



Epi-Aid – 2023-016

Undetermined risk factors for syphilis transmission among American Indians—Great Plains Area, 2022–2023

Out Briefing Presentation

July 21, 2023



Agenda

Overview

Summary of Activities

Describing the Syphilis Outbreak in Great Plains Area

Preliminary Themes and Recommendations

Next Steps

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Overview

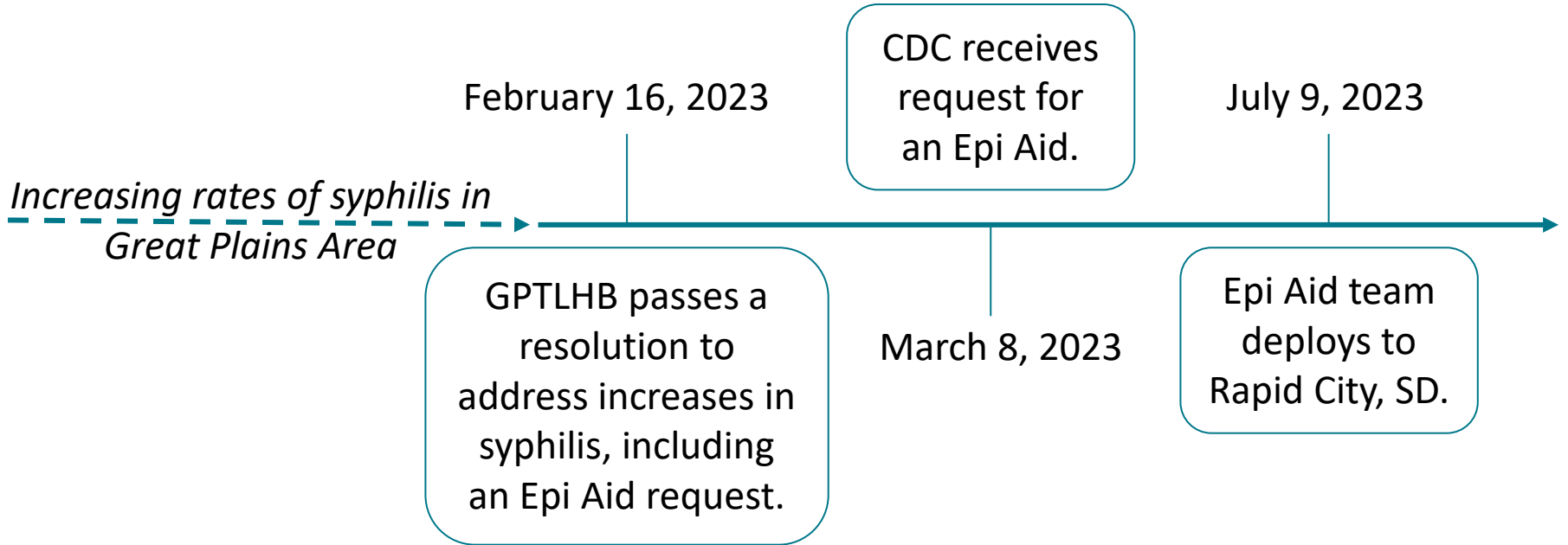
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Describing the Syphilis Outbreak in Great Plains Area

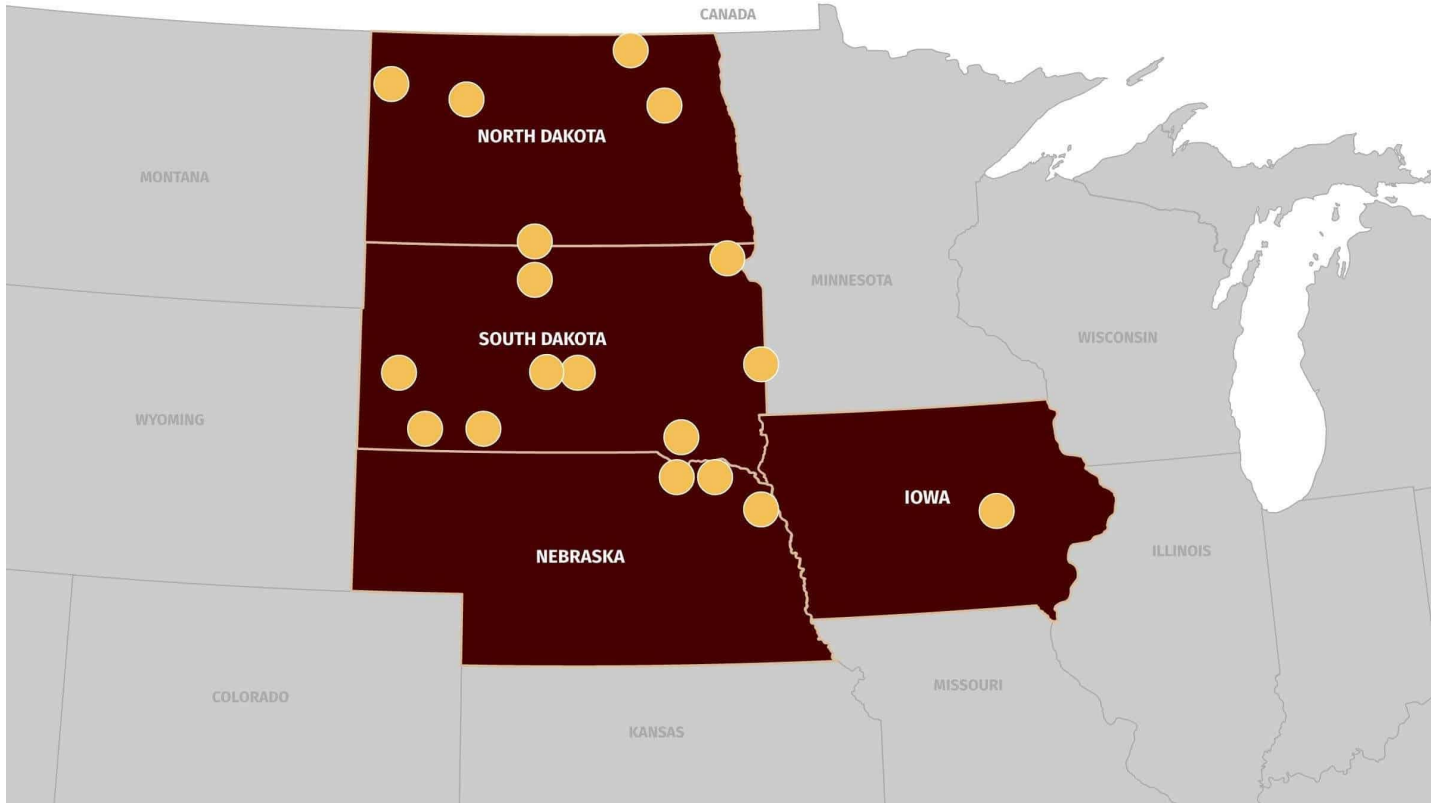
Preliminary Themes and Recommendations

Next Steps

Epi Aid Timeline



GPTLHB serves 18 Tribes and Tribal Communities.



Preliminary findings and recommendations as of 7/20/2023. Last update 8/1/2023. Final report to follow.

Epi Aid Objectives

1. Characterize syphilis cases among American Indians in the Great Plains Area.
2. Identify untreated persons with syphilis or suspected of having syphilis, and as appropriate, support examination, treatment, and partner services.
3. Understand the landscape of syphilis screening and treatment services.
4. Advise on syphilis screening and treatment recommendations and congenital syphilis control strategies.

**GPTLHB POG-Meghan Curry
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BEHAVIORAL

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Support from Local Staff

DIS

**CDC DSTDP
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DEPT. OF HEALTH AND HUMAN SERVICES



MONUMENT
HEALTH

IDPH
IOWA Department
of PUBLIC HEALTH

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Epidemiology Team

Activities:

- Describing epidemiology of syphilis outbreak
- Preparing surveillance data
- Identifying charts for clinical, DIS and behavioral teams

Major Accomplishments:

- Promoted collaboration between states and GPTEC regarding matching surveillance data with tribal registry data
- Data sharing from SD and NE to GPTEC and CDC (in process for Iowa and North Dakota)
- Completed preliminary analyses of SD and NE data



Clinical Team

Activities:

- Facility assessments and key informant interviews with key staff
- Medical chart abstractions for people diagnosed with syphilis during pregnancy

Accomplishments:

- Facility assessment completed at 3 IHS, 1 Tribal, and 1 private service site, speaking with 50 staff across 5 sites.
- Key informant interview (KIIs) with 38 informants
- Reviewed available Monument Health medical records for 33 people diagnosed with syphilis during pregnancy (including 18 with infants clinically treated for CS)



Behavioral Team

Activities:

- Key informant interviews (KIIs) with program staff
- In-depth interviews (IDIs) with persons diagnosed with syphilis during pregnancy
- Desk review of field records/patient charts among persons diagnosed with syphilis during pregnancy

Accomplishments:

- 1 KII (GPTLHB staff), 5 IDIs
- 29 field records/patient charts reviewed



Disease Intervention Team



Activities:

- Locate patients via field investigation
- Conduct partner services including rigorous contact tracing
- Communicate with providers regarding patients' need for examination and treatment
- Transport patients to and from clinic
- Address additional needs (ensuring patient received other prescriptions, providing water/nutrition)



Disease Intervention Team



Accomplishments:

- Built trust with the community
- Worked closely with SD DIS in Rapid City, PHN in Pine Ridge, and Nurse at Oyate Health Center; 2 SD DIS joined CDC DIS for field investigations.
- Performed 86 field visits (Rapid City and Pine Ridge) in 4 days of field activities
- 15 people examined (including 8 women of reproductive age), of which 14 were treated



DIS: Disease intervention specialist, PHN: Public health nurse

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Cheyenne River Sioux Tribe



Flandreau Sioux



Lower Brule Sioux



Crow Creek Sioux Tribe



Oglala Sioux Tribe



Sisseton Wahpeton Oyate



Yankton Sioux



Rosebud Sioux Tribe



Meskwaki Nation



Turtle Mountain Band of Chippewa



Trenton Indian Service Area



Santee Sioux Nation



Standing Rock Sioux



Mandan Hidatsa Arikara Nation



Ponca Tribe of Nebraska



Winnebago Tribe of Nebraska

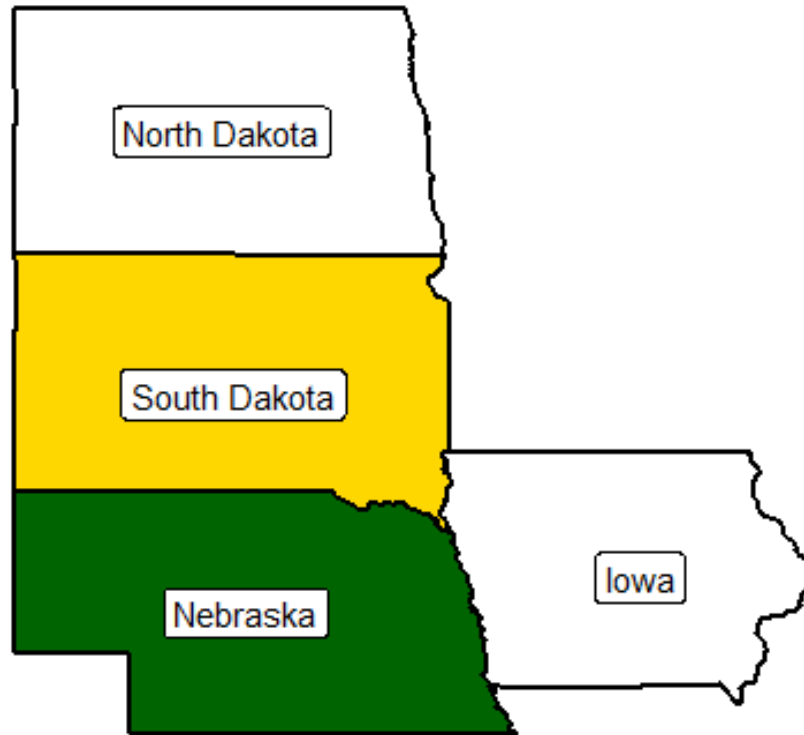


Spirit Lake Tribe



Omaha Nations

States Served by GPTLHB



1,718

acquired syphilis cases in **Nebraska**
January 2020 – June 2023

34 years

(15–83)

Average
age

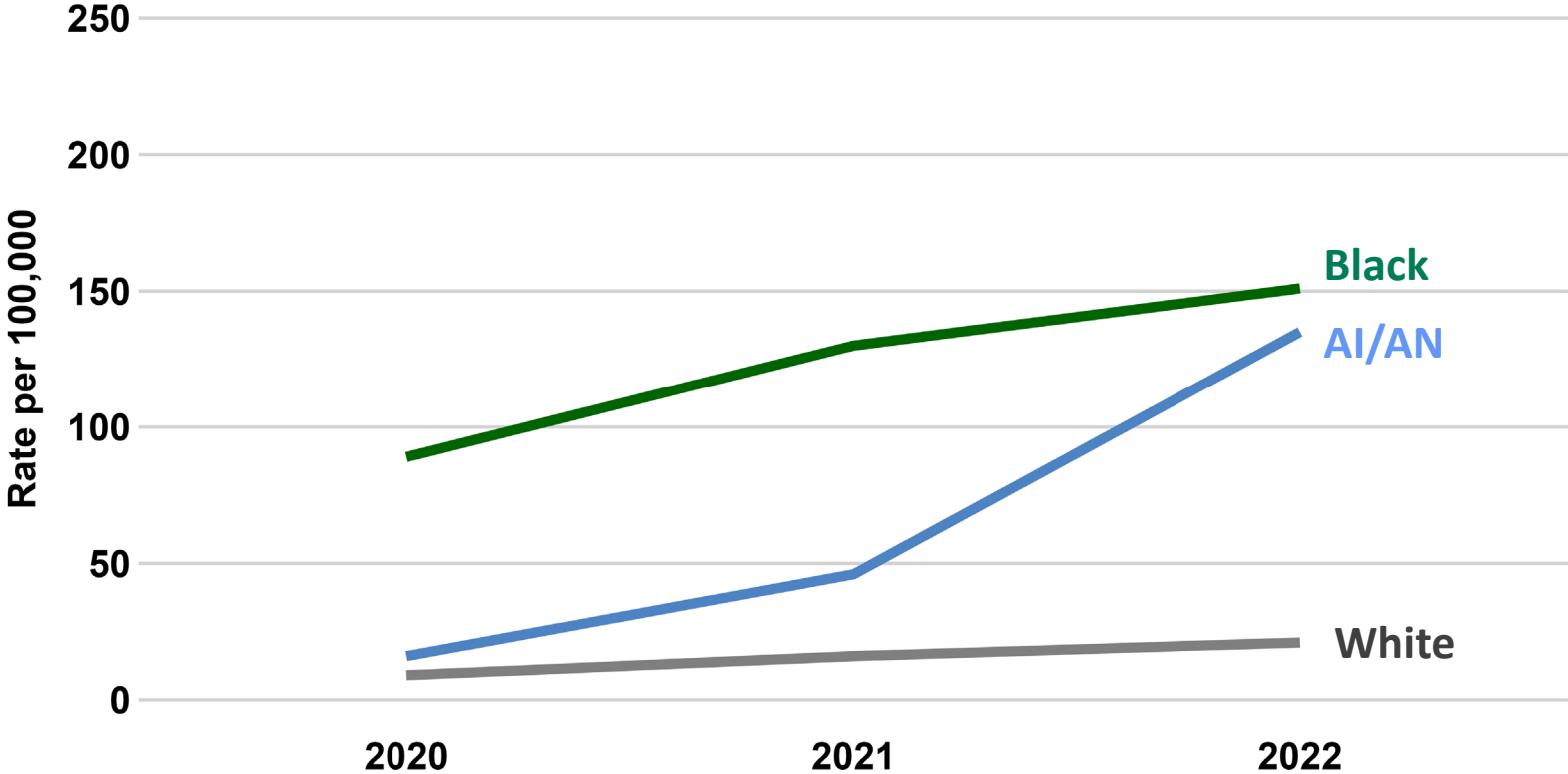
5%

AI/AN
alone

66%

Male sex

Acquired syphilis cases among **AI/AN** are on **the rise**.

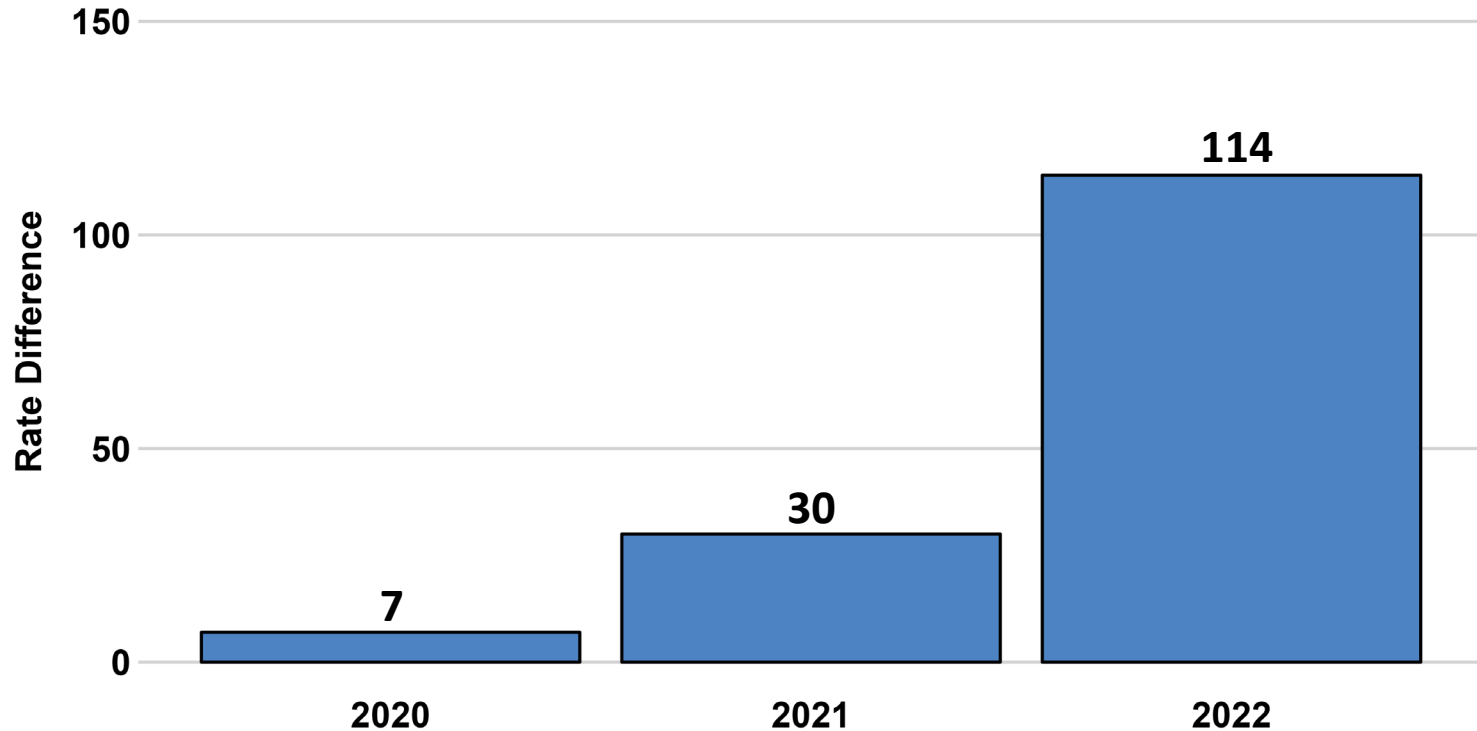


Source: Nebraska surveillance system, 2020–2023 (as of July 7, 2023)

AI/AN: American Indian or Alaska Native, single race, any ethnicity

Preliminary findings and recommendations as of 7/20/2023. Last update 8/1/2023. Final report to follow.

In 2022, **AI/AN** persons experienced **114 more** acquired syphilis cases per 100,000 persons, **compared to White persons.**

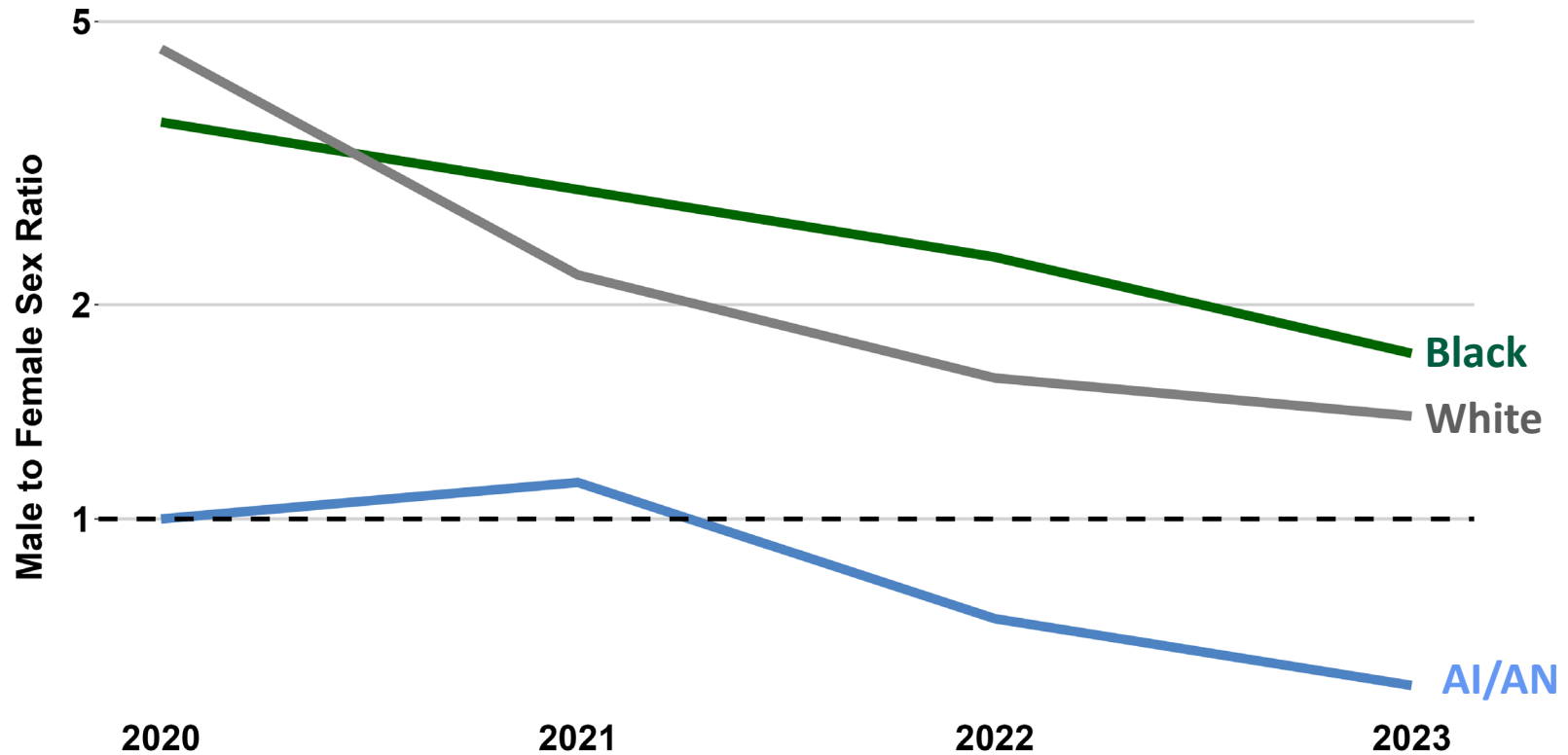


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The **male-to-female case ratio** for acquired syphilis cases in Nebraska **differ for AI/AN** compared to other races.

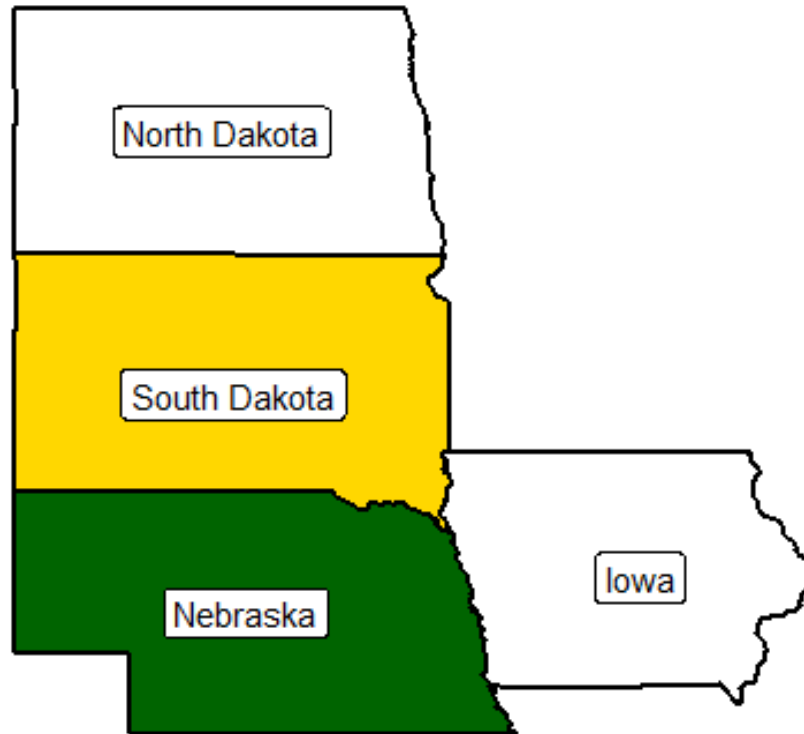


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States Served by GPTLHB



3,786 acquired syphilis cases in **South Dakota** January 2020 – June 2023

33 years
(15–83)
Average
age

48%
Male sex

Source: South Dakota surveillance system, 2021–2023 (as of July 7, 2023)

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Syphilis cases are on the rise.
It's important to get tested!



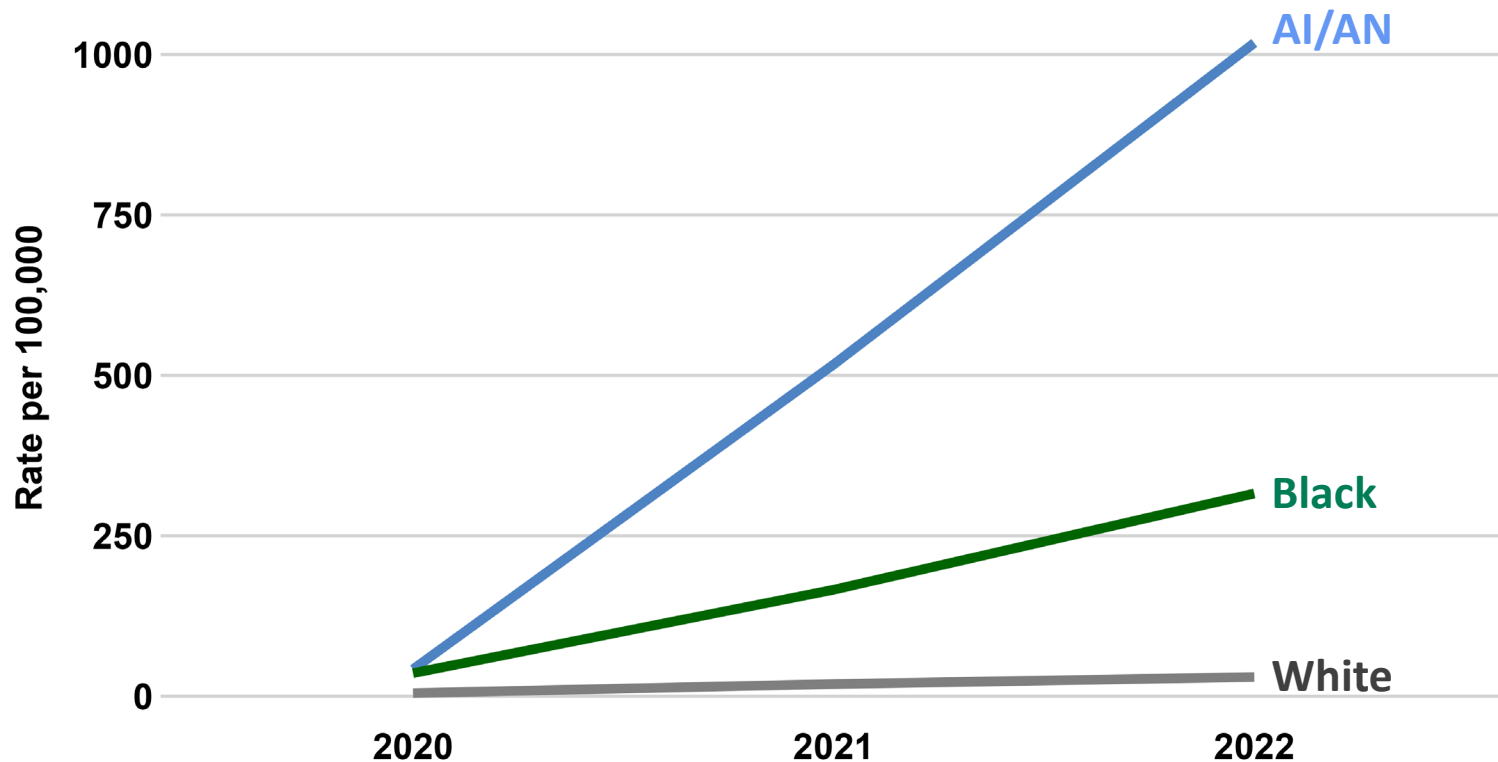
About **80%**
of acquired syphilis cases
in **South Dakota**
January 2020–June 2023
were among **American
Indian or Alaska Native
persons**

Source: South Dakota surveillance system, 2021–2023 (as of July 7, 2023)

AI/AN: American Indian or Alaska Native, single or multiracial

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The **greatest increase** in acquired syphilis rates in South Dakota has occurred among **AI/AN persons**.

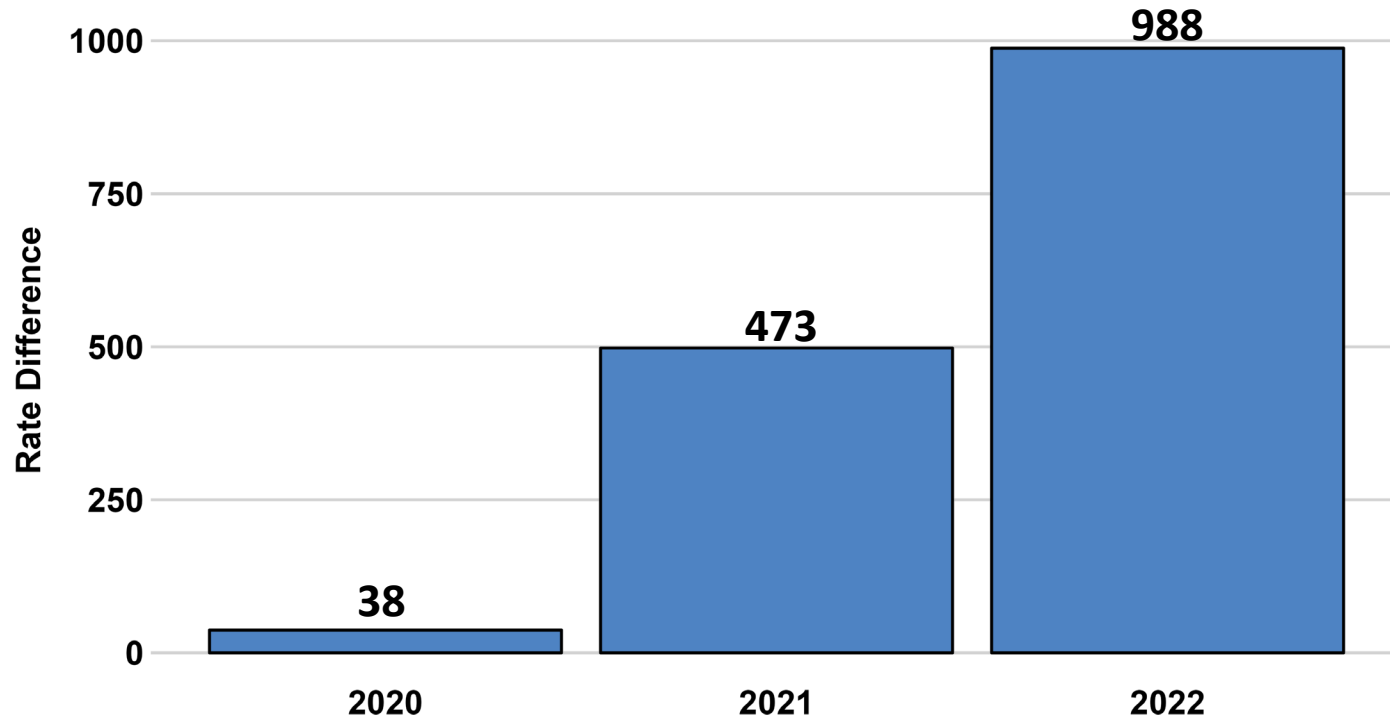


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AI/AN persons experienced **988 more syphilis cases per 100,000 people** compared to White persons in 2022.

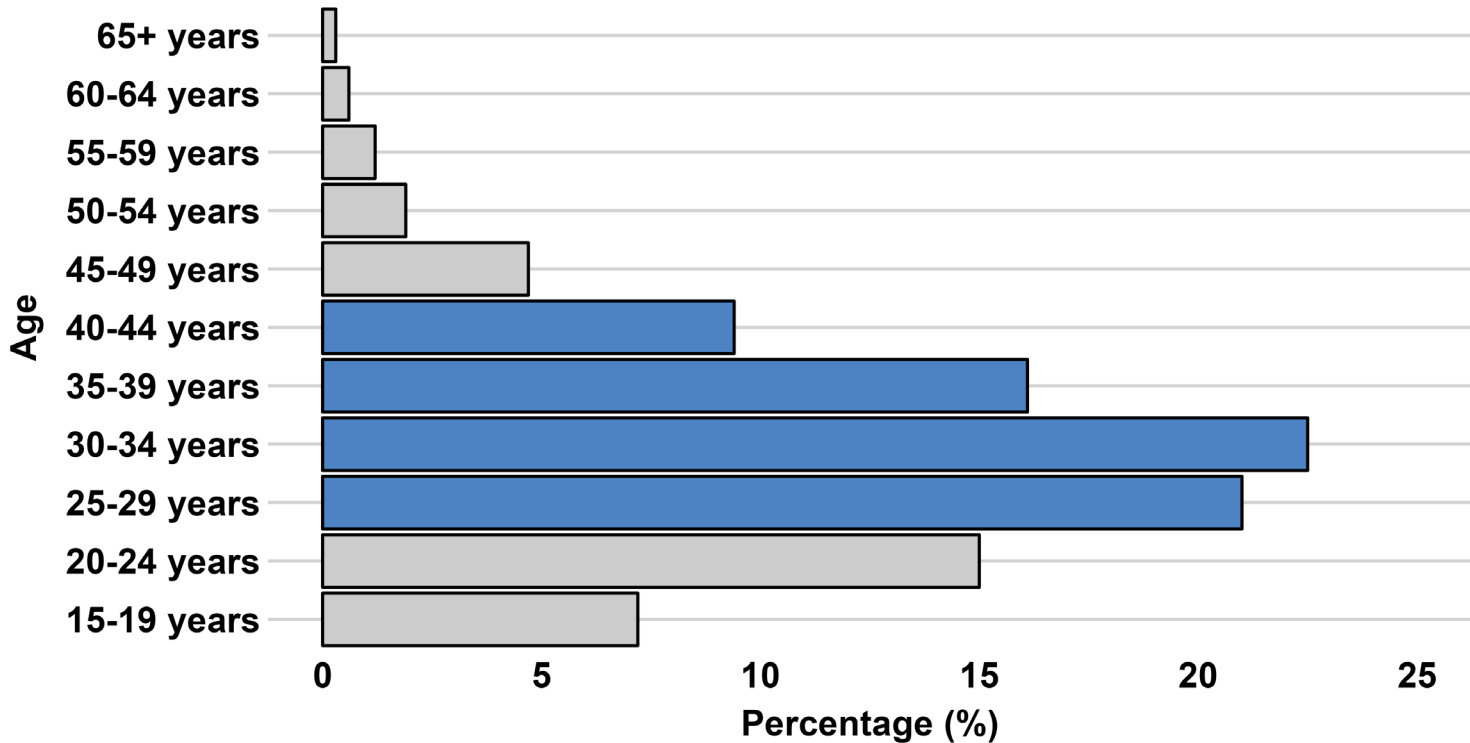


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Over half of acquired syphilis cases among AI/AN persons occur in persons **aged 25-44 years**.

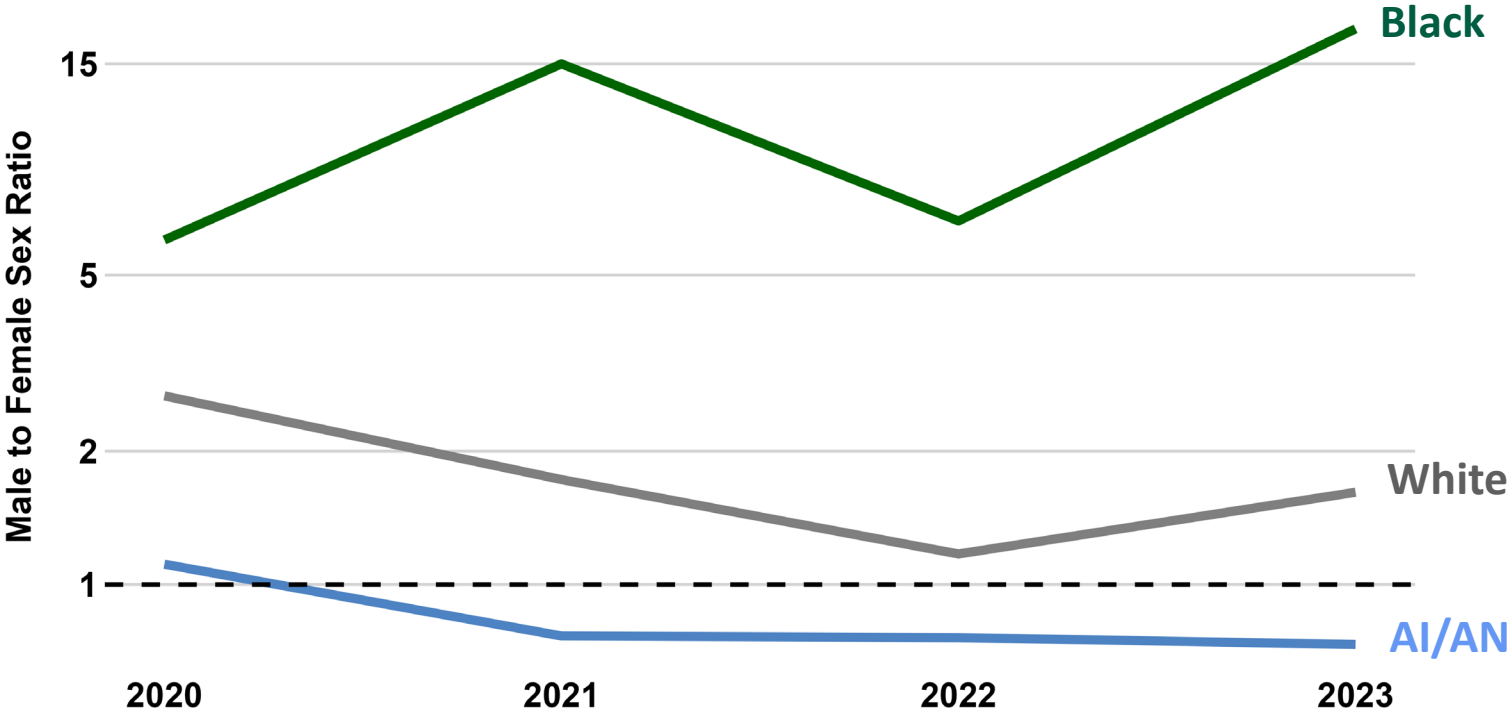


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The **male-to-female case ratio** for acquired syphilis cases **differs for AI/AN** compared to other races.



Source: South Dakota surveillance system, 2020–2023 (as of July 7, 2023)

AI/AN: American Indian or Alaska Native, single or multiracial

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14%

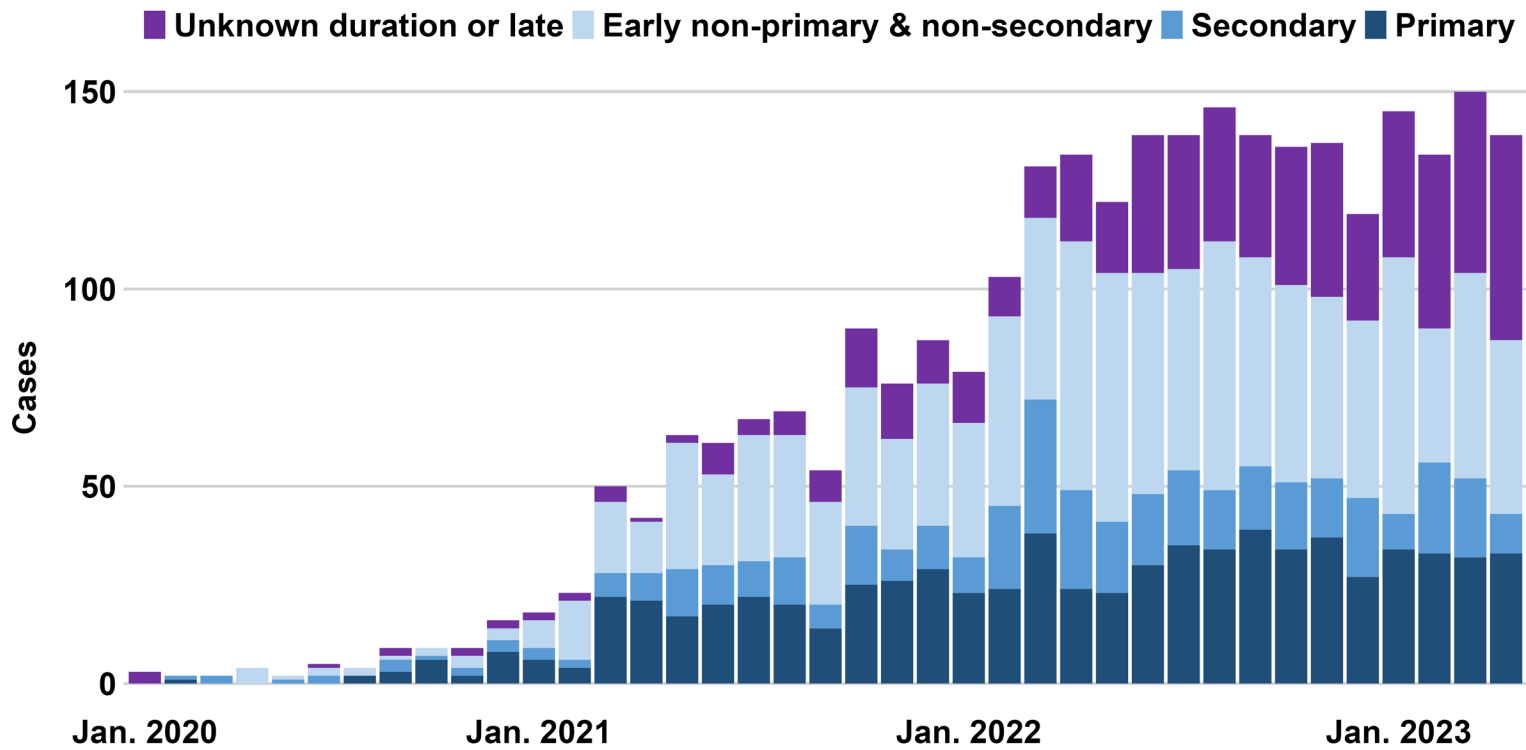
of AI/AN acquired syphilis cases among reproductive age females are **pregnant persons**

AI/AN: American Indian or Alaska Native, single or multiracial

Source: South Dakota surveillance system, 2020–2023 (as of July 7, 2023)



Acquired syphilis cases have **increased** among **AI/AN population** in South Dakota **since 2020**.

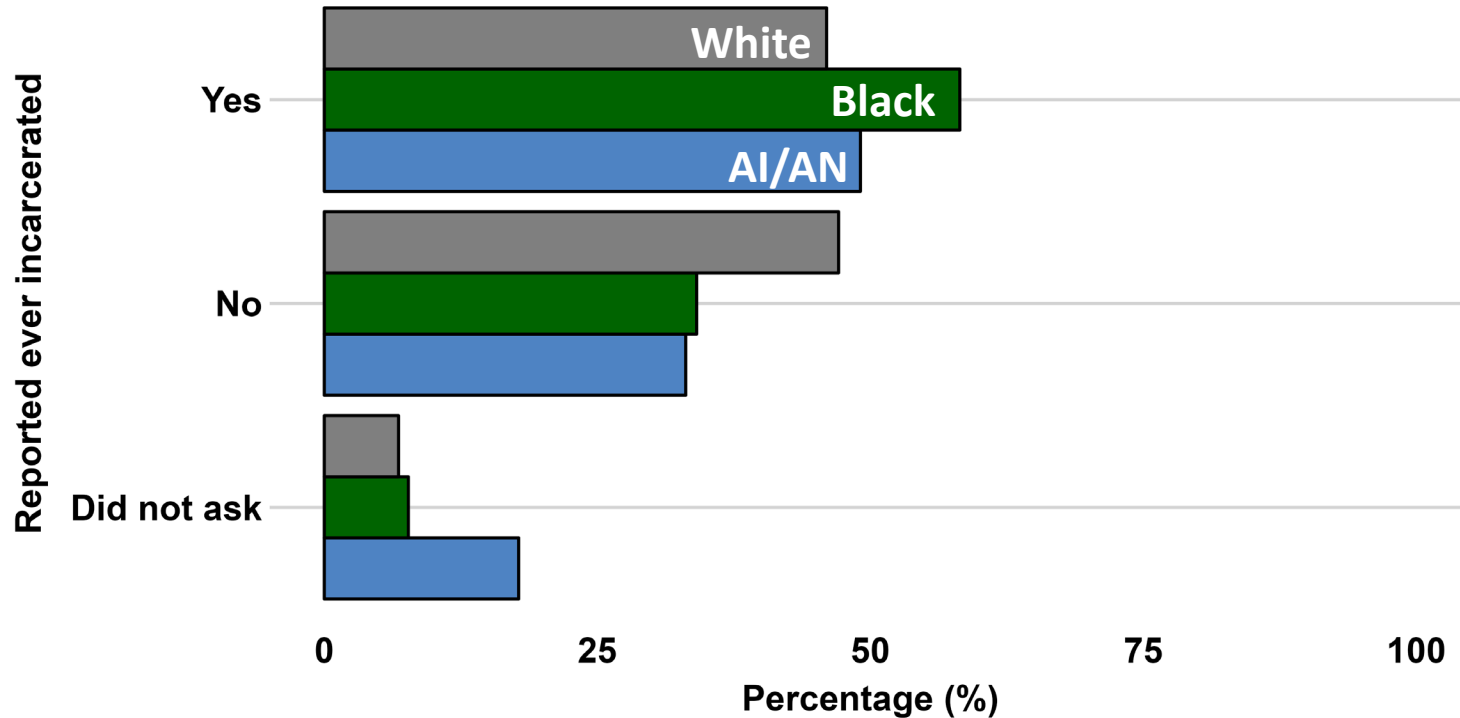


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About **50%** of acquired syphilis cases occur in persons who have **ever been incarcerated.**

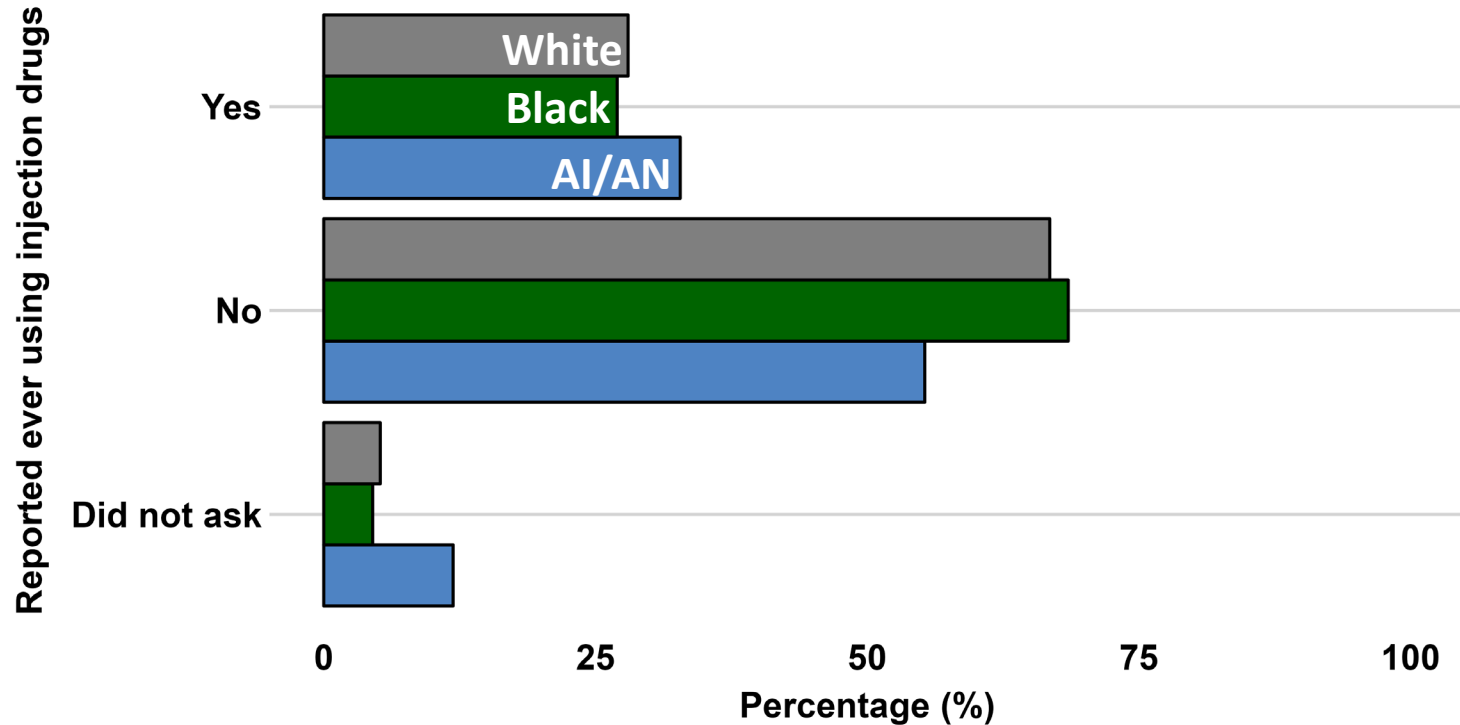


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About **1 in 3** acquired syphilis cases occur in persons who report **current or prior injection drug use**



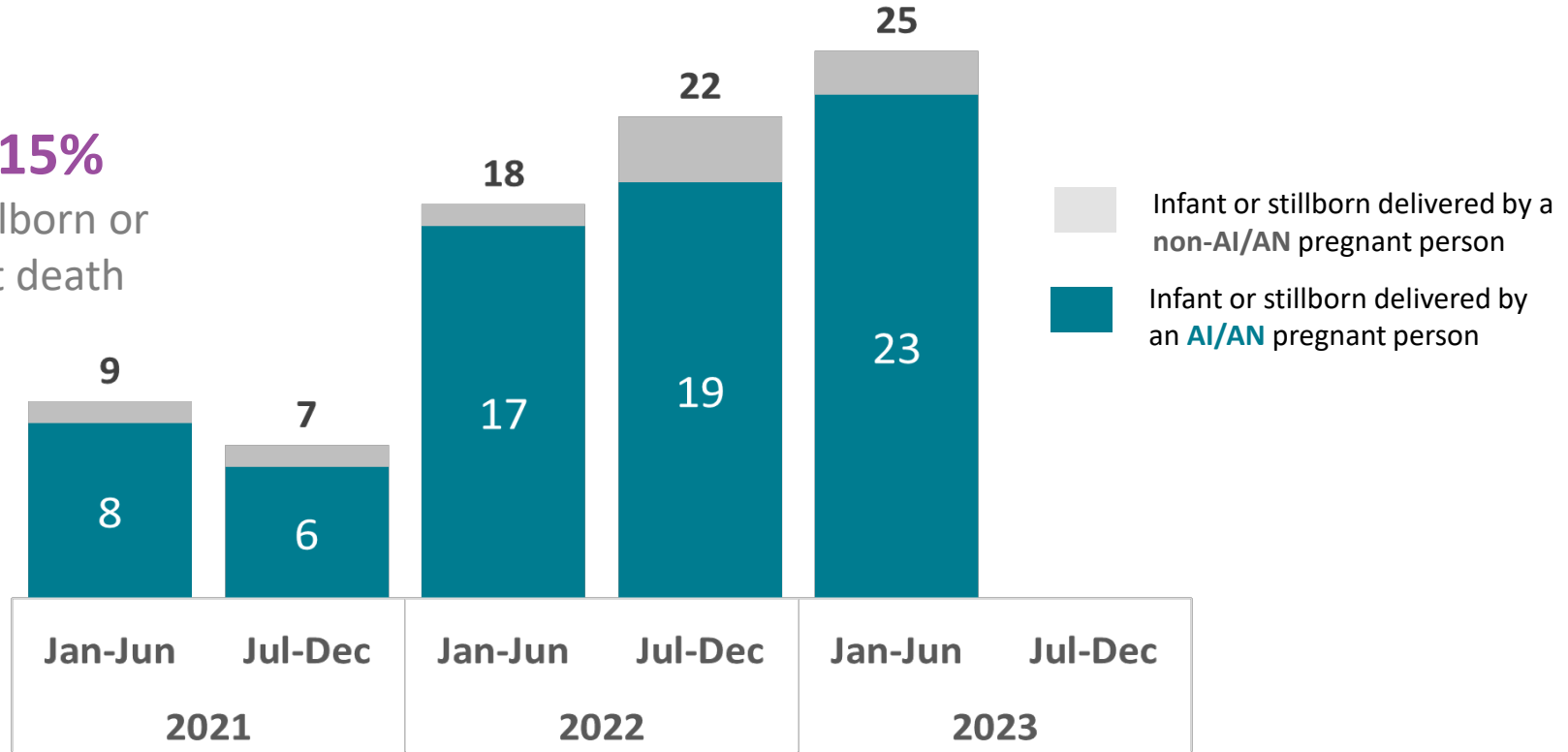
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Congenital syphilis cases are **increasing** in South Dakota and **90%** were born to **AI/AN mothers**.

Overall, **15%** were stillborn or an infant death



Source: South Dakota surveillance system, 2021–2023 (as of July 7, 2023)

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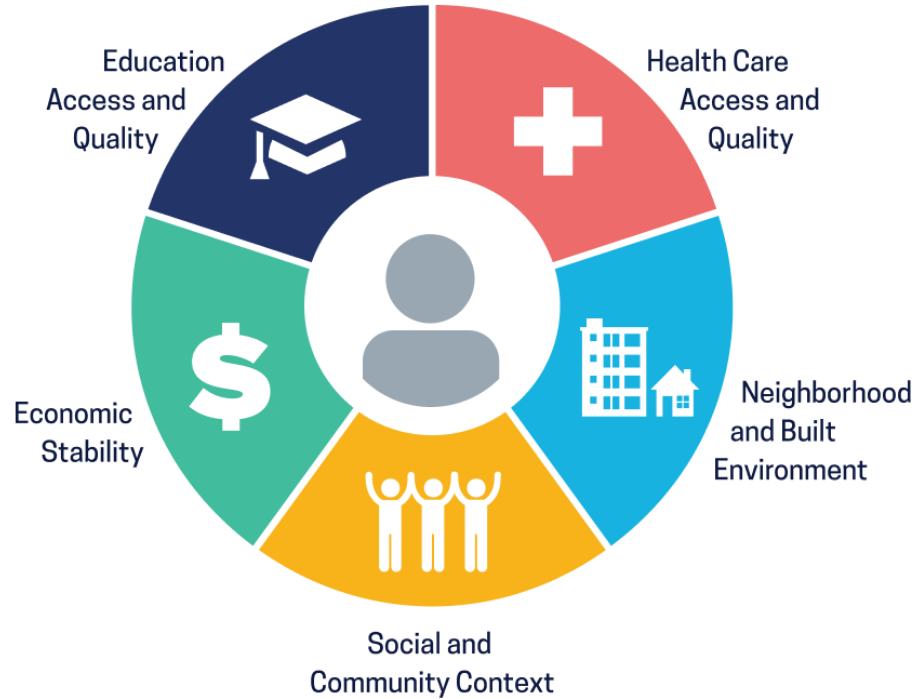
Preliminary Themes and Recommendations

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Theme A:

Upstream social determinants of health are fundamental drivers in the syphilis outbreak among American Indians.

Social Determinants of Health



Social Determinants of Health

*Low Sexual Health Literacy
*Limited Educational Opportunities



*Maternal Health Crisis
*Mistrust in Healthcare System
*Fragmented Healthcare

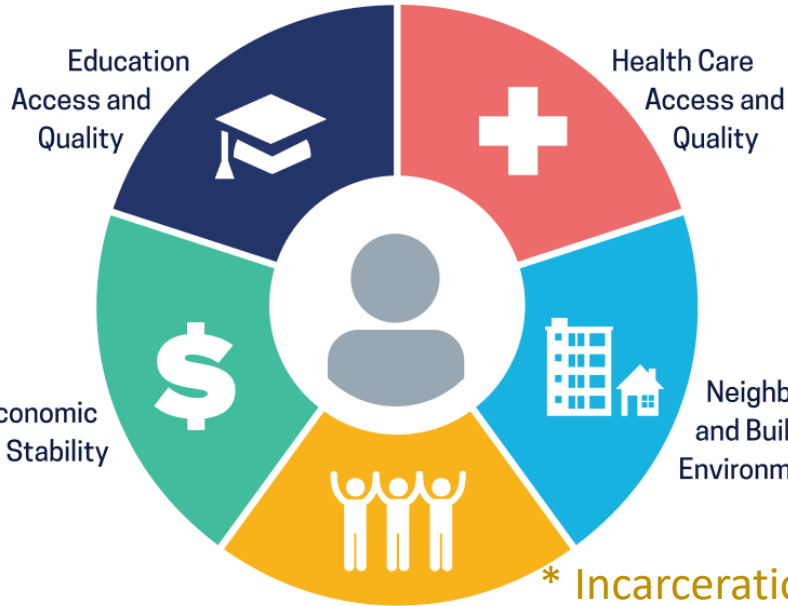
*Lack of Transportation
*Rural Communities
*Housing Crisis

*Housing Crisis
*Poverty
*Few Employment Opportunities

* Incarceration
* Discrimination
* Intimate Partner Violence
* Substance Use

Social Determinants of Health

*Low Sexual Health Literacy
*Limited Educational Opportunities



*Maternal Health Crisis
*Mistrust in Healthcare System
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* Incarceration
* Discrimination
* Intimate Partner Violence
* Substance Use

Transportation issues impact syphilis care and treatment in both rural and urban areas.

[Patients] have no way of getting back home after getting to the hospital because of lack of transportation. Once they get sent by EMS, they have no way to get back. They don't have family that have a vehicle, no one has reliable transportation. And even if they do, they don't have gas money to get anywhere. So transportation is a huge issue and a barrier for a lot of things – Social Worker

Transportation issues impact syphilis care and treatment in both rural and urban areas.

- IDI participants shared that **transportation was their biggest barrier**
 - *Transportation is the biggest issue here...you can't get anywhere...you need transport, especially in the winter...[What we need is] steady transport for [pregnant women with syphilis], to do [treatment] right away. – IDI-005*

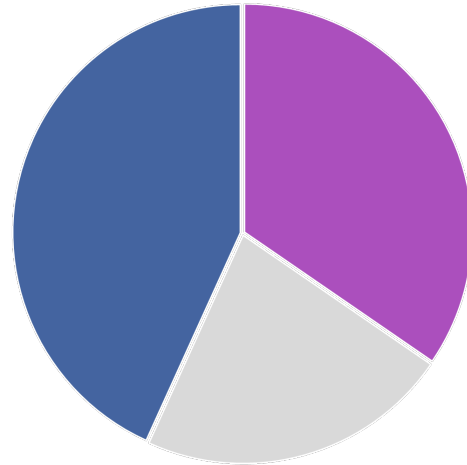
Transportation issues impact syphilis care and treatment in both rural and urban areas.

Experience of the DIS team:

- No public transportation available in any of the areas Epi Aid DIS team worked
- Economic situation does not allow for other transport services (rideshare)
- 13 of 14 clients would not have been treated without transportation services provided by DIS team

Adequate prenatal care is inaccessible to those most at risk.

Among birthing parents of congenital syphilis infants:



35% had **no prenatal care**

In the United States, **2.1%** of pregnant mothers did not receive prenatal care in 2021.¹

Adequate prenatal care is inaccessible to those most at risk.

Among birthing parents of congenital syphilis infants:

43% accessed prenatal care in the **2nd or 3rd trimester**



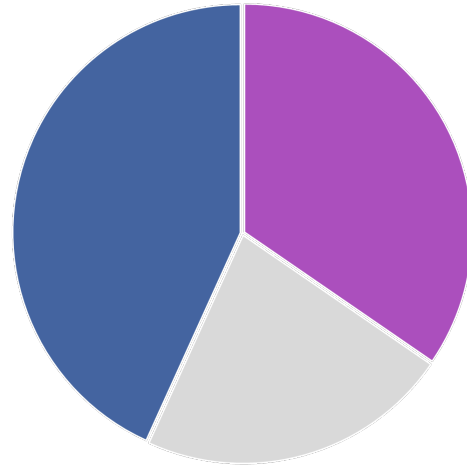
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Among birthing parents of congenital syphilis infants:

43% accessed prenatal care in the **2nd or 3rd trimester**



35% had **no prenatal care**

In the United States, **2.1%** of pregnant mothers did not receive prenatal care in 2021.¹

Only **22%** accessed prenatal care in the **1st trimester**

Adequate prenatal care is inaccessible to those most at risk.

- **Limited OB/GYN providers** in Rapid City, and even more limited outside Rapid City
 - OHC midwives caring for over 200 patients between 2 providers
 - *One of the problems we hear is lack of providers – someone is trying to see a midwife in ... and there isn't anyone they can see...We have moms that say they moved up here to Rapid to get prenatal care. – Social Worker*
- **Limited to no penicillin available in many outpatient OB clinics**

Punitive policies complicate prevention, diagnosis and treatment of people with syphilis during pregnancy.

- In South Dakota, **reporting to CPS is mandatory** if patient has substance use during pregnancy

There is a hesitancy to present to medical care because of concern that it [substance use] will be identified as child abuse - Provider

Punitive policies complicate prevention, diagnosis and treatment of people with syphilis during pregnancy.

- Mandates regarding the **condemnation of houses involved in meth use** result in housing instability in tribal communities.

I can see it driving through areas – entire communities boarded up as an impact of meth. - Public Health Nurse



Theme A: Upstream social determinants of health are fundamental drivers in the syphilis outbreak among American Indians.

Preliminary Recommendations:

To counter transportation barriers:

- Consider **mobile testing and treatment**
- Allow DIS and PHNs to **transport patients to care.**

Theme A: Upstream social determinants of health are fundamental drivers in the syphilis outbreak among American Indians.

Preliminary Recommendations:

To counter transportation barriers:

- Expand **field treatment services**
- Ensure consistent access to **presumptive and preventive therapy**
- Consider introducing **rapid testing for specific populations:**
 - Providers or DIS should be provided a framework for appropriate patient selection (i.e. patients with no known history of syphilis, not otherwise eligible for presumptive therapy, pregnant people).
 - Pair with formal confirmatory treponemal/non-treponemal testing

Theme A: Upstream social determinants of health are fundamental drivers in the syphilis outbreak among American Indians.

Preliminary Recommendations:

To address gaps in prenatal care:

- Adopt a **no-wrong-door approach** to care of pregnant persons.
- Integrate syphilis screening and linkage to care in **non-traditional settings**
- Continue to **investigate how punitive policies impact care** of pregnant persons

Theme B:

Syphilis is not well understood.

Knowledge gaps about syphilis transmission and outcomes exist in the community.

- IDIs showed gaps in syphilis knowledge and awareness
 - IDI-005 knew of someone who had syphilis and heard that it closed her ‘urethrian tubes;’ *“I don’t know if it was true or not but it spooked me.”*
 - IDI-001 did not know how she got syphilis. She knew you could get it from a sexual partner, but her boyfriend (now husband) was negative. *“How is he negative and I’m positive?”* She thought she got it from sharing a drink with someone who had syphilis.

Knowledge gaps about syphilis transmission and outcomes exist in the community.

DIS interviews found that a majority of people were aware of syphilis by name but **none** could explain its effects, how it spreads, or how it affects the baby

*In some patient's charts, they [the patient] think that they get treated and that's that, and they don't think they can get it again, or **they think they get one dose and they are done.** - Nurse*

There are also gaps in provider knowledge.

- Based on chart abstraction findings there are **areas for improvement**:
 - Inconsistent use of **follow-up titers** after treatment and difficulties with interpretation
 - **Maternal treatment** started >30 days prior to delivery being considered inadequate if 2nd or 3rd dose falls within 30 days

There are questions regarding staging, especially regarding repeat titers and some confusion around that. – Provider

Theme B: Syphilis is not well understood.

Preliminary Recommendations:

At the community level:

- Continue **education and awareness campaigns**; consider expanding into schools and jails/prisons.
- Leverage strong **tribal community networks** for local outreach and education
- KIIs and IDIs showed that Aunties were a trusted source of sexual health information for women; **provide education to Aunties** and work with/through them to increase syphilis knowledge to those most at risk

Theme B: Syphilis is not well understood.

Preliminary Recommendations:

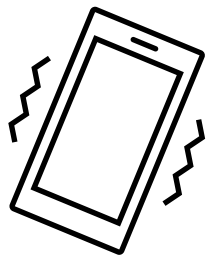
At the provider level:

- Continued **education on symptoms, staging, complications** and treatment
 - **Presumptive treatment**, while ordering and awaiting labs, is vital
 - Obtain follow-up non-treponemal titers following treatment at **appropriate intervals**
 - Appropriate staging ensures **appropriate use of antimicrobials**
- Increase understanding of and comfort with interpretation of rapid tests

Theme C:

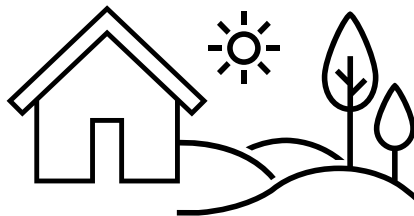
There is a need for enhanced field investigation and contact tracing to stop community transmission.

82% Syphilis cases interviewed by South Dakota DIS (2020-2023)



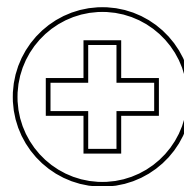
57%

Phone interview



19%

Field interview



19%

Medical or IHS facility

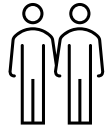
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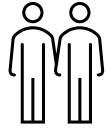
Contact tracing by staff at IHS facilities is limited by understaffing and challenges with large catchment areas.

The reservation is the size of the state of Connecticut, which can make tracing across the full jurisdiction pretty difficult. - Public Health Nurse

Female A

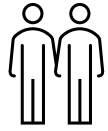


Female A



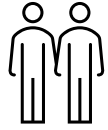
Female A

Male A



Female A

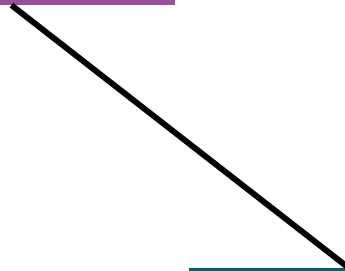
Male A

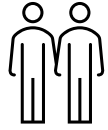


Female A

Female B

Male A





Female A

Female B

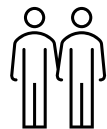
Male A



Female A

Female B

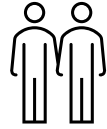
Male A



Female A

Female B

Male A



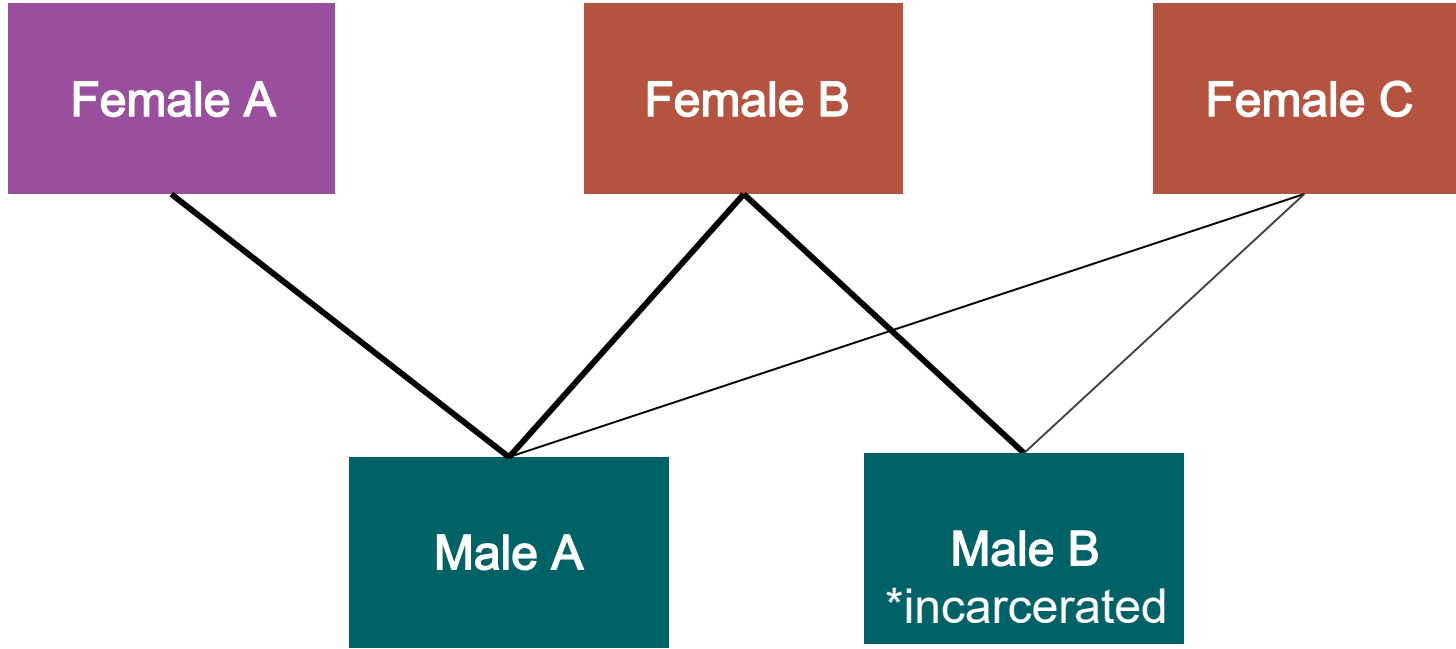
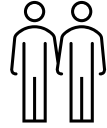
Female A

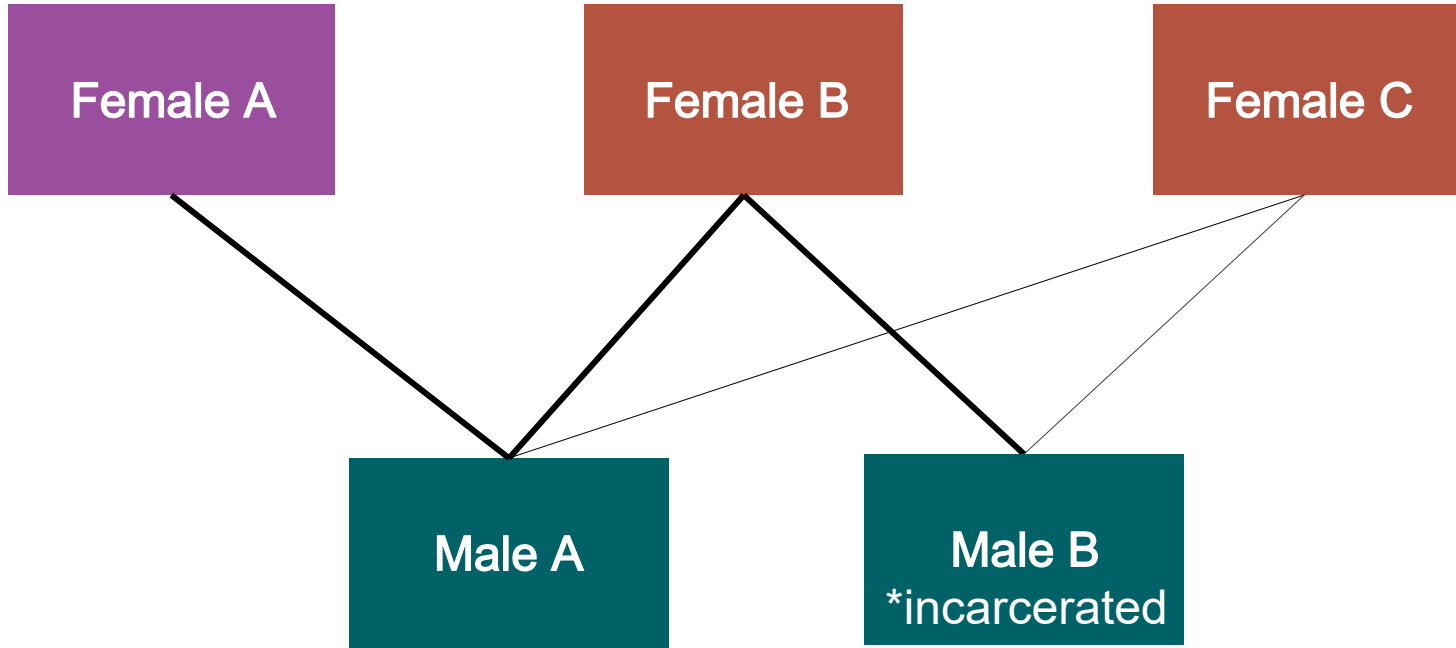
Female B

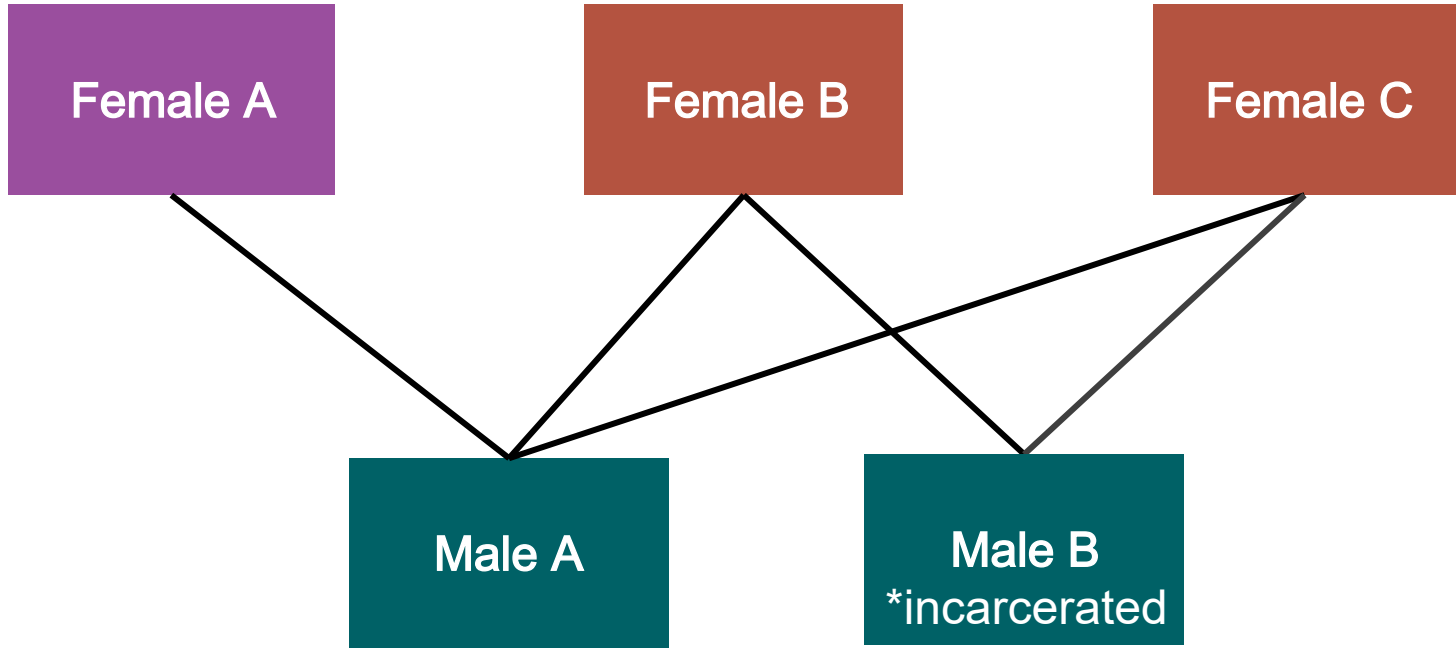
Female C

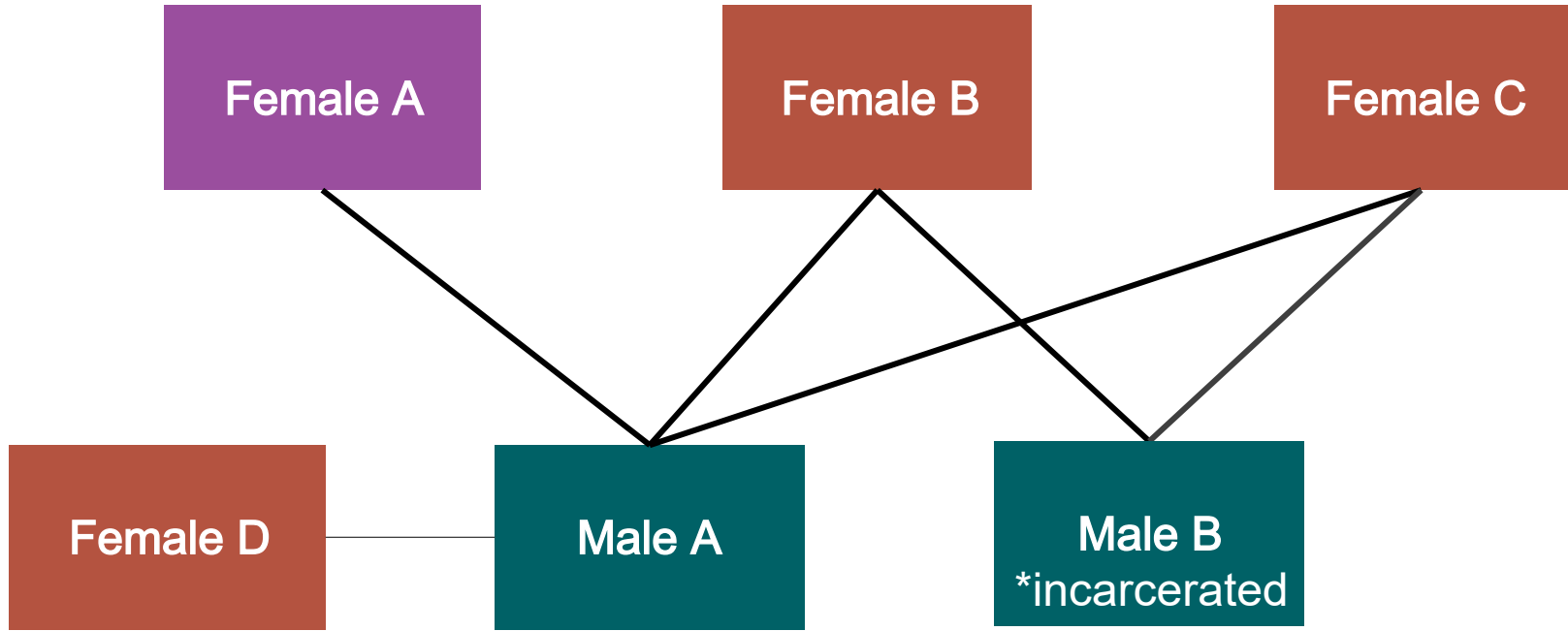
Male A

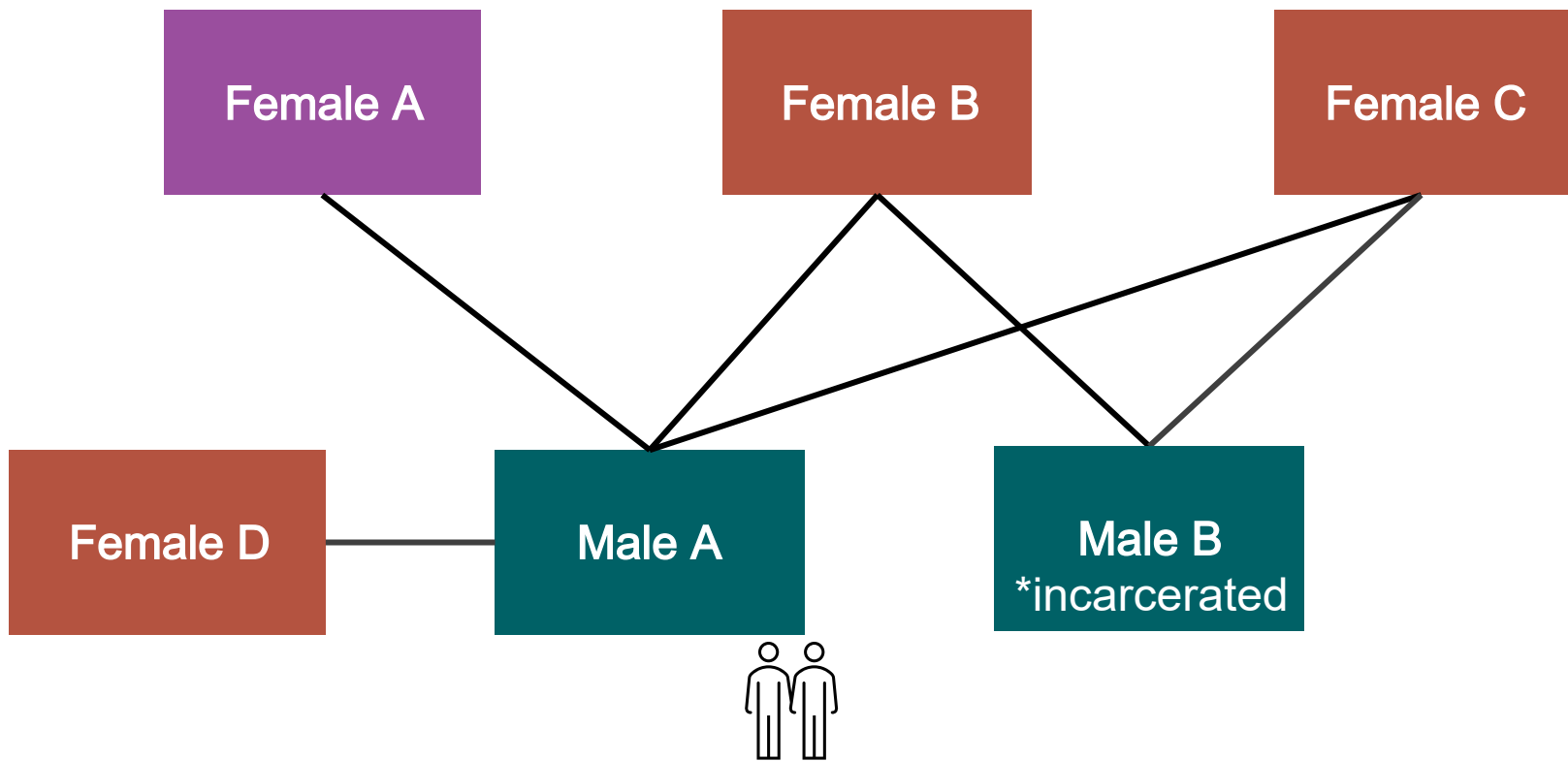
Male B
*incarcerated

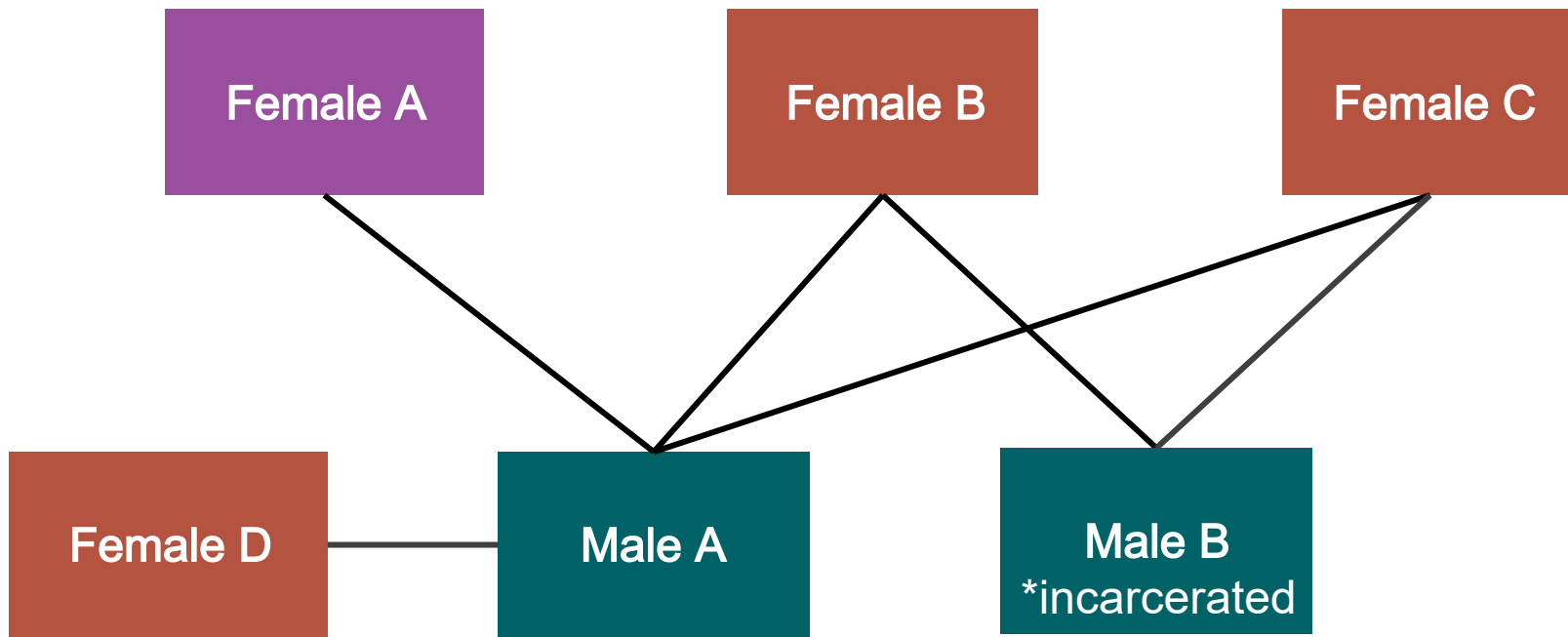
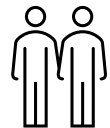


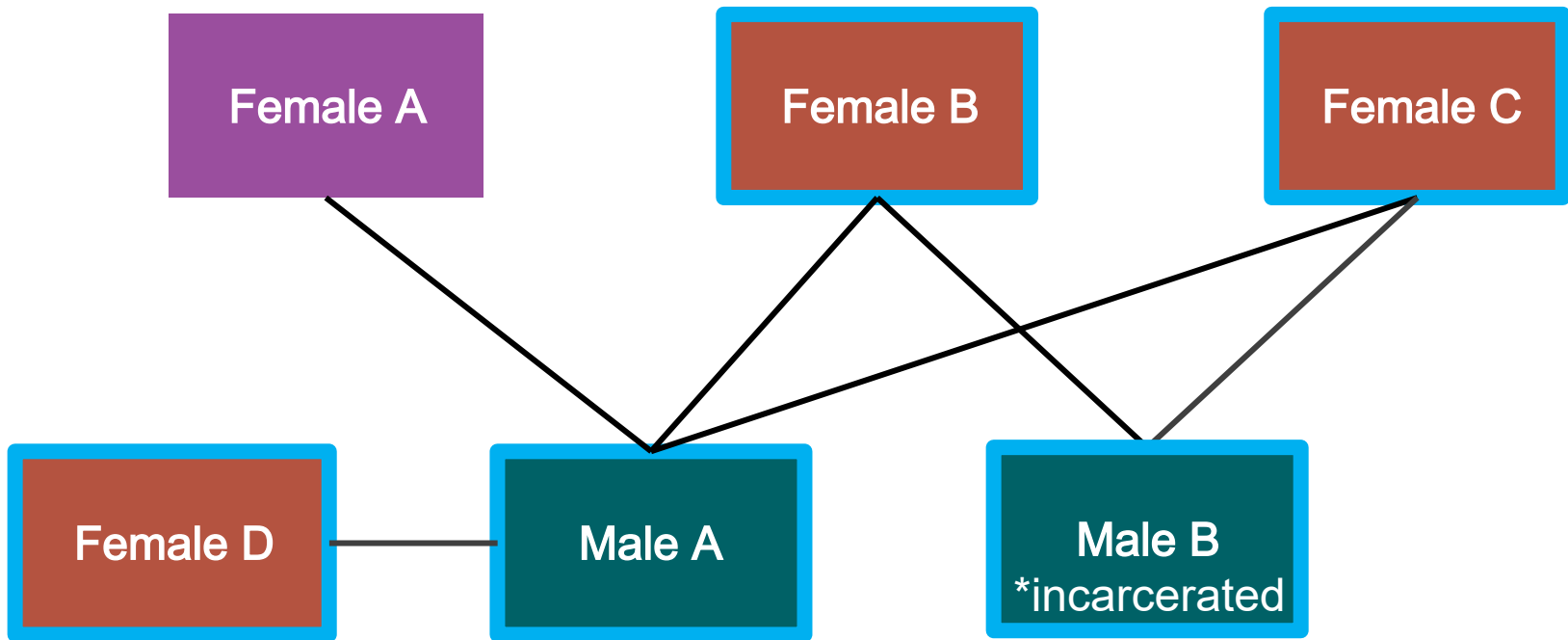


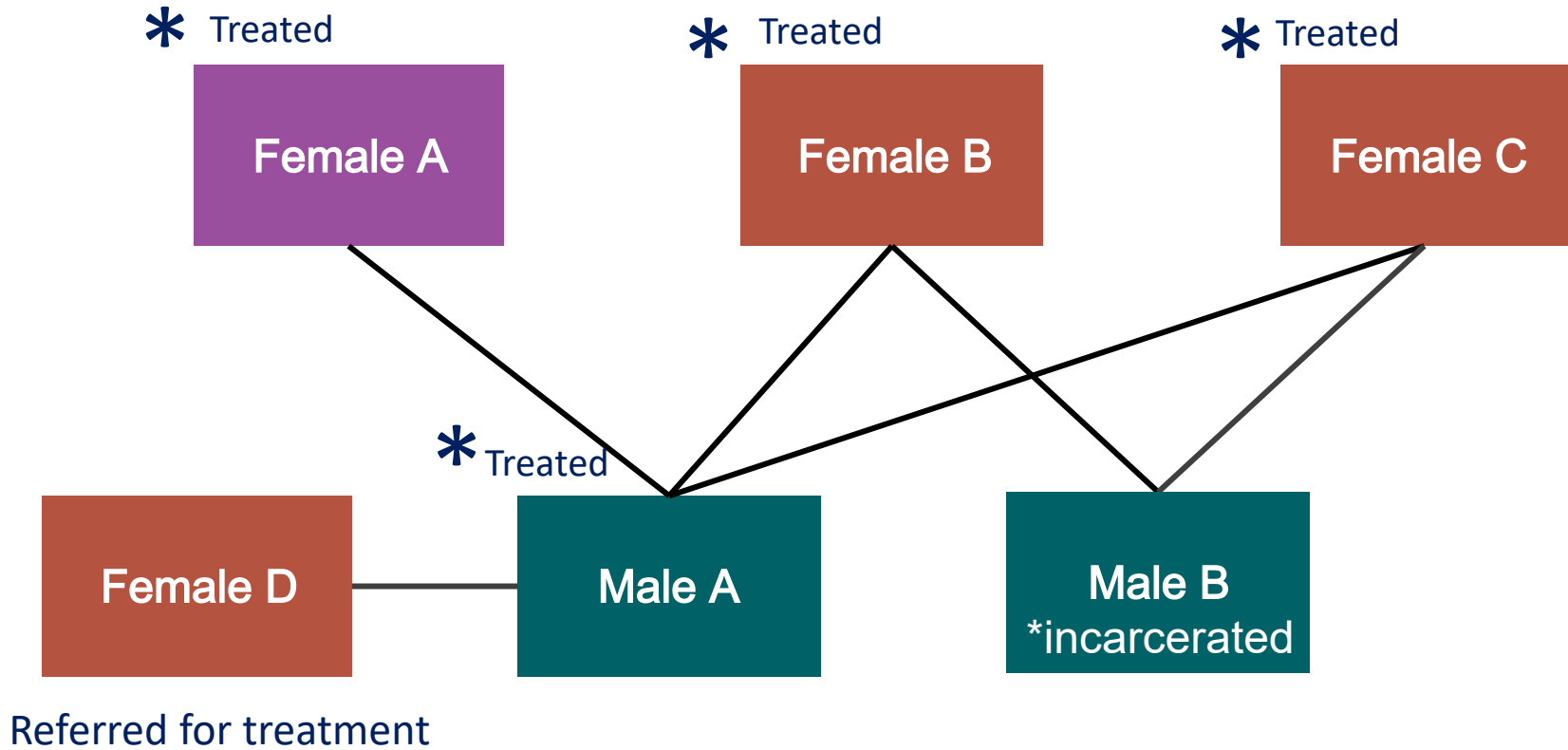












Theme C: There is a need for enhanced field investigation and contact tracing to stop community transmission.

Preliminary Recommendations:

- **Increase DIS capacity** to address need for enhanced field investigation and partner services
- Consider further **technical assistance and surge support** from CDC for disease intervention activities

Theme D:

Case management is fragmented but resources are available that can be leveraged.

Case management is fragmented.

- **Limited maternal data** at the time of delivery impacts clinical decision making for infants born to individuals diagnosed with syphilis during pregnancy
 - Of the 25 neonatal charts reviewed, 4 infants were initiated on IV penicillin and later discontinued when maternal records were located

Resources are available and can be leveraged.

- GPTLHB/GPTEC – access to incentives and other resources; direct programming; testing initiatives; direct care for the community; epidemiologic capacity; advocacy
- Tribal health services – access to transportation (CHRs); additional resources; direct programming; invaluable insight into community; advocacy
- State DOH – receives data from various testing/treatment sites; knows who needs treatment; DIS; epidemiologic capacity
- IHS – provide direct care for community; collect data; PHNs

Local best practices can be implemented by GPTLHB.

Facility-level best practices:

- *We have an **interdisciplinary team** so that we can meet weekly and take a multidisciplinary approach. That has been working quite well.*
 - Public health nurse
- **Action plan for implementation** of IHS CMO recommendations, engaging key stakeholders with timely deliverables.

Local best practices can be implemented by GPTLHB.

- **Tribal - IHS collaboration**

- *We have a **mini-lab** in the back of our SUV... we have a portable centrifuge for spinning down blood. We can find people in homes, on the street, in treelines, etc and we **offer testing** and sampling in all these locations, and also **offer transportation** to clinics.*
- Public Health Nurse

Local best practices can be implemented by GPTLHB.

- **OHC - DOH collaboration**

- *If they [SD DIS] locate someone they call and let [us] know. [I] am able to do **field based PCN treatment**. If they do not have a PCP we make an appointment to establish care or set up ... **holistic follow up** and additional needs. - Public Health Nurse*

Theme D: Case management is fragmented but resources are available that can be leveraged.

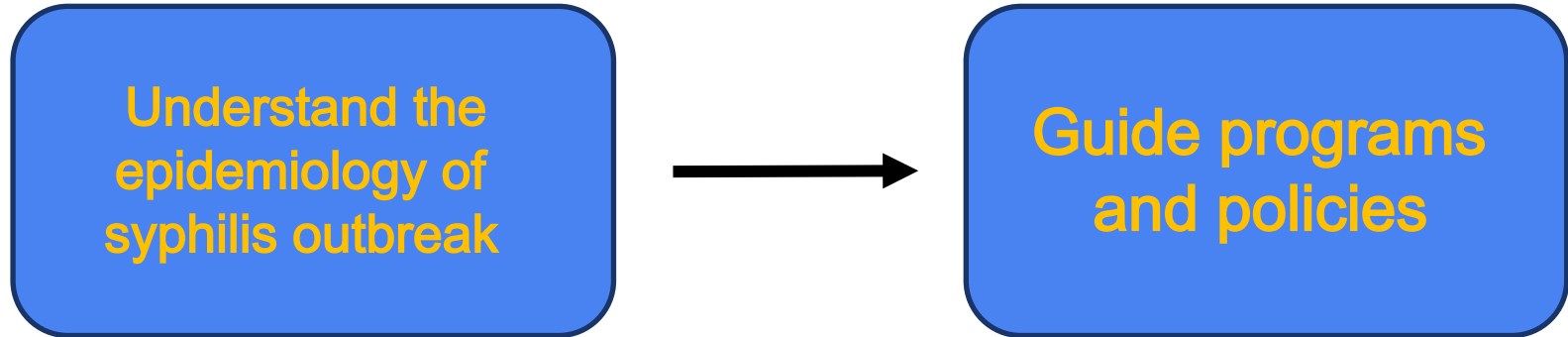
Preliminary Recommendations:

- **Establish syphilis task force including key partners**
 - GPTLHB/GPTEC, SD DOH, IHS, SDUIH, primary community clinical providers and other community advocacy groups
- **Improve coordination across IHS, between GPTEC and State/IHS for services and case management**
 - Everyone holding pieces of the puzzle that leads to success
 - **Communication** across facilities to provide optimal case management

Theme E:

Data access issues are cross cutting.

Data sharing across all partners is needed to:



Theme E: Data access issues are cross cutting.

Preliminary Recommendations:

Improve data sharing between public health partners (GPTLHB/GPTEC, DOH, IHS, Tribes) to facilitate and coordinate syphilis prevention and control activities.

Agenda

Overview

Summary of Activities

Describing the Syphilis Outbreak in Great Plains Area

Preliminary Themes and Recommendations


Next Steps

Epi Aid Next Steps

- Data sharing from North Dakota and Iowa
- Complete quantitative and qualitative data analysis
- Submission of Final Report to GPTLHB within 3 months
- Discussions on further dissemination of findings

Resources

- **Meghan Curry O’Connell - Email: Meghan.Oconnell@gptchb.org; 605-510-7786**
 - Chief Public Officer, GPTLHB
- **IHS Echo Session Thursday July 27 for CME: <https://www.indiancountryecho.org/resources/syphilis-response-best-practices-in-indian-country-july-27-2023/>**
- **stopsyphilis.org**
- **CDC Disease Intervention Support and Assistance Team: dirbta@cdc.gov**
- **CDC STI treatment guidelines ([STI Treatment Guidelines \(cdc.gov\)](https://www.cdc.gov/std/treatment-guidelines/))**
- **National STD Curriculum (www.std.uw.edu)**
- **NNPTC clinical consult service (www.stdccn.org/render/public).**
- **National Network of Disease Intervention Training Centers (<https://nationalditc.org/>)**



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Thank you!

