydia Rate per 100,000 by Region, New Mexico, 2019

Gonorrhea Rates, New Mexico and US, 2000-2019

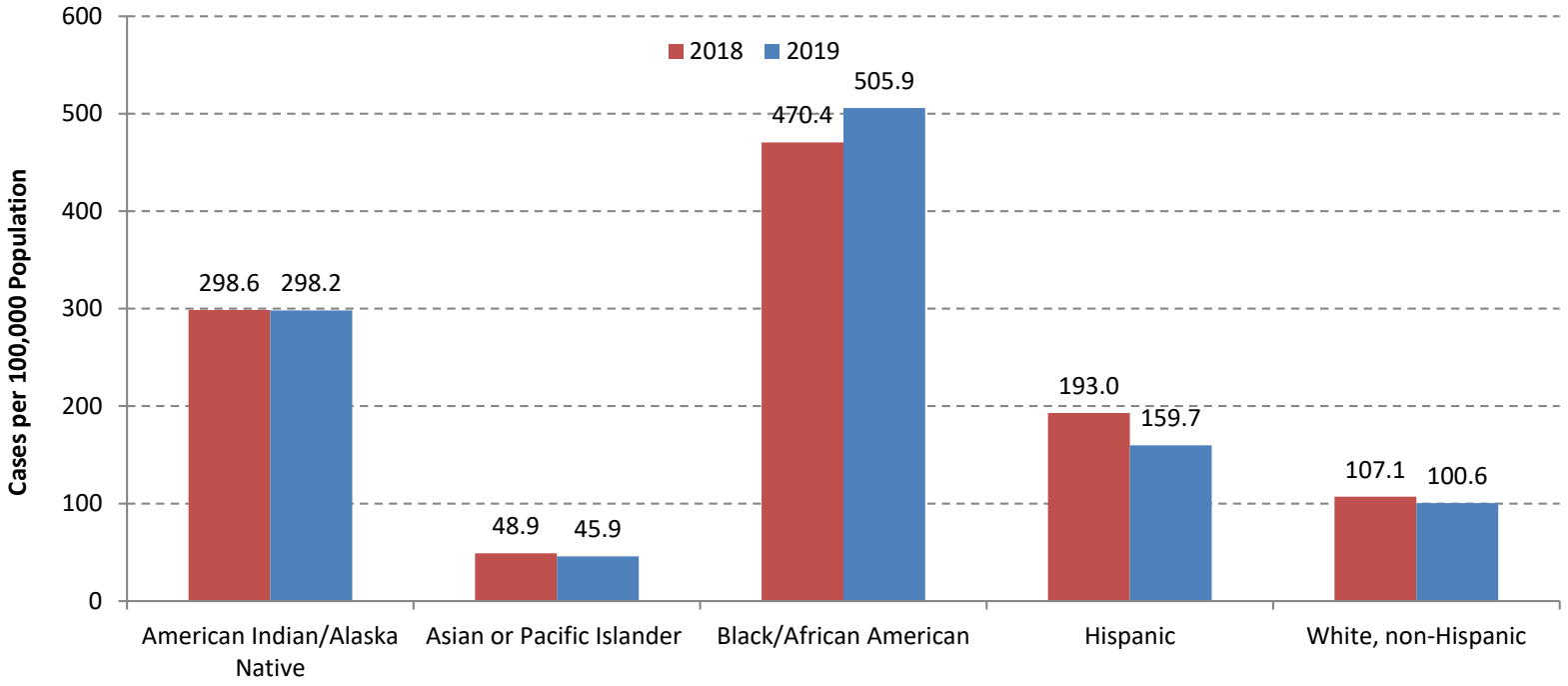


New Mexico saw a 17% increase from 2017 to 2018 and a 7% decrease from 2018 to 2019.

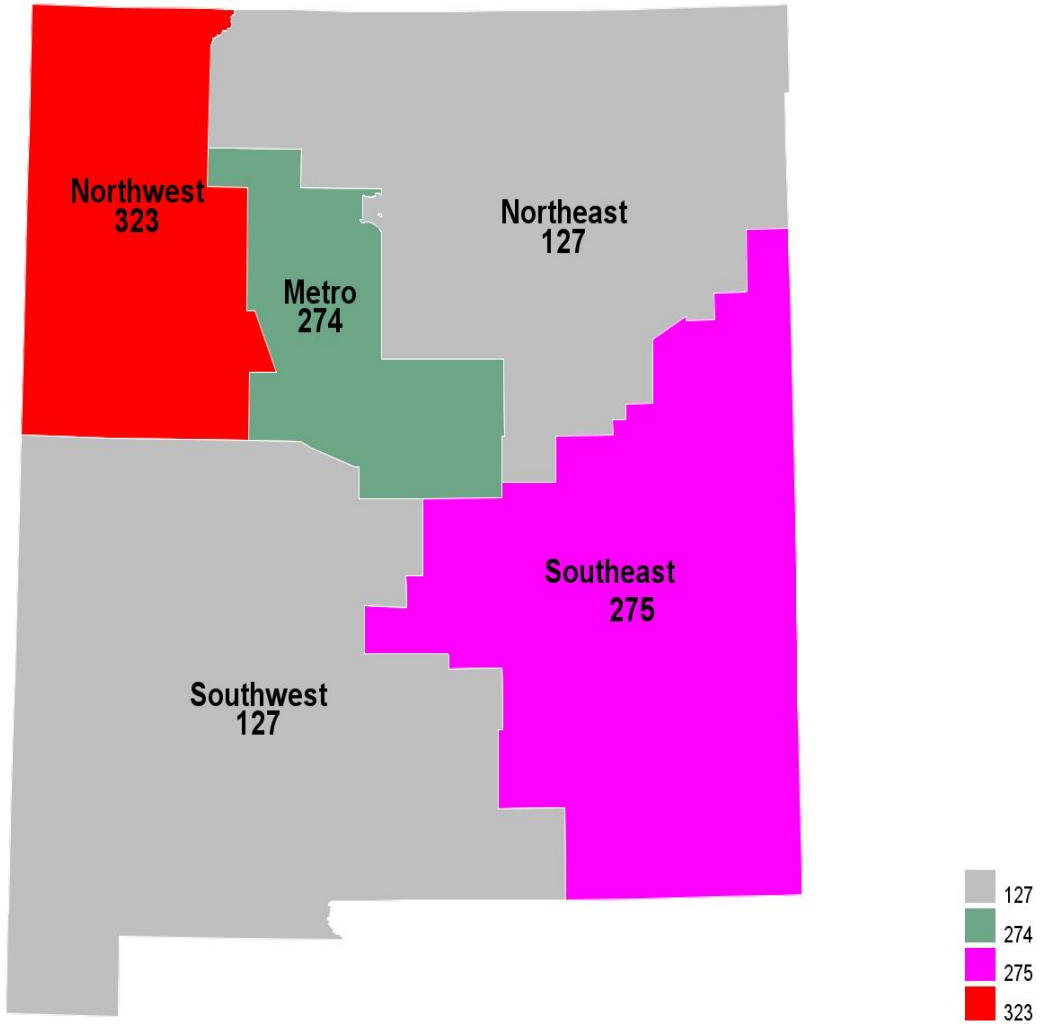
New Mexico ranked 6th in the nation in 2018 and 11th in the nation in 2019.

Source: PRISM for NM Rates, CDC Surveillance Reports for US Rates

Gonorrhea Rates by Race/Ethnicity
New Mexico, 2018 - 2019

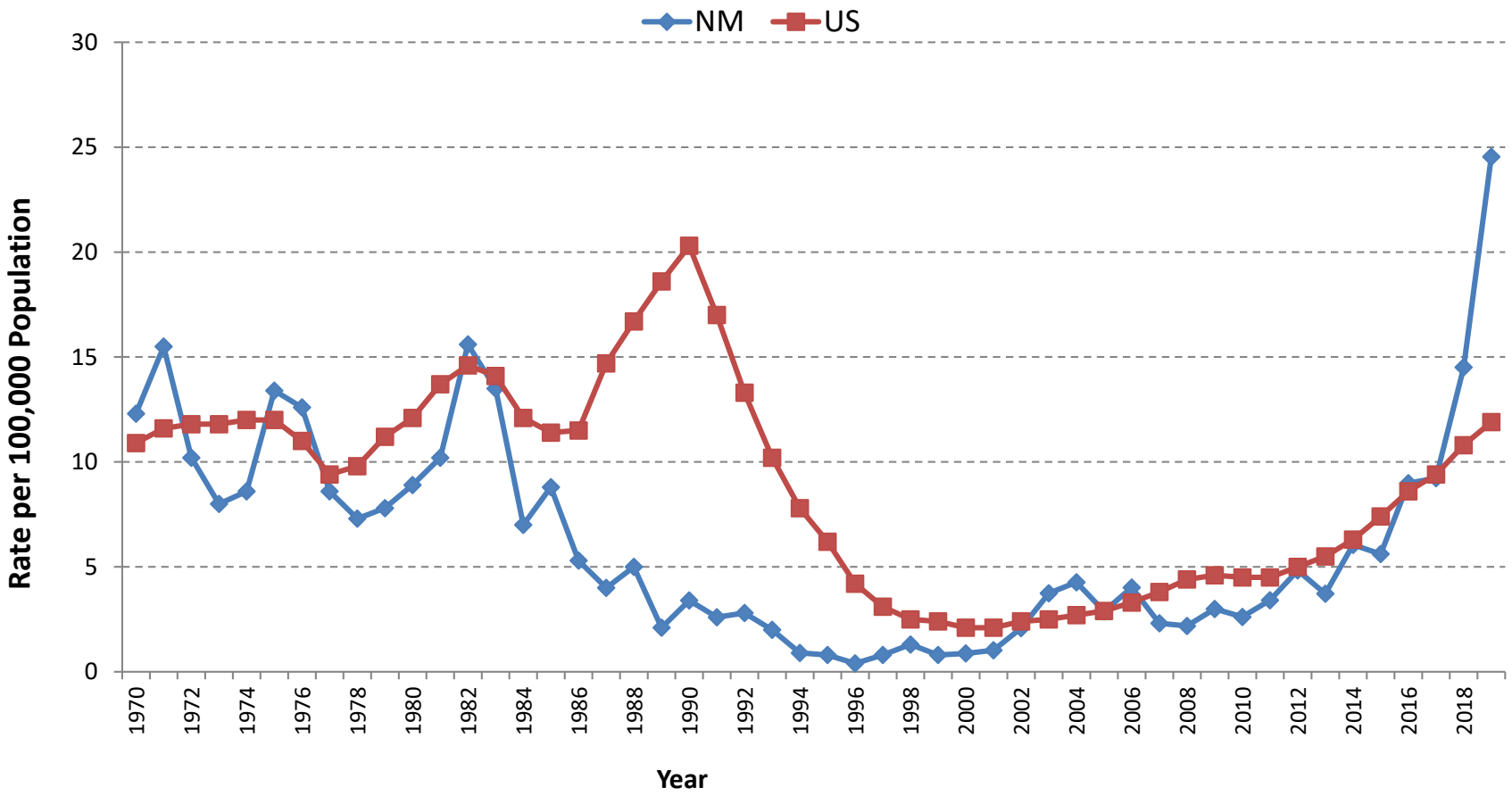


Similar to national data, gonorrhea rates have disparities by ethnic and racial groups. Gonorrhea disproportionately affects African American, American Indian, and Hispanic populations in New Mexico.



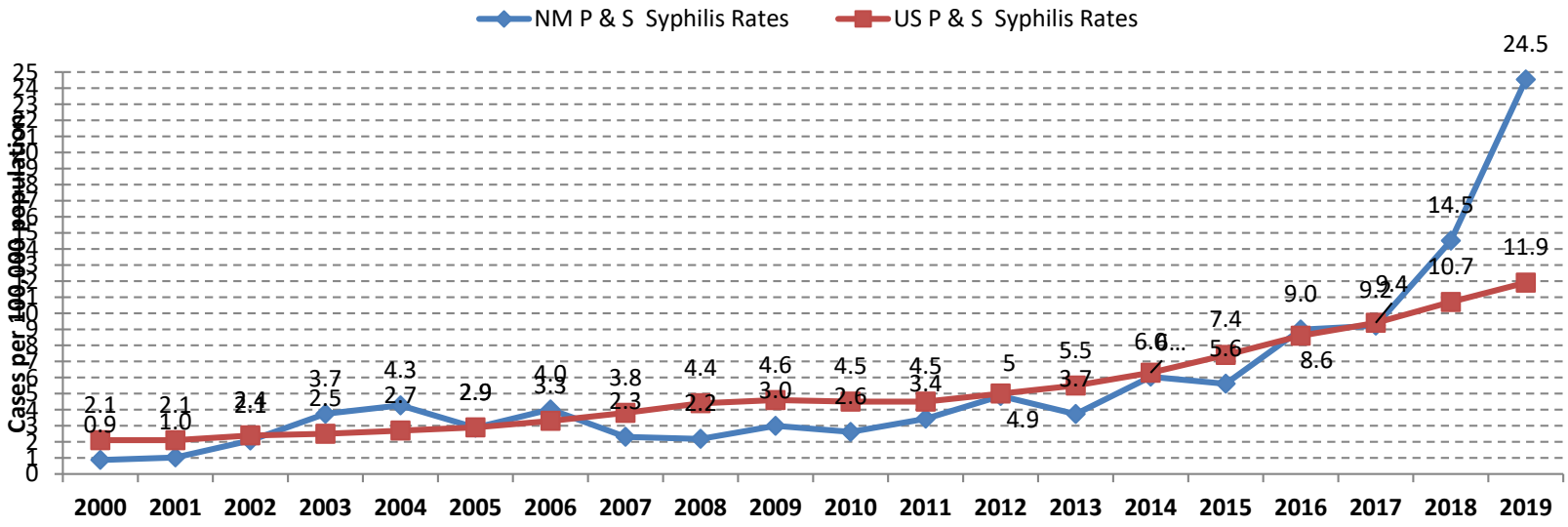
Gonorrhea Rate per 100,000 by Region, New Mexico, 2019

Rates of Primary and Secondary Syphilis, New Mexico and US, 1970 - 2019



Source: PRISM for NM Rates, CDC Surveillance Reports for US Rates

Rates of Primary and Secondary Syphilis New Mexico and US, 2000 - 2019

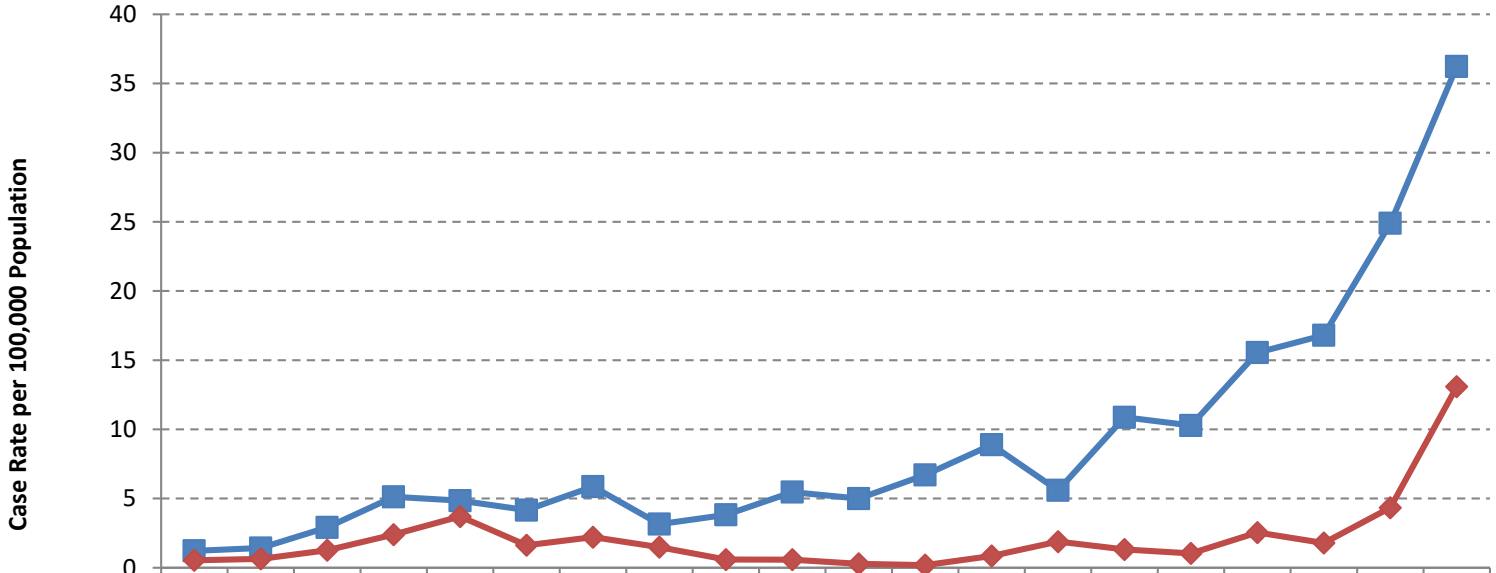


Rates of primary and secondary syphilis in New Mexico have increased over the past 6 years, with some years increasing more dramatically than others. From 2017 to 2018 there was an increase of 58% and from 2018 to 2019 the increase was 69%.

A steady increase has been seen in the US rate from 2010 to 2019.

Source: PRISM for NM Rates, CDC Surveillance Reports for US Rates

Primary and Secondary Syphilis Cases by Sex, New Mexico, 2000-2019

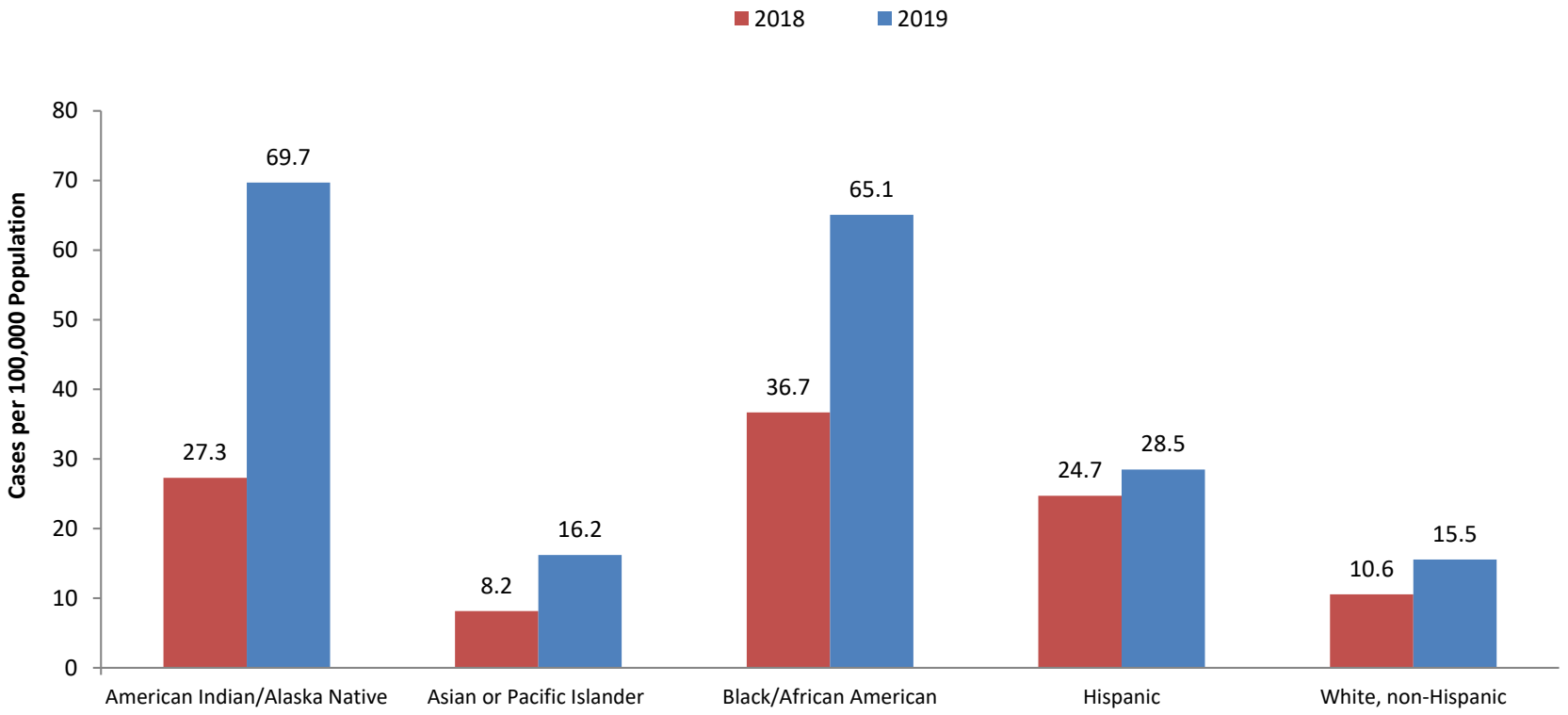


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
NM Male Rate	1.2	1.4	2.9	5.1	4.8	4.2	5.9	3.2	3.8	5.5	5.0	6.7	8.9	5.6	10.9	10.3	15.6	16.8	24.9	36.2
NM Female Rate	0.5	0.6	1.3	2.4	3.7	1.6	2.2	1.5	0.6	0.6	0.3	0.2	0.9	1.9	1.3	1.0	2.5	1.8	4.3	13.1

The demographic shift continues to more female cases. In 2019, 73% of all reported primary and secondary syphilis cases were male compared to 2018, when 85% were male.

Following this demographic shift is an increase in congenital syphilis cases as well, from 1 case in 2017 to 26 cases in 2019.

Primary, Secondary, and Early Latent Syphilis Rates by Race/Ethnicity, NM, 2018 – 2019



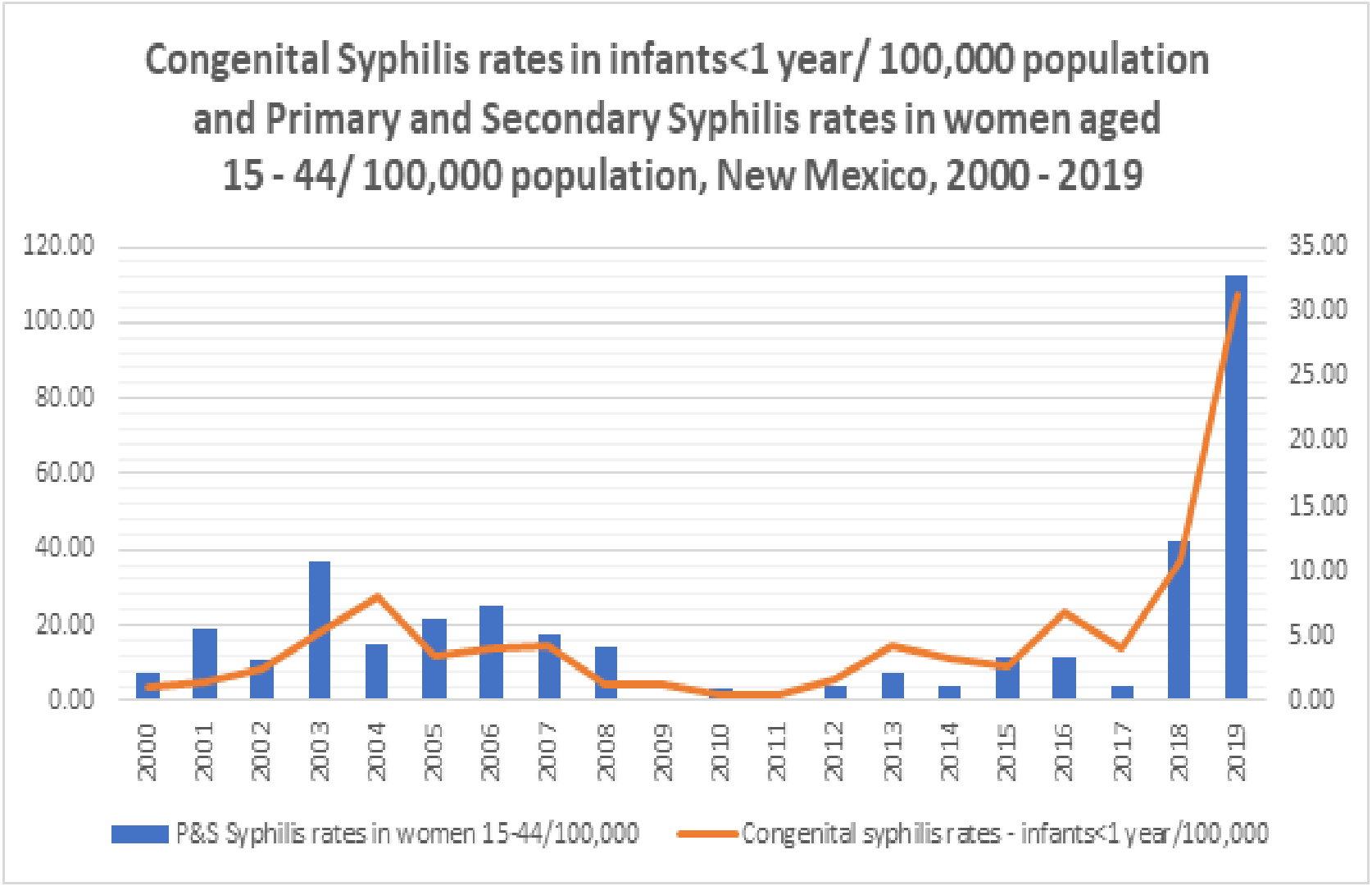
Congenital Syphilis = Major Concern

Syphilis passed from mother to child, known as congenital syphilis, can cause serious birth defects and infant death

Because preventable with timely testing and treatment of pregnant mothers, every case of congenital syphilis is a 'sentinel public health event' = gap in health care system including lack of prenatal care

Congenital syphilis rare in NM prior to 2017 – national increase in syphilis, including increases in heterosexual women has led to a sharp increase:

- 1 case in 2017
- 10 cases in 2018
- 26 cases in 2019


Congenital Syphilis rates in infants<1 year/ 100,000 population and Primary and Secondary Syphilis rates in women aged 15 - 44/ 100,000 population, New Mexico, 2000 - 2019
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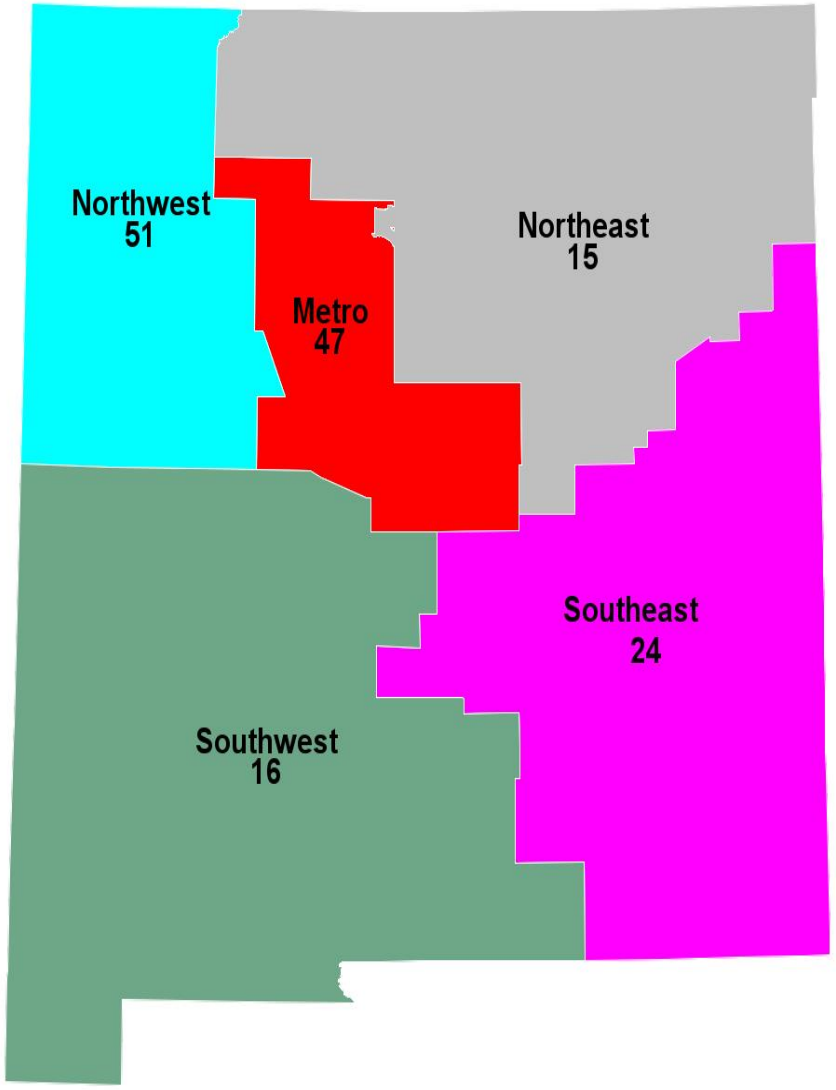
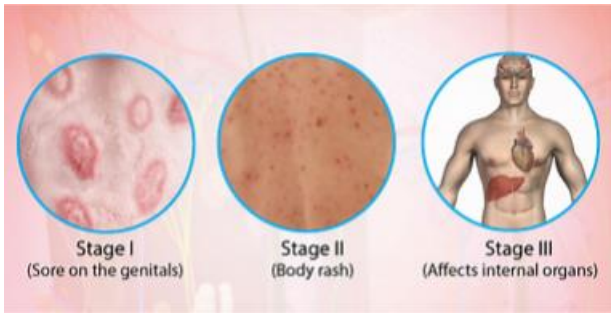
P&S Syphilis rates in women 15-44/100,000
Congenital syphilis rates - infants<1 year/100,000



Syphilis Rate per 100,000 by Region, New Mexico, 2019

Primary Syphilis



Incubation Period

- Minimum: 10 days
- Average: 21 days
- Maximum: 90 days

Symptoms:

- Painless chancre ranging from a few millimeters – 1-2 centimeters with the border surrounding the ulcer often raised and firm
- Location of the chancre can be genital, anal or oral and there can be one or more.
- Without treatment the chancre(s) will heal completely in 1-5 weeks (average 3 weeks)

Secondary Syphilis

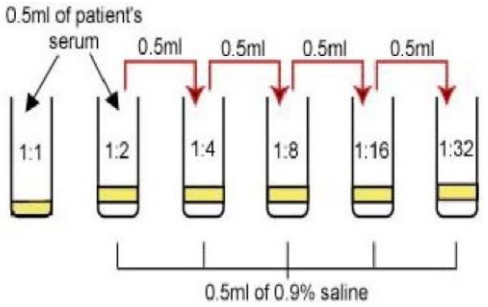
Duration

- Minimum 2 weeks
- Average 4 weeks
- Maximum 6 weeks

Symptoms

- Rash on the hands and feet (palmer/plantar rash)
- Body rash most commonly found on the torso
- Alopecia most commonly patchy hair loss beginning in the back of the head
- Condolomata lata - moist papules occurring in the anogenital region, can resemble warts and are highly infectious
- Ocular and otosyphilis can occur at any stage

Syphilis Testing: Non-Treponemal Tests



- **Reading the Results**
  - Both RPR and VDRL are non-treponemal tests and give quantitative results
    - Ab to cellular components released during tissue damage caused by syphilis (non-specific)

> **FDA Alert: Possible False RPR Reactivity with Syphilis Test**
>
> FDA has issued an alert that false reactivity, or "false-positive," Rapid Plasma Reagin (RPR; non-treponemal) test results, when using the Bio-Rad Laboratories BioPlex 2200 Syphilis Total & RPR kit, can occur in some people who received a COVID-19 vaccine.
>
> Read Dear Colleague Letter

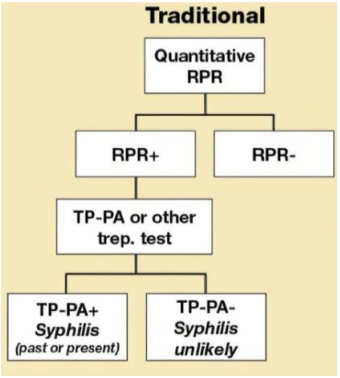
  - Results are obtained by serial dilutions of serum
  - Titer usually expressed as the highest dilution in which the test is fully reactive.
    - E.g., if test is reactive at 1:2, 1:4, 1:8, and 1:16, but is nonreactive at 1:32, the test results are reported as 1:16.
- Excessive production of antibody (particularly in the secondary stage of syphilis) occasionally results in a prozone reaction
  - Prozone reaction: undiluted (1:1) specimens produce a nonreactive or a weakly reactive result and further dilutions gives highly reactive test results

Syphilis Testing:
Non-Treponemal Tests

- Titers can be monitored over time after therapy to determine whether a person is cured (the titers decline at least fourfold or the equivalent of two tube dilutions)
- A rising titer may indicate a recent infection, a re-infection in a previously treated patient, or a relapse in an inadequately treated patient

Syphilis Testing: Treponemal Tests

- Treponemal tests detect antibody directed specifically against *T. pallidum*.
- Modestly more specific than the reaginic tests
- Cannot distinguish new versus prior infection
  - Therefore, use non-trep titers (4-fold change/2-dilution change = possible re-infection)
- Examples:
  - *T. pallidum* passive particle agglutination (TPPA) assay
  - Fluorescent treponemal antibody absorbed (FTA-ABS) test
  - Various enzyme immunoassays (EIAs)
  - Chemoluminescence assays (CIAs)
  - Rapid treponemal tests, etc.
- Results are either positive or negative (not titers)



Test Strategy

- Non-treponemal and treponemal tests are used in combination
- Traditionally, non-treponemal performed first
  - If positive, treponemal test performed on the same sample to confirm results
  - Both tests must be positive for a diagnosis of Syphilis
- Reverse Algorithm often used: Treponemal done first followed by the non-treponemal with reflex to titer.

Syphilis Serology Interpretation (Reverse Algorithm)

Serologic pattern			Possible interpretations
EIA	**RPR**	**TP-PA**	
Reactive	Reactive	Reactive	- Syphilis infection - If patient has been treated for syphilis and RPR titre is declining, this may be consistent with treated syphilis
Reactive	Reactive	Non-reactive	- Treponemal tests do not agree, which may indicate: - Early infection (TP-PA not yet positive) - Prior syphilis (treated or untreated) - False positive EIA - *Repeat testing in 2 weeks*
Reactive	Non-reactive	Non-reactive	
Reactive	Non-reactive	Reactive	- Previously treated syphilis - Early syphilis (RPR not yet positive)
Nonreactive	-	-	- Not consistent with syphilis; if concern for primary syphilis (chancre), should treat and repeat testing in 2 weeks

https://thischangedmypractice.com/interpretation-of-syphilis-serology/

STI in New Mexico: Innovative Responses

Disease Investigation and Partner Services

Disease Intervention Specialists (DIS) stop the spread of STD infection. They identify persons with a reportable STD, conduct interviews, and ensure they and their partners are properly treated. *This was the original "contact tracing" before the COVID-19 pandemic.*

Interviewed 1,284 patients
during calendar 2019

Reached 691 partners
for testing and treatment

STI in New Mexico: Innovative Responses

Disease Intervention Specialist (DIS) Workforce Expansion

NMDOH currently has 17 DIS

- 4 Lead DIS *(new job category created in 2019 with focus on mentoring all DIS on interviewing skills)*
- 13 Basic DIS

American Rescue Plan (ARP) includes $1.13 billion over 5 years to expand the national DIS workforce.

Award to New Mexico is $1.4 million per year in 2021 – 2025

Expand with 12 additional DIS positions

- 5 new Advanced DIS *(new job category will also have skills for HIV linkage-to-care and Hepatitis C virus navigation to treatment)*
- 5 additional Lead DIS
- 2 additional Basic DIS

Case Investigation from A-Z

- STD Program receives report of a positive lab
- Investigation is assigned to the appropriate Region and to a DIS
- Record search all available resources for testing and treatment history
- Make first attempt to contact patient within 24 hours (phone, mail, visit)
- Continue attempts to contact patient (following required program guidelines)
- Bring patient in for treatment if needed
- Interview patient, obtain partner info, contact partners confidentially
- Review the case. What information is missing? What about their story is inconsistent, what doesn't make sense based on what we know about syphilis? What did you forget to ask?
- Schedule a re-interview within 72 hours
- Bring partners in for testing and treatment

STI in New Mexico: Innovative Responses
Policy and Public Health Order (PHO)

Current guidelines from the federal Centers for Disease Control and Prevention (CDC) recommend testing of all pregnant women in high prevalence states three times: 1) at the first prenatal visit, 2) again during the third trimester, and 3) again at delivery.

Language in the New Mexico Public Health Act related to syphilis has not been revised in over 40 years. It is outdated, overly directive, and not in compliance with these CDC guidelines.

Proposed legislation (SB184 in 2021 regular session) would update the Public Health Act, Section 24-1-10, to remove outdated language that requires a single blood test and all samples sent to the state's public health lab.

STI in New Mexico: Innovative Responses

Policy and Public Health Order (PHO)

NEW MEXICO Department of Health
Office of the Secretary

MICHELLE LUJAN GRISHAM
Governor

DAVID R. SCRASE, M.D.
Acting Cabinet Secretary

PUBLIC HEALTH ORDER
OF THE CABINET SECRETARY OF
THE NEW MEXICO DEPARTMENT OF HEALTH
SEPTEMBER 29, 2021

Increase Screening for Syphilis in All Pregnant Women to Prevent Congenital Syphilis

WHEREAS, syphilis passed from mother to child, known as congenital syphilis, presents major public health threat because it can lead to serious birth defects, miscarriage, and infant death. Congenital syphilis along with these complications are entirely preventable with timely testing and treatment;

WHEREAS, the number of reported cases of primary and secondary syphilis among women and reported cases of congenital syphilis has increased steadily in the United States since 2000. The Centers for Disease Control and Prevention ("CDC") reports more than 1,870 cases of congenital syphilis in 2019 in the United States, resulting in severe health complications and deaths among newborns[1];

WHEREAS, syphilis is a notifiable disease in New Mexico that is required to be reported to the New Mexico Department of Health ("NMDOH") Sexually Transmitted Disease ("STD") Program within 24 hours pursuant to the Section 7.4.3.13 of the New Mexico Administrative Code;

WHEREAS, with stark increases in rates of primary and secondary syphilis in New Mexico of 58% from 2017 to 2018 and 69% from 2018 to 2019, CDC now ranks the state second in the nation in 2019, up from being ranked sixth in 2018;

WHEREAS, in 2019, New Mexico had the third highest rate of infants born with congenital syphilis in the United States, with 26 cases of congenital syphilis reported to NMDOH. This is a significantly concerning increase as the average cases reported in New Mexico per year during 2012 to 2017 was only two;

WHEREAS, pregnant women are required to be tested for syphilis at their first prenatal examination pursuant to NMSA 1978, Section 24-1-10;

WHEREAS, the CDC recommends syphilis testing be repeated during the third trimester (28-32 weeks gestational age) and at the time of delivery in women who are at high risk for syphilis or live in areas with high rates of syphilis. Given high rates statewide in New Mexico, this testing at the first prenatal visits, during the third trimester, and at the time of delivery is the best practice in all regions of the state based on these CDC guidelines[2];

[1] CDC Fact Sheet https://www.cdc.gov/nchhstp/newsroom/docs/factsheets/STD-Trends-508.pdf
[2] Screening guidelines: https://www.cdc.gov/std/treatment-guidelines/screening-recommendations.htm and Treatment and follow up: https://www.cdc.gov/std/treatment-guidelines/syphilis-pregnancy.htm

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