



University of Idaho  
WWAMI Medical Education



# ECHO IDAHO: SYPHILIS IN PREGNANCY

## Overview & Epidemiology

8/12/20

Lindsay Haskell, Epidemiologist - Central District Health

&

Stacy Seyb, MD, Maternal Fetal Medicine – St. Luke's Health System

**The speakers have no relevant financial relationship(s) to disclose.**

The University of Idaho, WWAMI Medical Education Program is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

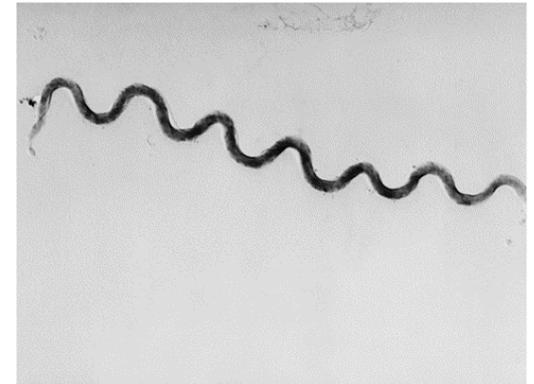
The University of Idaho, WWAMI Medical Education Program designates this live activity for a maximum of 1.0 AMA PRA Category 1 Credit(s)<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

# Learning Objectives

- Understand the increasing prevalence of syphilis in the USA and Idaho
- Effects of syphilis on pregnancy and neonatal outcomes
- Screening recommendations in pregnancy
- Treatment in pregnancy

# Syphilis

**FIGURE 3** Most common manifestations of secondary syphilis. A, Condyloma Lata on the perineum. This lesion can be uncomfortable, often described by the patient as feeling “sore” B, Palmer and planter rash. Source: 3A. Image courtesy of Joyce Akers and the Centers for Disease Control Public Health Image Library. 3B. Reprinted from Rac et al.<sup>11</sup> with permission from Elsevier [Colour figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



Rac et.al. Prenatal Diagnosis. 2020;1–12

# Syphilis

**TABLE 1** Clinical findings of Syphilis according to stage of disease<sup>8-10</sup>

Stage of Syphilis	Clinical findings	Location/characterization
Primary Syphilis	Chancre Lymphadenopathy	
Secondary Syphilis	Rash (Figure 3A). Patchy alopecia Condyloma lata (Figure 3B) Mucous patches Generalized symptoms Parenchymal effects (less common)	Distributed widely, commonly involve the palms and soles. Macular, papular, papulosquamous, pustular, and nonpruritic. Scalp hair or eyebrows. Warm/moist intertriginous areas such as vulva, inner thighs, axillae, perineum, skin under breasts Mouth, throat, or genital areas Fever, Sore throat Weight loss, Malaise Anorexia, Meningismus Hepatitis, Gastrointestinal symptoms, Nephrotic syndrome, Arthritis Periostitis, Optic neuritis
Tertiary Syphilis	Granulomatous lesions Cardiovascular	Skin, mucous membranes, skeleton Typically Aortic lesions
Neurosyphilis	CNS Ophthalmologic	Cognitive dysfunction, motor or sensory deficits, auditory symptoms, cranial nerve palsies, meningitis, stroke, Tabes Dorsalis (syphilitic myelopathy) Uveitis, retinitis, optic neuritis, Argyll Robertson pupils

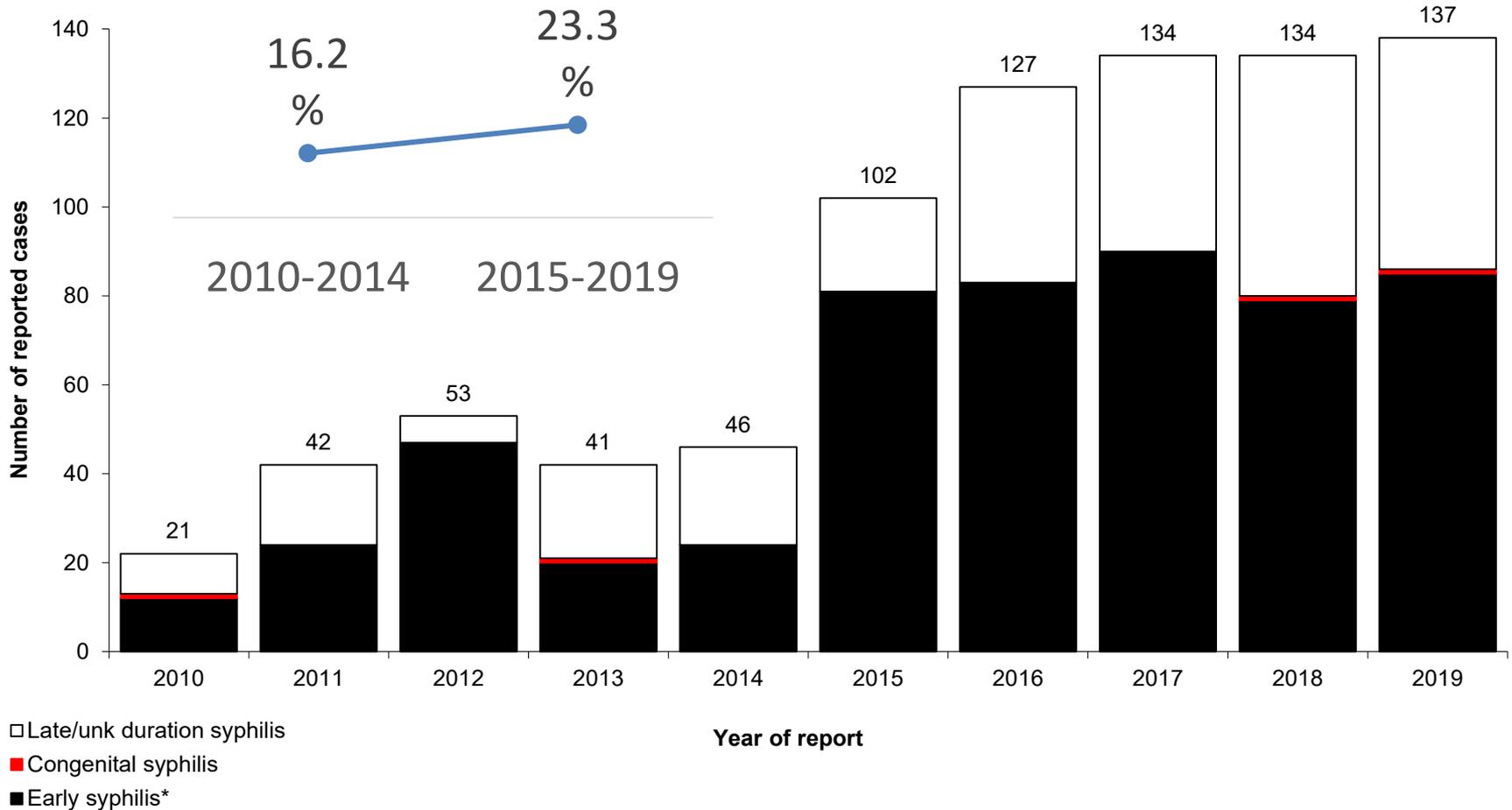
Rac et.al. Prenatal Diagnosis. 2020;1–12

# National Trends

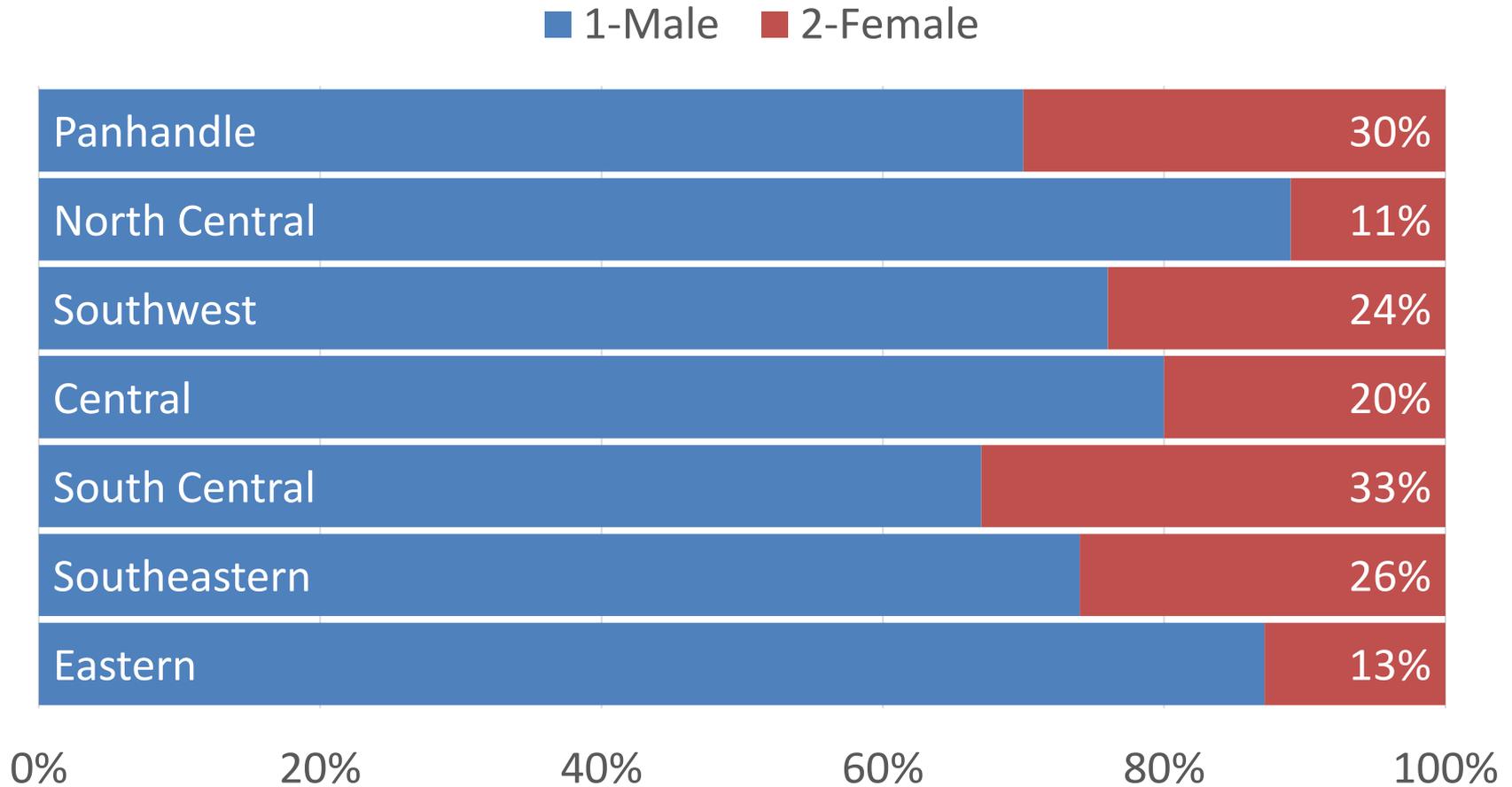
- 2018 marked the highest number of early syphilis cases reported since 1991 (over 115,000).
- Women make up 14% of syphilis cases in the US (2018).
- Congenital Syphilis cases increased 261% from 2013-2018 (362 to 1306 cases).
- Case rate from 11.6/100,000 in 2014 to 33.1 in 2018
- Nationally, the most commonly missed opportunities for prevention of congenital syphilis are a lack of adequate maternal treatment despite timely diagnoses of syphilis and a lack of timely prenatal care, followed by late identification of seroconversions.

# Syphilis in Idaho 2010-2019

% of syphilis among women



# Proportion of syphilis cases by sex and Public Health District—Idaho, 2015–19



# Recent Congenital Syphilis Stories

- There were 3 congenital syphilis cases reported during 2015-to date: 1 in 2018 and 1 under investigation for 2019, 1 in 2020.
- The 2018 congenital syphilis case was in an infant born to a 40-44 year old resident of PHD5. The mother was asymptomatic and had a low titer. She did not recollect her partner having symptoms; the partner was difficult to contact and was ultimately classified as a case of late/unk duration syphilis. A provider hand-off occurred between two providers while stage was being determined and the full 3 weekly treatments were not completed.
- The 2019 case in an infant born to a 22 year old resident of PHD3. Like the PHD5 case, the mother received an initial 1x treatment at about 16 weeks but in this case, the PHD3 epi stressed 3x weekly treatment for the appropriate stage and it was completed. Follow-up syphilis decreased to non-reactive in the third trimester but increased to a level indicative of re-infection or treatment failure on a test drawn at delivery.

# A look at 2020 so far

- There have been 77 cases of syphilis and 1 congenital syphilis case reported in Idaho during the first 6 months of 2020.
- 20 (26%) were among persons reported as women.
- 18 (90%) were women were of childbearing age (15-44 years), and over half of women with syphilis during this time period were under 30 years of age.
- Median age was 29.0 years among women
- There have been 4 women in 2020 reported as pregnant. Median age of these women was 22.5 years. Three have delivered and none so far have been reported as congenital infection.

# Syphilis in Pregnancy

- Vertical Transmission can happen at any point in disease or pregnancy
  - Primary and secondary – 50%
  - Early latent – 40%
  - Late latent and early tertiary 10%
- Earlier gestational age associated with poorer outcomes
  - 25% of affected pregnancies end with Intrauterine demise/miscarriage/stillbirth
  - Congenital Syphilis:
    - neonatal death
    - Asymptomatic
- Nontreponemal titer associated with outcomes
  - Titers >1:8 transmission rate 25%
  - Titers <1:8 transmission rate 4%
- Appropriate treatment in pregnancy improves outcomes by a factor of 12
  - Before 28 weeks best –
  - at least 30 days prior to delivery

# Syphilis in Pregnancy

- Prenatal Care and early serum screening paramount
  - CDC 2015 report of congenital syphilis cases
    - No prenatal care for 22%
    - At least one PN visit – 78%
      - 43% no treatment
      - 30% inadequate treatment
- No ultrasound findings before 20 weeks
- Repeat screening 28 weeks and at delivery
- High risk
  - High prevalence communities
  - HIV patients
  - Incarceration history
  - Commercial Sex Work
  - Exposure to infected partner

# Congenital Syphilis

## Ultrasound findings

- Hepatomegaly
- Fetal Anemia
- Placentomegaly
- Polyhydramnios
- Fetal Hydrops
  - Ascites
  - Pericardial effusion
- Cardiomegaly
- Splenomegaly



# Treatment

- Benzathine penicillin G 2.4 million units IM x 1
  - No accepted alternatives at this time
  - Penicillin allergy requires desensitization
- Three doses no more than 7 days apart if:
  - Latent
  - Unknown duration
  - Reinfection
- Monitor for Jarisch-Herxheimer (JH) reaction
  - Endotoxin and lipoprotein inflammatory response
- Monitor for adequate treatment - monthly
  - Nontreponemal titers (4 fold decrease optimal)
- Make sure partner is treated!!

# Key Points

- Idaho has a rising trend with syphilis, including infections among women of childbearing age
- Public health districts help ensure treatment and follow up with individuals diagnosed with syphilis
- Prenatal care access and adequate screening are important for earliest diagnosis
- Adequate treatment and monitoring make significant changes in outcome
- Consider repeat testing in third trimester

# References

- Rac MWF, Stafford IA, Eppes CS. Congenital syphilis: A contemporary update on an ancient disease [published online ahead of print, 2020 May 2]. *Prenat Diagn*. 2020;10.1002/pd.5728. doi:10.1002/pd.5728 Rac MW, Revell PA, Eppes CS.
- Syphilis during pregnancy: a preventable threat to maternal-fetal health. *Am J Obstet Gynecol*. 2017;216(4):352-363. doi:10.1016/j.ajog.2016.11.1052
- Tsai S, Sun MY, Kuller JA, Rhee EHJ, Dotters-Katz S. Syphilis in Pregnancy. *Obstet Gynecol Surv*. 2019;74(9):557-564. doi:10.1097/OGX.0000000000000713
- Kimball A, Torrone E, Miele K, et al. Missed Opportunities for Prevention of Congenital Syphilis — United States, 2018. *MMWR Morb Mortal Wkly Rep* 2020;69:661–665. DOI: <http://dx.doi.org/10.15585/mmwr.mm6922a1>
- Idaho Department of Health & Welfare. Idaho STD & HIV Statistics <https://healthandwelfare.idaho.gov/Health/HIV,STD,HepatitisSection/STDHIVAIDSStatistics/tabid/393/Default.aspx>

ECHO Idaho: Syphilis in Pregnancy

**JOIN US FOR OUR NEXT SESSION!**

For information, please visit [uidaho.edu/echo](http://uidaho.edu/echo)

# Ongoing Resource List

**RESOURCES FROM TODAY'S SESSION AND PAST SESSIONS CAN BE FOUND IN OUR ONGOING RESOURCE LIST.**

<https://iecho.unm.edu/sites/uidaho/download.hns?i=550>