

# Update on Syphilis in Women and Congenital Syphilis for Pediatric Providers

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STD Control Branch



Bay Area Infectious Disease Conference  
for Prenatal & Pediatric Providers

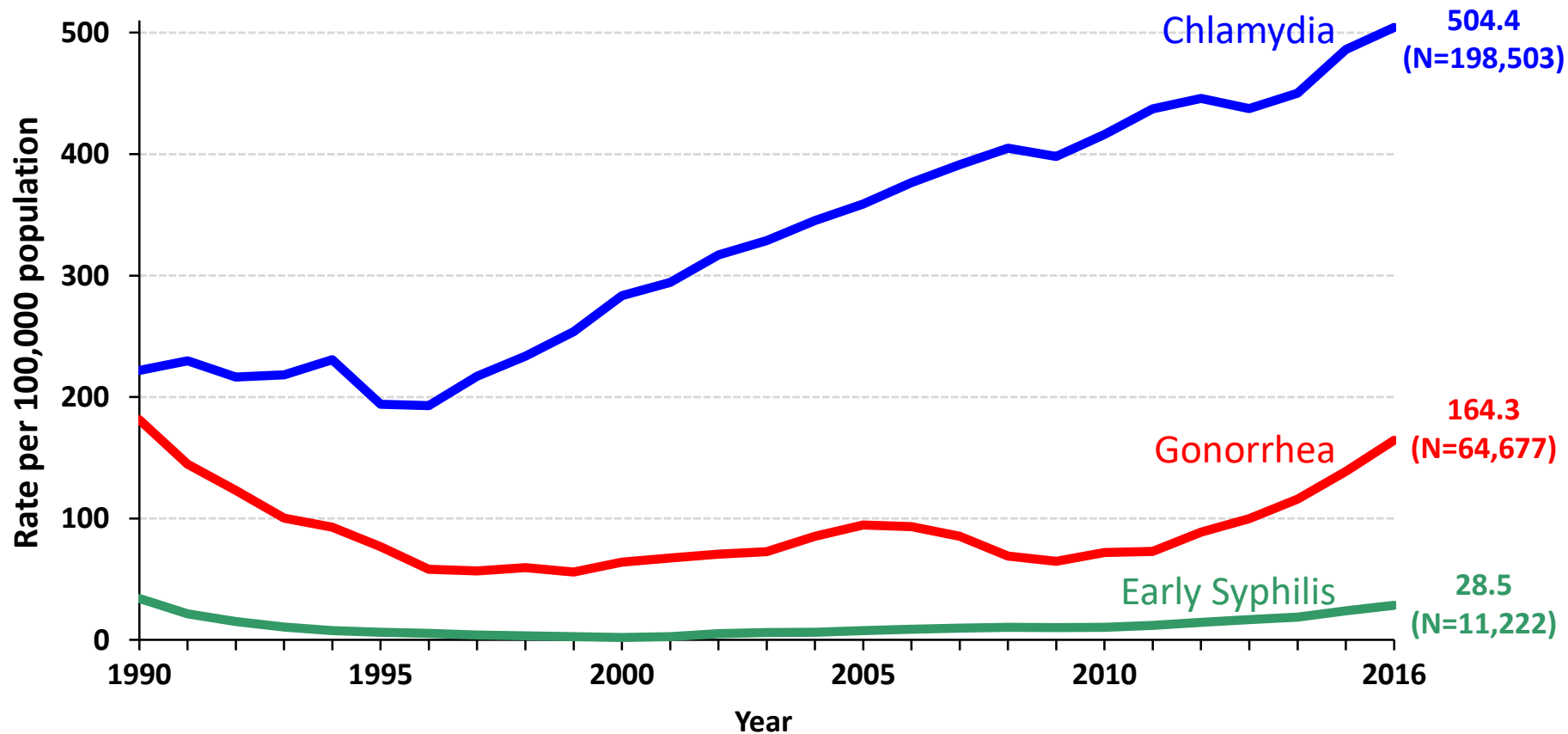
January 24, 2018

# Overview

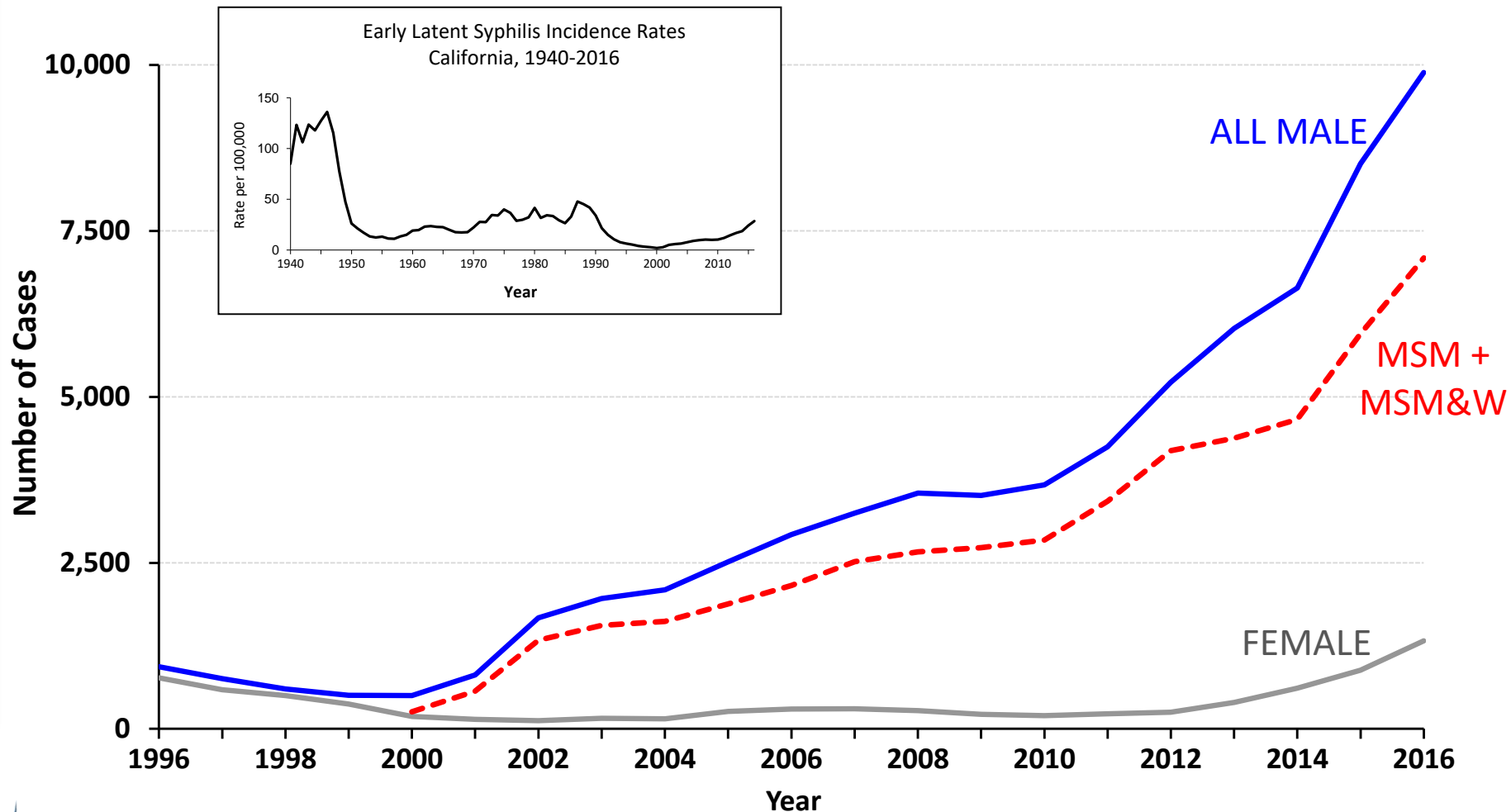
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- Summarize epidemiologic trends in syphilis in women and congenital syphilis in California
- Review recommended treatment for syphilis in pregnancy
- Describe characteristics of congenital syphilis cases in California and appropriate evaluation and management

# Chlamydia, Gonorrhea, and Early Syphilis California Incidence Rates, 1990–2016



# Early Syphilis\*, Number of Cases by Gender & Gender of Sex Partners, California, 1996–2016

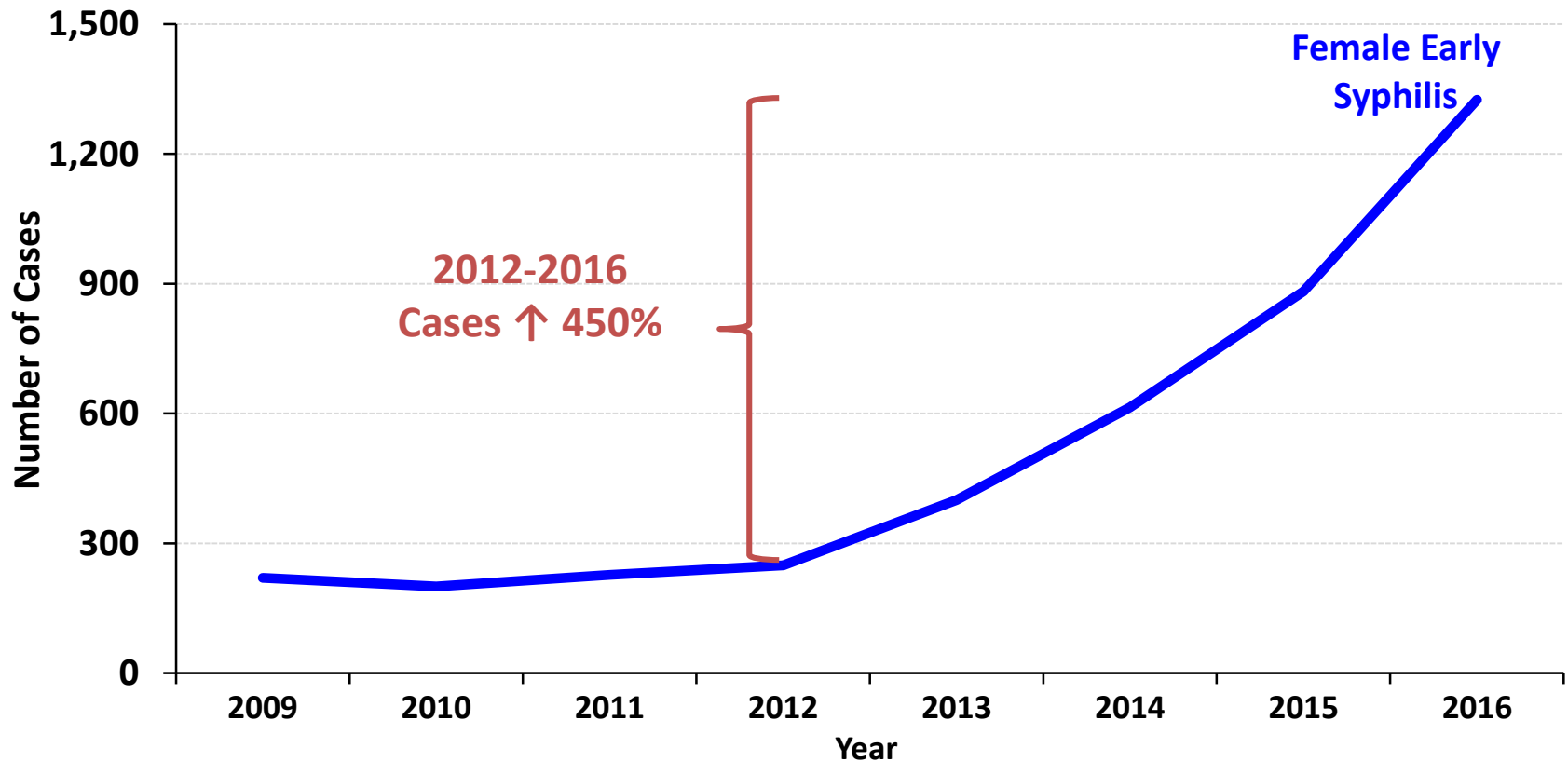


\* Includes primary, secondary, and early latent syphilis.

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# Female Early Syphilis\* Cases California, 2009–2016

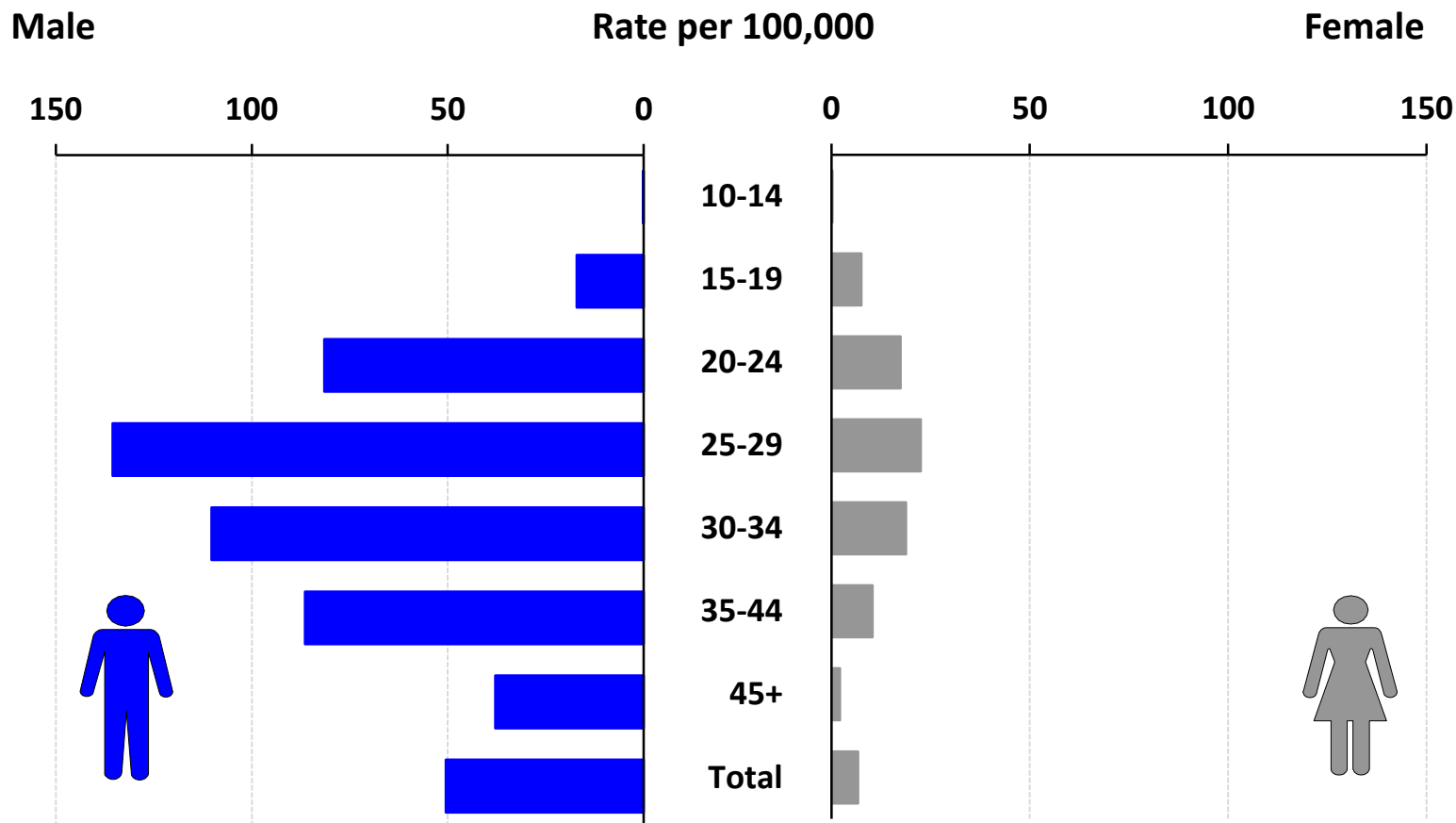


\* Includes primary, secondary, and early latent syphilis.

# Early Syphilis\*

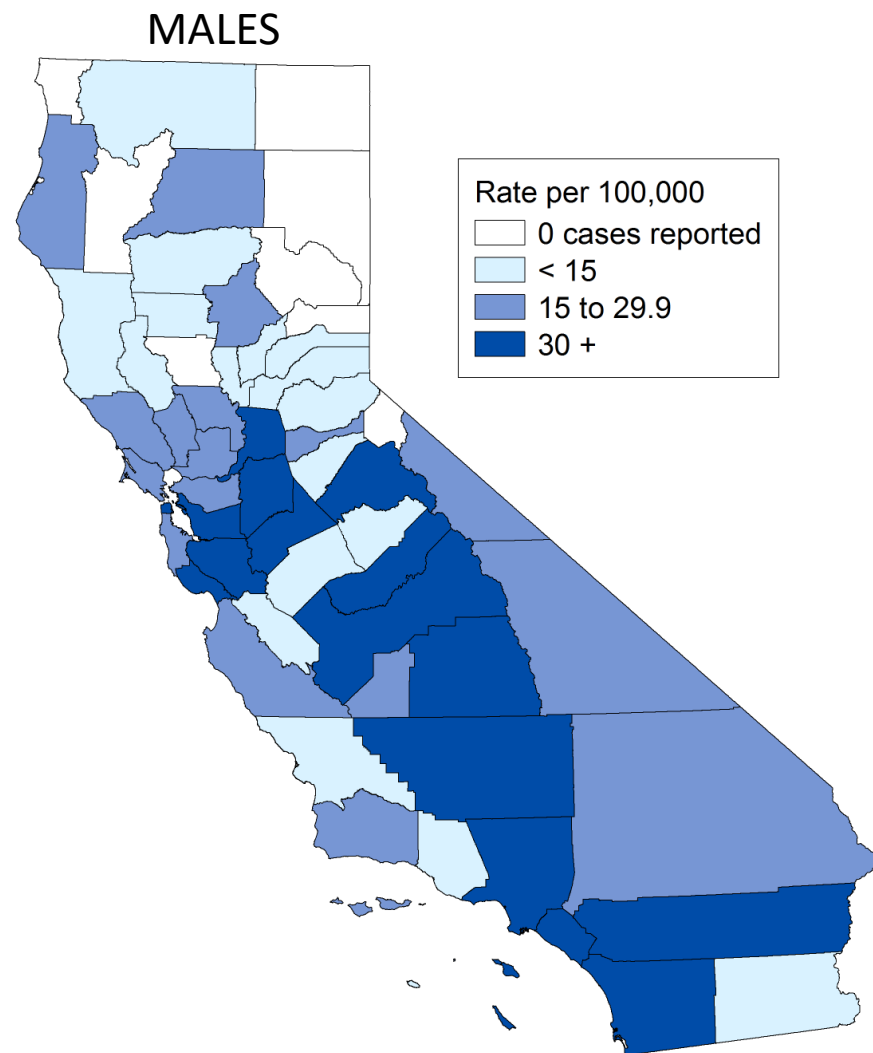
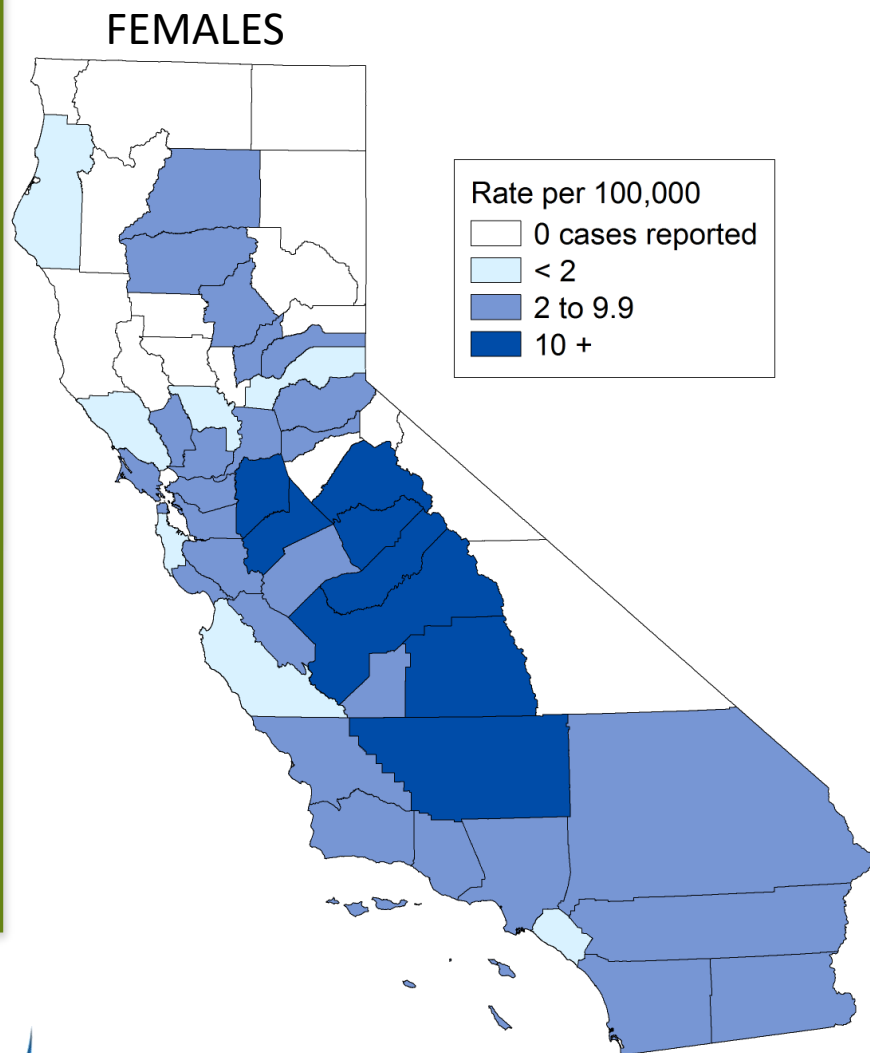
## Incidence Rates by Gender and Age Group (in years)

### California, 2016



\* Includes primary, secondary, and early latent syphilis.

# Early Syphilis\*, Incidence Rates by County and Gender California, 2016



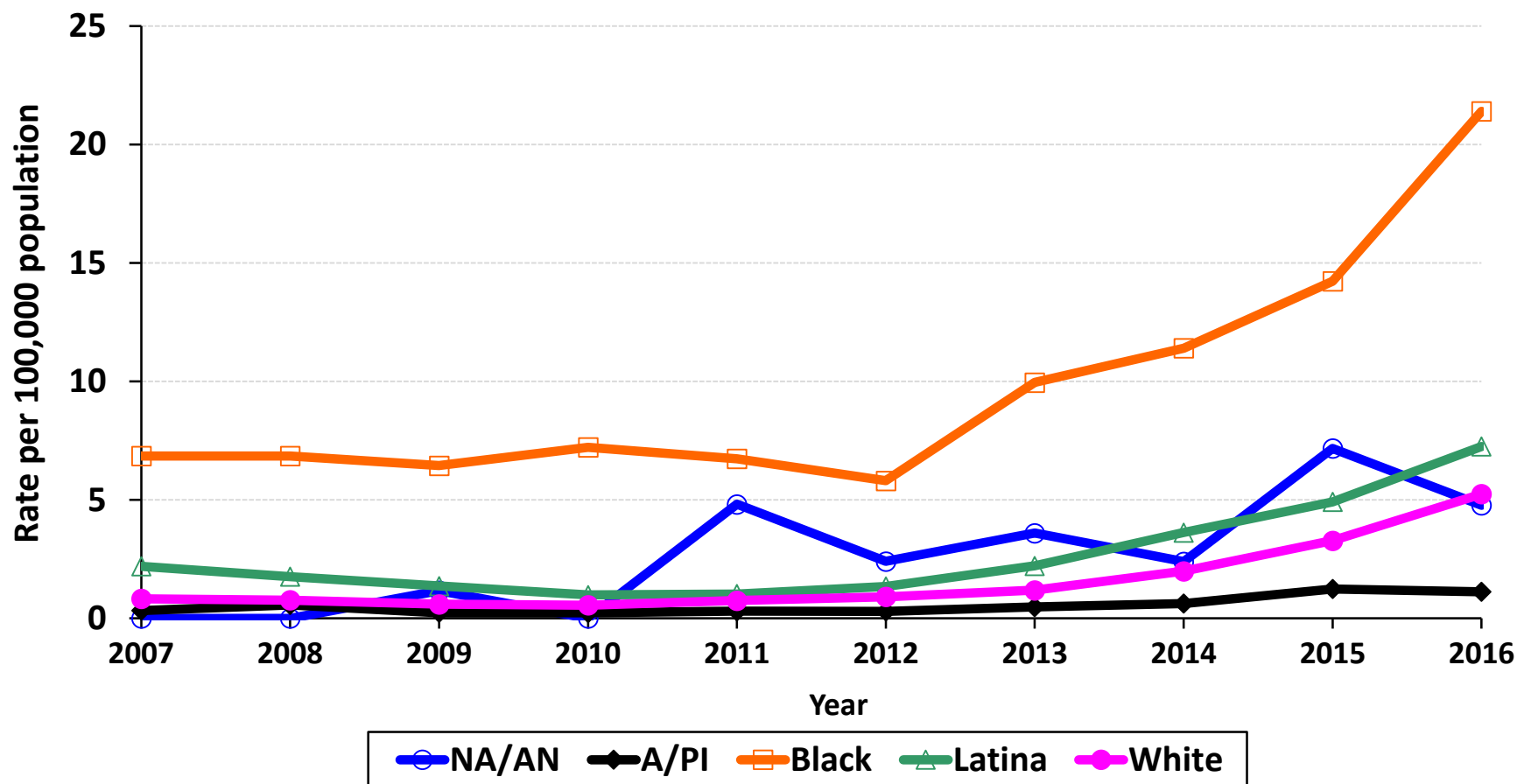
\* Includes primary, secondary, and early latent syphilis.

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# Early Syphilis\*

## Incidence Rates for Females by Race/Ethnicity California, 2007–2016



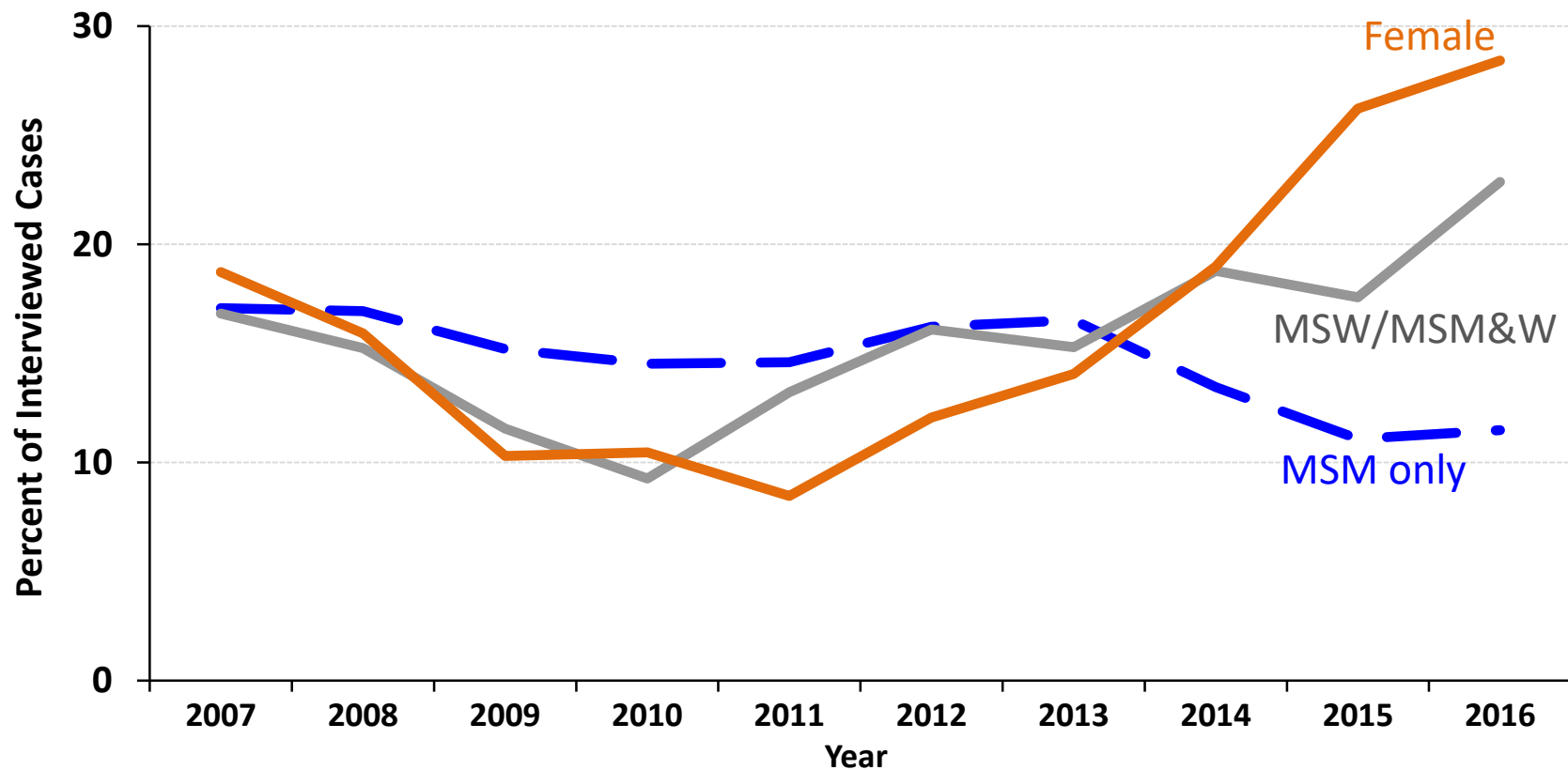
Note: NA/AN = Native American/Alaskan Native, A/PI = Asian/Pacific Islander.

Race/ethnicity "Not Specified" ranged from 0% to 6.7% of cases for females in any given year.

\* Includes primary, secondary, and early latent syphilis.



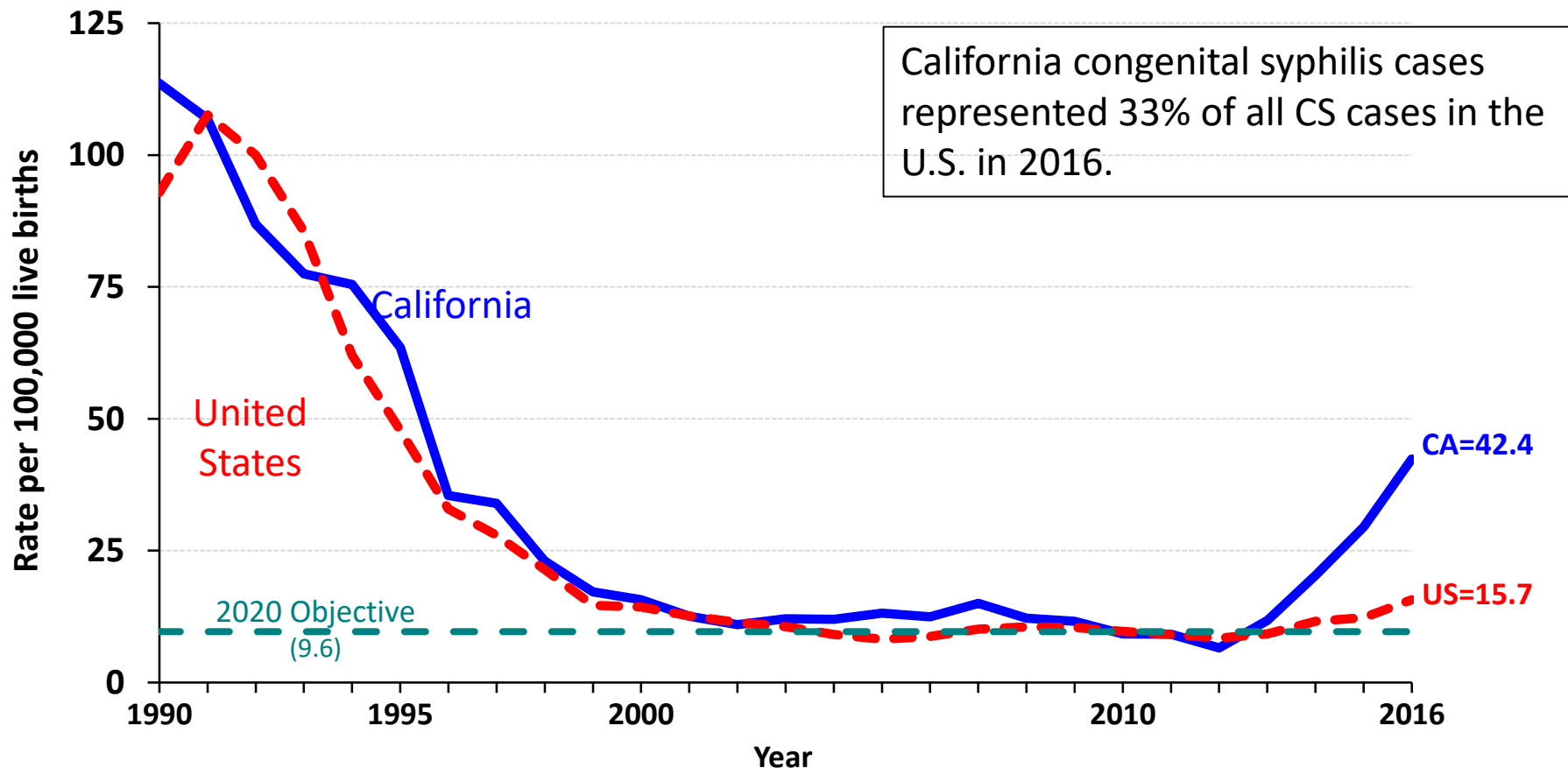
# Percent of Interviewed Early Syphilis\* Cases who Reported Methamphetamine Use, by Sexual Orientation, California, 2007–2016



MSM=Men who have sex w/men, MSW=Men who have sex w/women, MSM&W=Men who have sex with men & women

\* Includes primary, secondary, and early latent syphilis.

# Congenital Syphilis, California versus United States Incidence Rates, 1990–2016



Note: The Modified Kaufman Criteria were used through 1989. The CDC Case Definition (MMWR 1989; 48: 828) was used effective January 1, 1990. California data prior to 1985 include all cases of congenital syphilis, regardless of age.

# Congenital Syphilis — States With Highest Number of Cases and Highest Rates per 100,000 Live Births, 2016

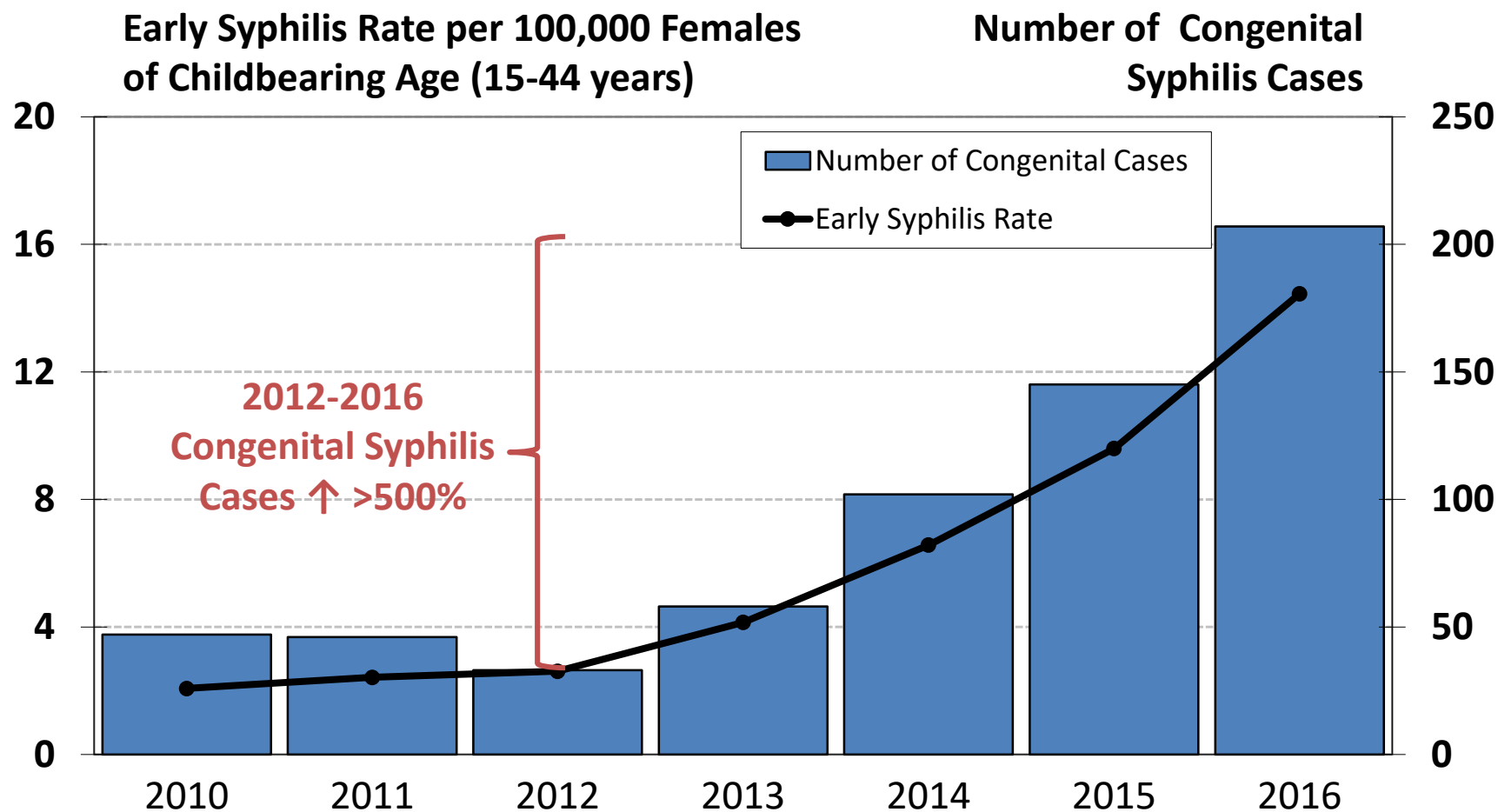
## States with Highest Number of Cases:

Rank	State	2016 Cases
<b>1</b>	<b>California</b>	<b>206</b>
2	Texas	71
3	Florida	59
4	Louisiana	48
5	Georgia	21
6	Illinois	18
7	North Carolina	16
8	Maryland	16
9	Arizona	15
10	New York	13
10	Michigan	13

## States with Highest Rates:

Rank	State	2016 Rate
1	Louisiana	74.4
<b>2</b>	<b>California</b>	<b>41.0</b>
3	Nevada	33.5
4	Florida	26.8
5	Maryland	21.6
6	Texas	17.8
7	Arizona	17.3
8	South Dakota	16.3
9	Georgia	16.0
10	Arkansas	15.6
10	South Carolina	15.6

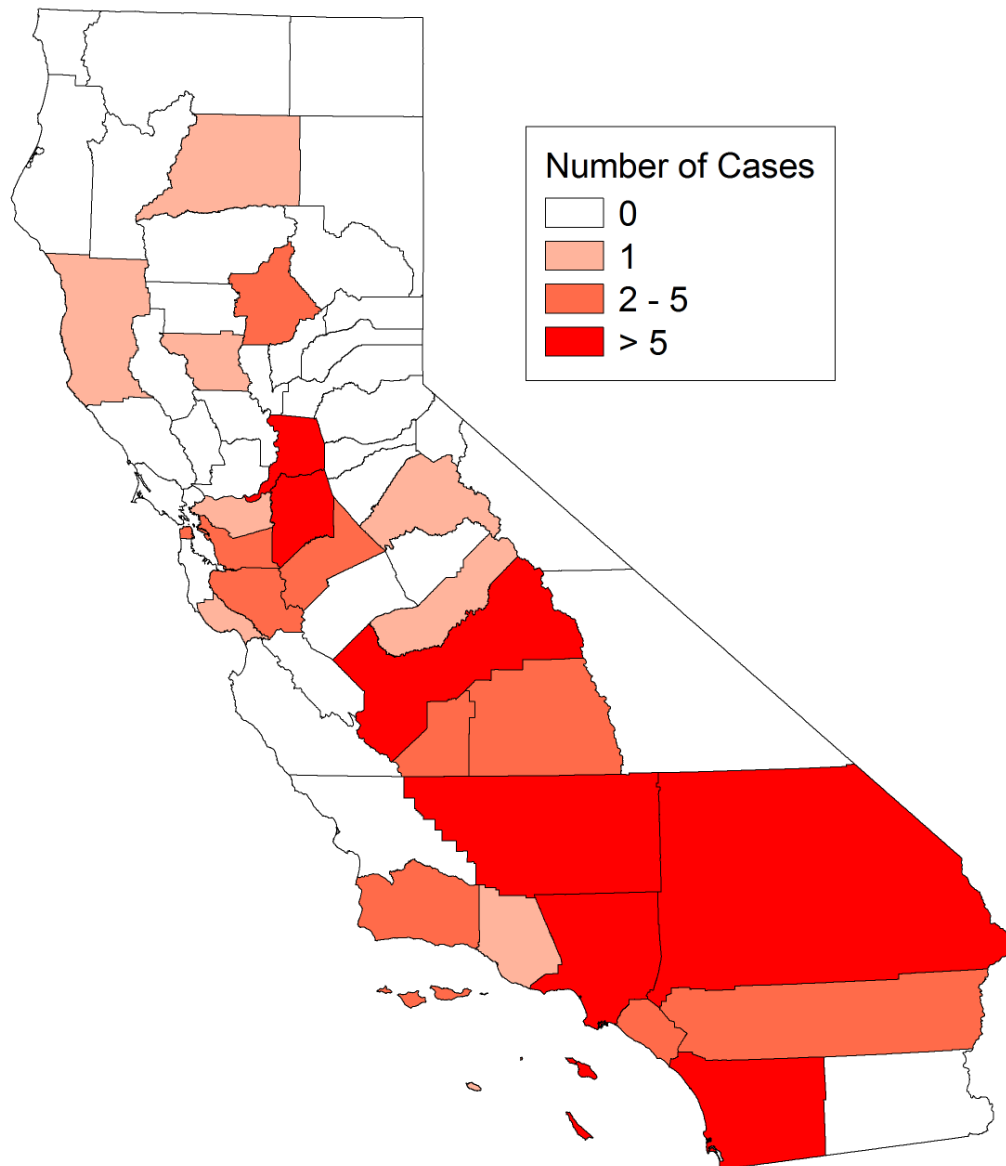
# Congenital Syphilis Cases versus Female Early Syphilis\* Incidence Rates, California, 2010–2016



\* Includes primary, secondary, and early latent syphilis.

# Congenital Syphilis

## Number of Cases by County, California, 2016



# Syphilis Overview

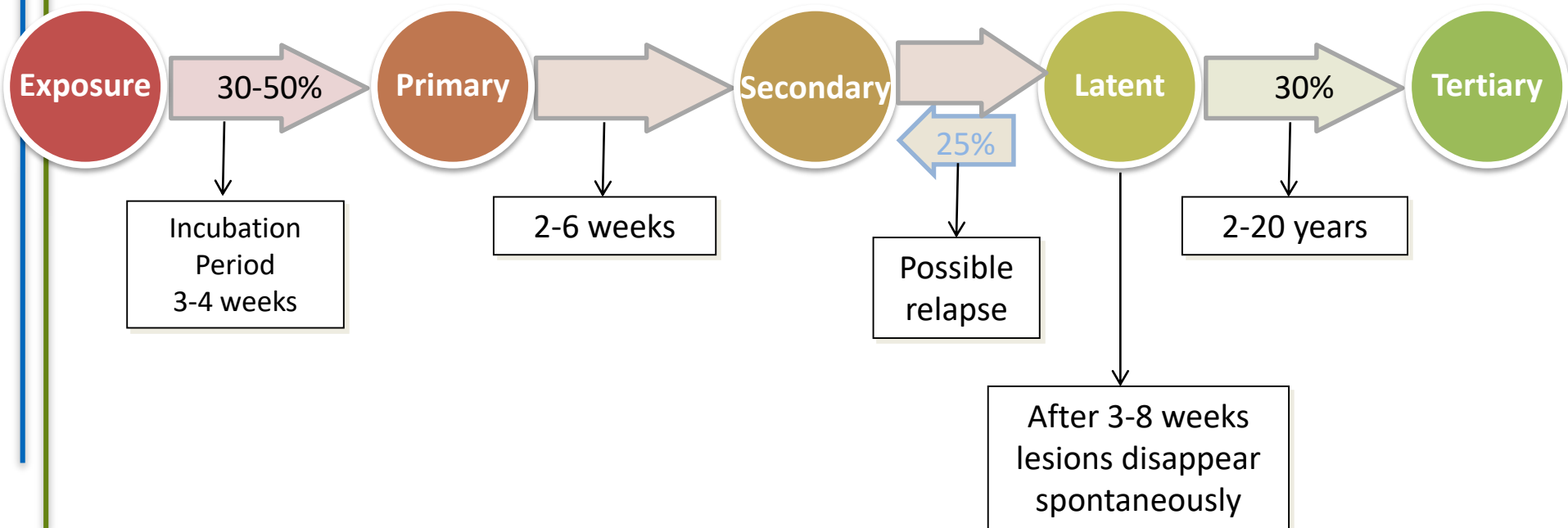
- Causative organism: *Treponema pallidum*, a spirochete bacterium
- Transmission:
  - Sexual (intimate skin-to-skin contact)
  - Vertical
  - Blood
- Causes systemic infection
- Characterized by episodes of active disease during which patients have signs/symptoms of infection, interrupted by periods of latent infection
  - Lab testing is required to diagnose patients
- Incubation period: 10-90 days



Image courtesy: Gregory Melcher, UC Davis  
Susan Philip, SF DPH & UCSF

# **Prevention of congenital syphilis requires prevention/treatment of maternal syphilis**

# Syphilis Natural History



**Neurosyphilis can occur at any stage**



# Syphilis Staging Flowchart

**SIGNS OR SYMPTOMS?**

**YES**

Chancre

**PRIMARY**

Rash, etc.

**SECONDARY**

**NO**

**LATENT**

**ANY IN PAST YEAR?**

- Negative syphilis serology
- Known contact to an early case
- Good history of typical signs/symptoms
- 4-fold increase in titer
- Only possible exposure was this year

**YES**

**EARLY LATENT**  
( $< 1$  year)

**NO**

**LATE LATENT or UNKNOWN**  
**DURATION**

In pregnancy, benzathine penicillin is the only recommended therapy. No alternatives.

PRIMARY, SECONDARY, and EARLY  
LATENT (< 1 year)



Benzathine penicillin  
G 2.4 million units IM  
in a single dose

LATE LATENT or UNKNOWN  
DURATION



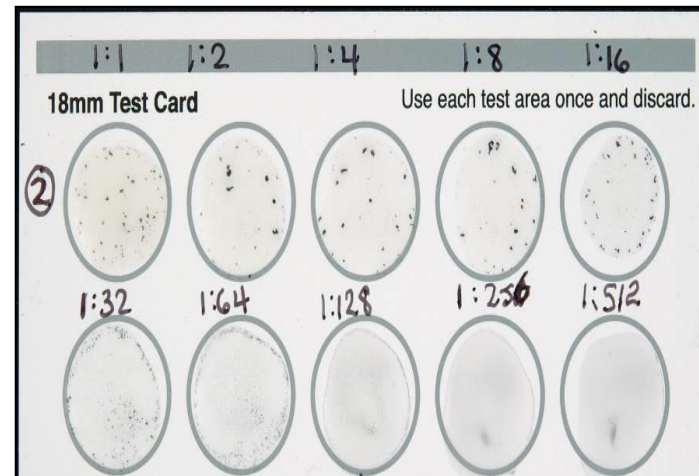
Benzathine Penicillin  
G 2.4 million units  
once per week for 3  
weeks\*\*

**\*\*In pregnancy, should adhere to 7 days between doses**  
*Bicillin L-A is the trade name. DO NOT USE Bicillin C-R!*

CDC 2015 STD Treatment Guidelines  
[www.cdc.gov/std/treatment](http://www.cdc.gov/std/treatment)

# Diagnosing Syphilis

- Syphilis is diagnosed by:
  - Reviewing patient history
  - Assessing sexual risk
  - Conducting a physical exam
  - Interpreting serologic test results





# Syphilis Screening Paradigm

## REVERSE SEQUENCE

**Treponemal tests (e.g.,  
EIA, CIA, MBIA)**

- **TP-SPECIFIC ANTIBODIES**
- **QUALITATIVE**
- **USUALLY DETECTABLE FOR LIFE**
- **REACTIVITY DECLINES WITH TIME**

*reflex to*

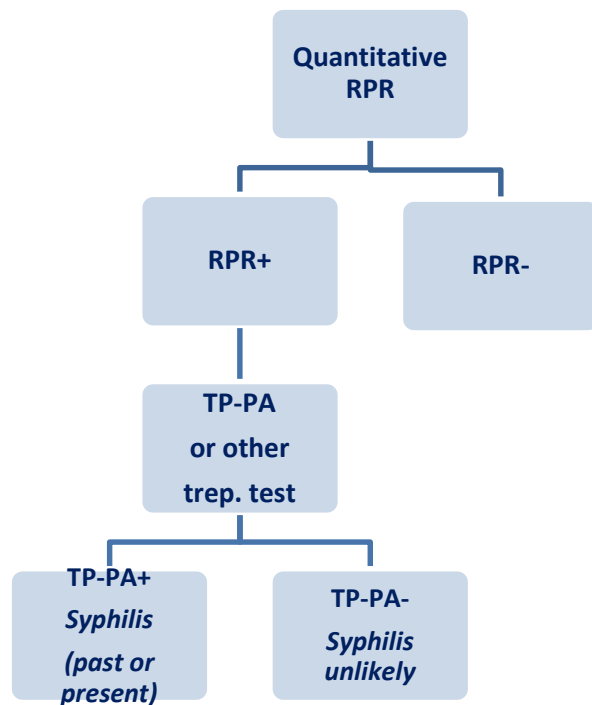
**Non-treponemal tests (e.g., RPR, VDRL)**

- **NON-SPECIFIC ANTIBODIES TO LIPOIDAL ANTIGENS**
- **QUANTITATIVE**
- **REACTIVITY DECLINES WITH TIME**

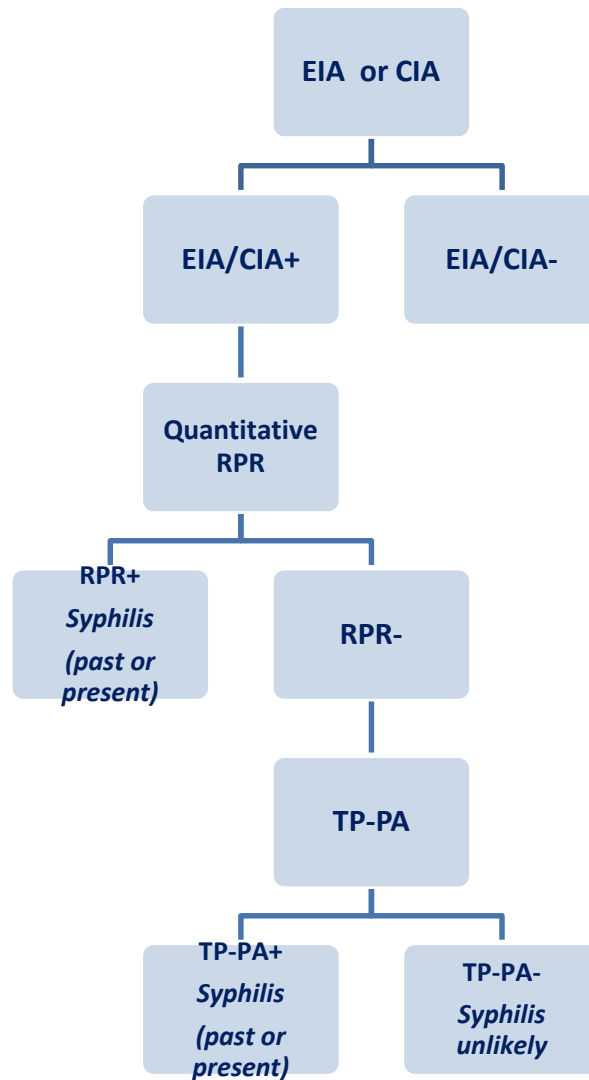
Need both types of serologic tests to make syphilis diagnosis;  
Use of only one type of test is insufficient.

# Syphilis serologic screening algorithms

## Traditional



## Reverse sequence



# Diagnostic Challenges

## False negatives

- Early primary and late latent stages
  - Serology may be negative in up to 25% of primary syphilis cases
- Prozone reaction (RPR/VDRL)

## Biologic False Positives

- Non-trep test positive with confirmatory Treponemal test negative
- Viral illnesses including HIV, recent immunizations, autoimmune and chronic diseases

## Discordant serology

- EIA or CIA + and RPR –

Jurado RL et al. *Arch Intern Med* 1993, **153**:2496–2498.

Geisler MG. *South Med Jour* 2004, **97**: 327-328.



# Use of Treponemal Immunoassays for Screening and Diagnosis of Syphilis

Guidance for Medical Providers and  
Laboratories in California

February 2016

**CDPH has materials available online:  
[std.ca.gov](http://std.ca.gov)**

# Brief Clinical Overview of Congenital Syphilis





# Early Congenital Syphilis (<age 2)

## Common Presentations

- Asymptomatic presentations are common
  - ~2/3 infants born with CS are asymptomatic at birth – if untreated will develop symptoms
- Bone abnormalities
- Hepatosplenomegaly +/- jaundice
  - Hepatomegaly present in almost all infants with CS
- Skin rash
- Nasal discharge (“snuffles”)
- Anemia, thrombocytopenia
- Neurologic abnormalities
- Pneumonia
- Others

## Syphilitic Rash



**Syphilitic  
Rhinitis**



Photos courtesy of Public Health Image Library, CDC and Dr. Norman Cole

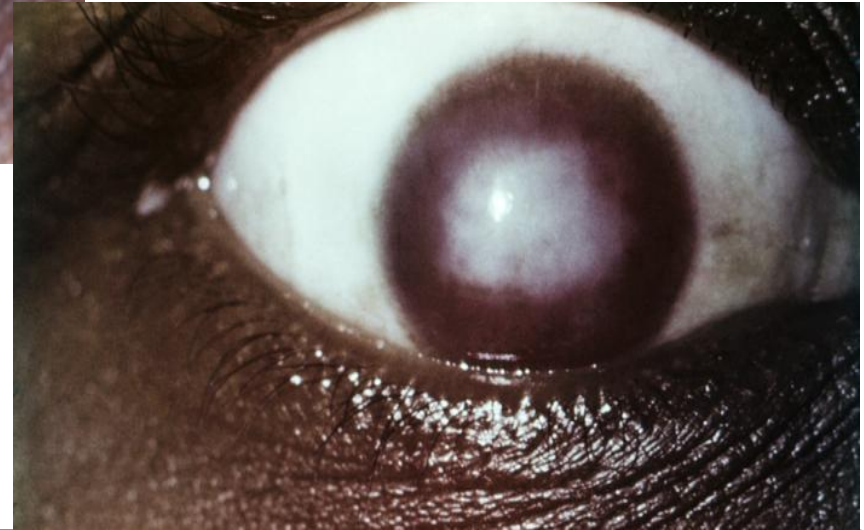
# Late Congenital Syphilis (>age 2)

## Common Presentations

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- Hearing loss (puberty – adulthood).
  - Can develop suddenly
- Interstitial keratitis (5 years old – adulthood)
  - Inflammation of tissue of cornea, can lead to vision loss
- Bone or tooth abnormalities
- Neurologic abnormalities
- Gummas (granulomatous inflammatory response to spirochetes) in the skin or mucous membranes
- Others

# Interstitial Keratitis



Photos courtesy of Public Health Image Library, CDC/Susan Lindsley

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# Hutchinson's Teeth



Permanent incisor teeth  
are narrow and notched.



# Perforation of hard palate



# Clutton's Joints



# Saber Shins



# Syphilis in Pregnancy and Congenital Syphilis

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# Screening Recommendations – CDC

- **All pregnant women should be screened for syphilis at the first prenatal visit**
- Women who are at high risk for syphilis, live in areas of high syphilis morbidity, or are previously untested should be screened again both:
  - Early in the third trimester (approx 28 weeks GA)
  - At delivery

**Penicillin treatment of pregnant women with syphilis is highly effective at preventing CS**

# Women who would benefit from additional syphilis testing in the 3rd trimester and at delivery include those who:

- Have signs and symptoms of syphilis infection
- Live in areas with high rates of syphilis, particularly among females
- Were diagnosed with an STD during pregnancy
- Receive late or limited prenatal care
- Have partners that may have other partners, or partners with male partners
- Have history of incarceration
- Are involved with substance use or exchange sex for money, housing, or other resources

Routine risk assessment should be conducted throughout pregnancy to assess risk factors and inform the need for additional testing.

# CDC Screening Recommendations

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- **No infant should leave the hospital without the maternal serologic status having been determined at least once during pregnancy, and again at delivery if at risk.**
  - If mother presents at delivery with no prenatal care, STAT RPR should be performed
  - If baby has congenital syphilis and is asymptomatic, there is still an opportunity to treat the infant to prevent further morbidity
- Any woman who delivers a stillborn infant should be tested for syphilis

# Treatment of Syphilis in Pregnancy

- **The only treatment of syphilis in pregnancy is penicillin. There are no alternatives.**
- Pregnant women should be treated with the penicillin regimen appropriate for their stage of infection.
  - Some experts recommend a 2<sup>nd</sup> dose of benzathine penicillin G be given a week after the initial dose in early syphilis
- Pregnant women with penicillin allergy should be desensitized and treated with penicillin.

All patients with syphilis should be tested for HIV.

# Highest risk of treatment failure occurs during early syphilis

**Table 3. Success of Maternal Treatment to Prevent Congenital Syphilis by Stage of Infection**

Stage	Success/Total treated	Percentage (95% CI)
Primary	27 / 27	100 (87.2, 100)
Secondary	71 / 75*	94.7 (86.9, 98.5)
Early latent	100 / 102	98 (93.1, 99.8)
Late latent	136 / 136	100 (97.3, 100)
Total	334 / 340	98.2 (96.2, 99.3)

CI = confidence interval.

\*  $P = .03$  compared with other groups,  $\chi^2$ .

**Overall, maternal treatment is highly effective in the prevention of CS**

Alexander JM, Sheffield JS, Sanchez PJ, et al.. Efficacy of treatment for syphilis in pregnancy. Obstet Gynecol 1999;93:5–8.

# Maternal treatment more likely to be successful when administered at earlier gestational age

**Table 4.** Success of Maternal Treatment in Preventing Congenital Syphilis by Gestational Age

Gestational age	Success/Total treated	Percentage (95% CI)
≤20 wk	152/153	99.4 (96.4, 100)
21–25 wk	51/51	100 (93.0, 100)
26–30 wk	58/59	98.3 (90.9, 100)
31–35 wk	44/46	95.6 (85.2, 99.5)
36–40 wk	26/28	92.9 (76.5, 99.1)
41–42 wk	3/3	100 (29.2, 100)
Total	334/340	98.2 (96.2, 99.3)

CI = confidence interval.

P = not significant,  $\chi^2$ .

Alexander JM, Sheffield JS, Sanchez PJ, et al.. Efficacy of treatment for syphilis in pregnancy. *Obstet Gynecol* 1999;93:5–8.

# What are common pathways that a women delivers a baby with CS?

Woman acquires syphilis  
**prior** to pregnancy

Not diagnosed, not tested

AND/OR

Not adequately treated

AND

**SHE BECOMES PREGNANT**

She acquires syphilis  
**during** pregnancy

Not diagnosed

(late to prenatal care or no prenatal care,  
early screen negative and not repeated,  
seroconverted after birth)

AND/OR

Not treated

(treatment not ordered, lost to follow up)

OR

Late to treatment

(treatment initiated <30 days prior to delivery)

OR

Inadequate treatment

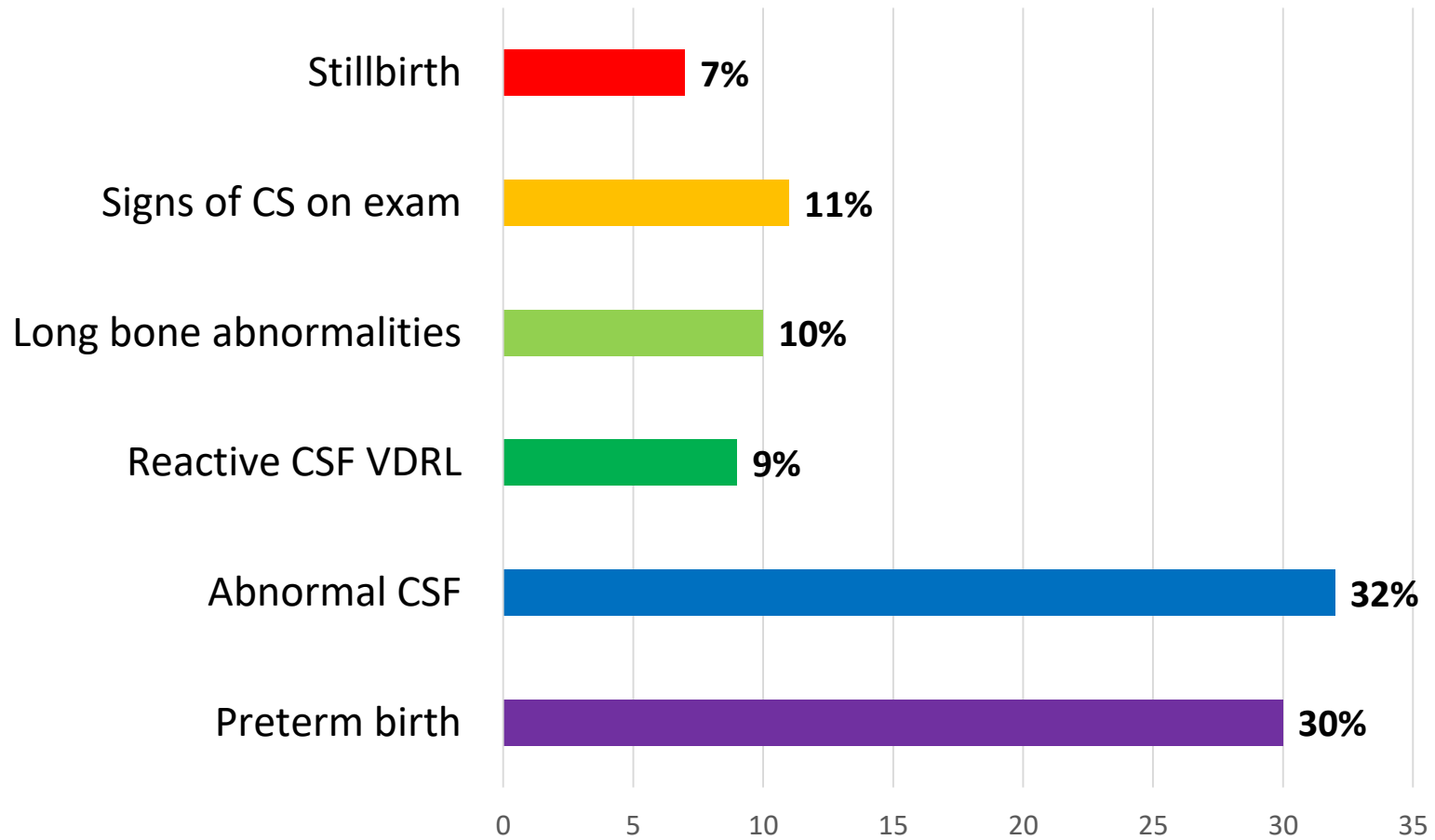
(wrong drug or dose, lack or delay in 2<sup>nd</sup> or 3<sup>rd</sup> shots  
for late latent syphilis)

RARELY, among those diagnosed and treated:

- Maternal treatment failure
- Fetal demise
- Permanent fetal damage prior to treatment

# What do we know about the cases?

## California Project Area CS Cases 2007-2015: Infant Characteristics (n=391)



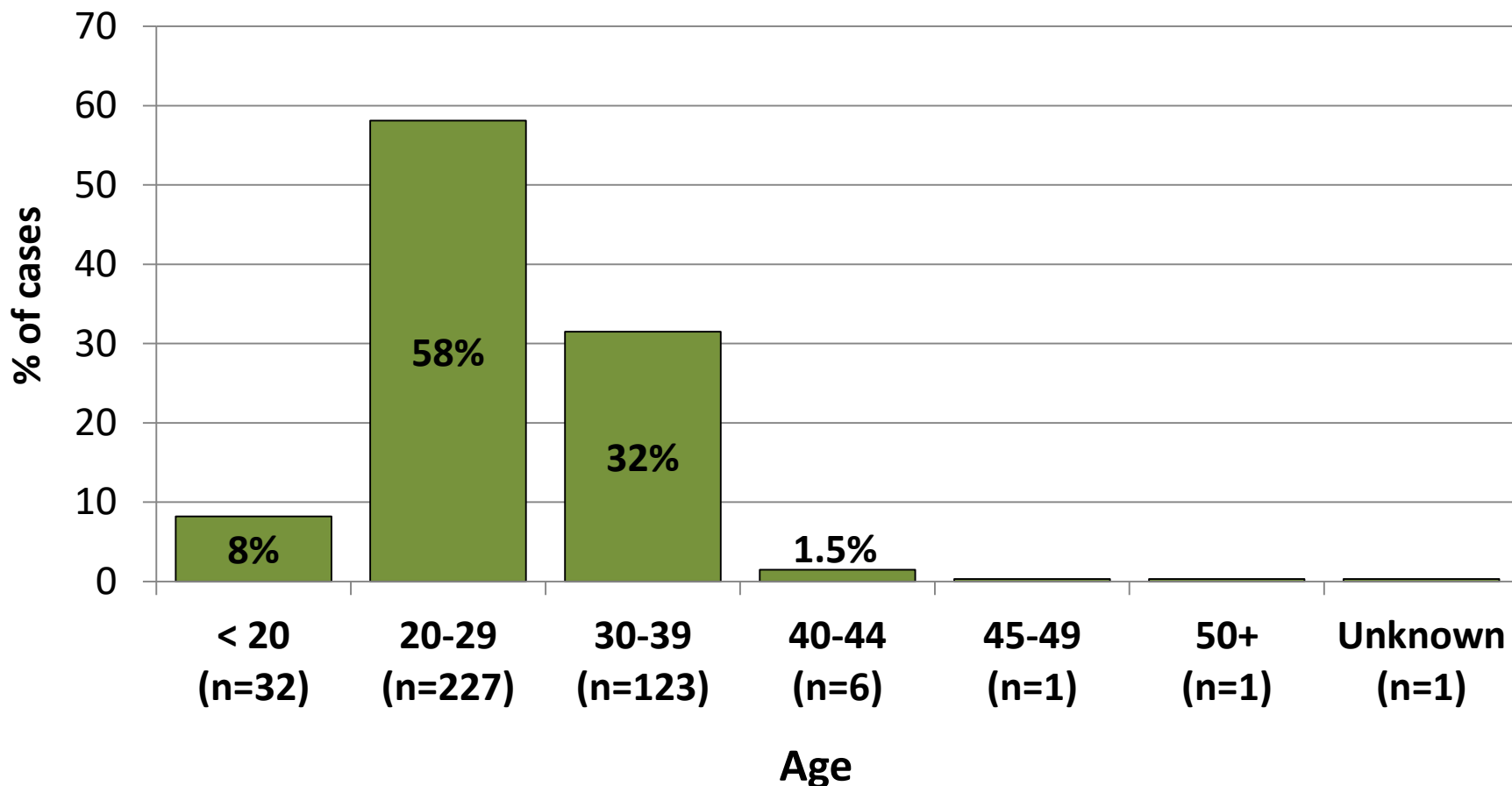
Credits: Stoltey, Ng

STD Control Branch



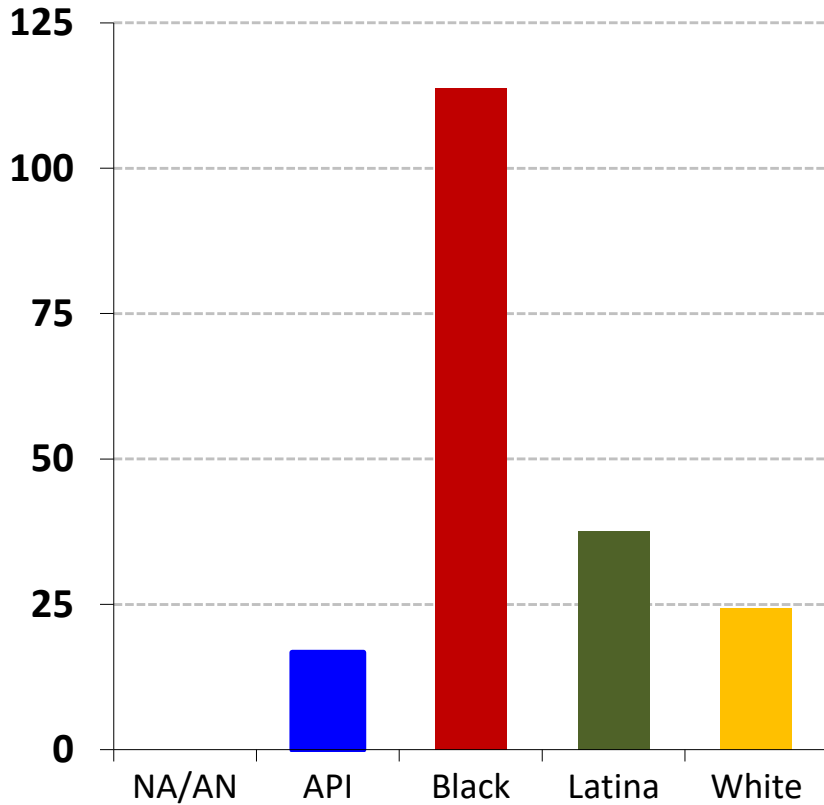
# Percent of congenital syphilis cases, by maternal age at delivery:

## Majority of mothers were ages 20-29

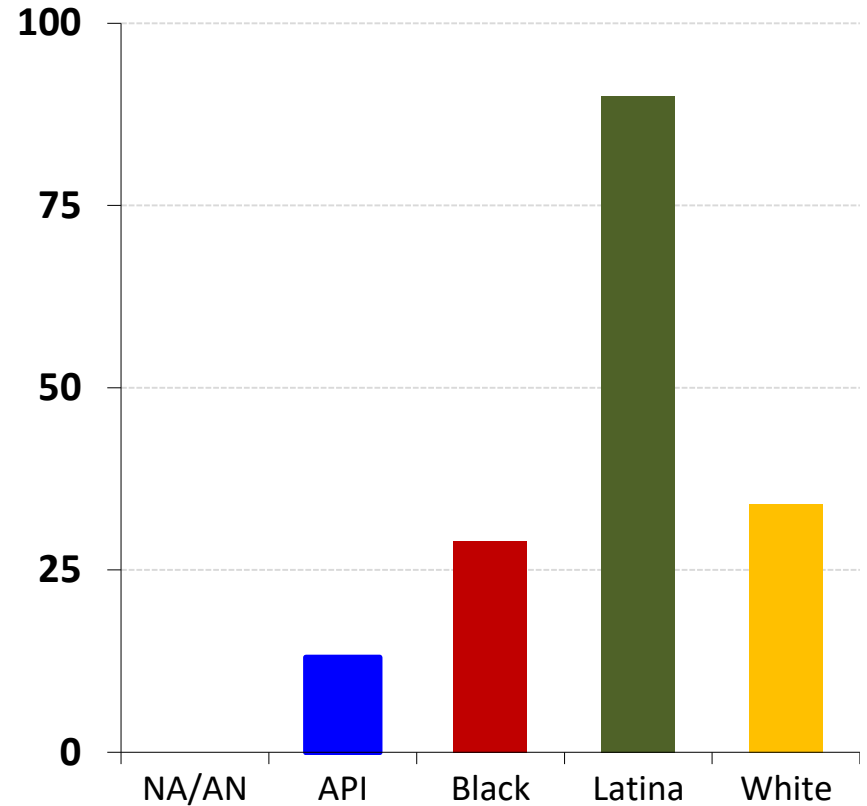


# Congenital Syphilis

Incidence Rates per 100,000 (L) and Number of Cases (R) by Race/Ethnicity of Mother, California, 2016



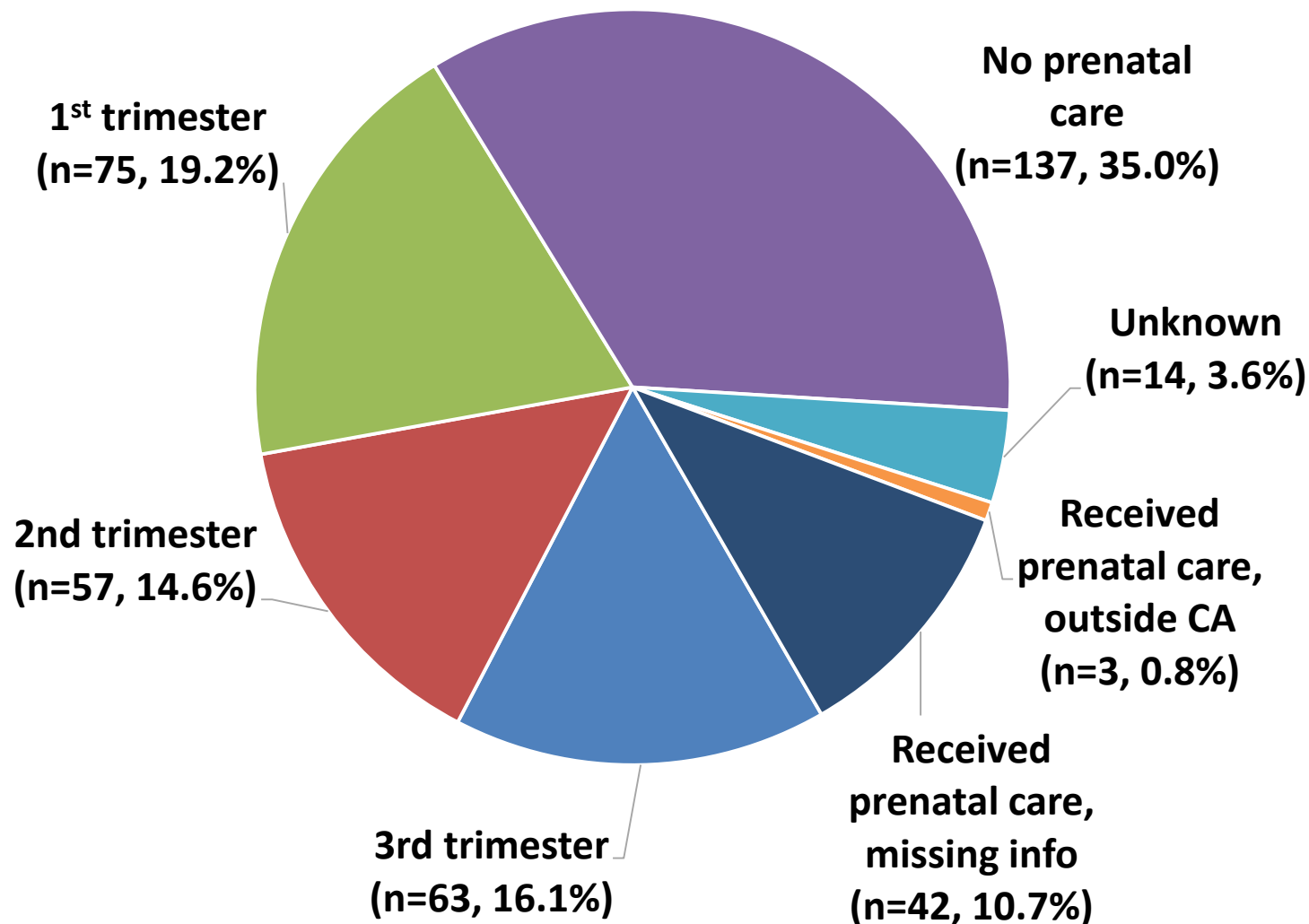
Incidence Rates



Number of Cases

# When did mother initiate prenatal care?

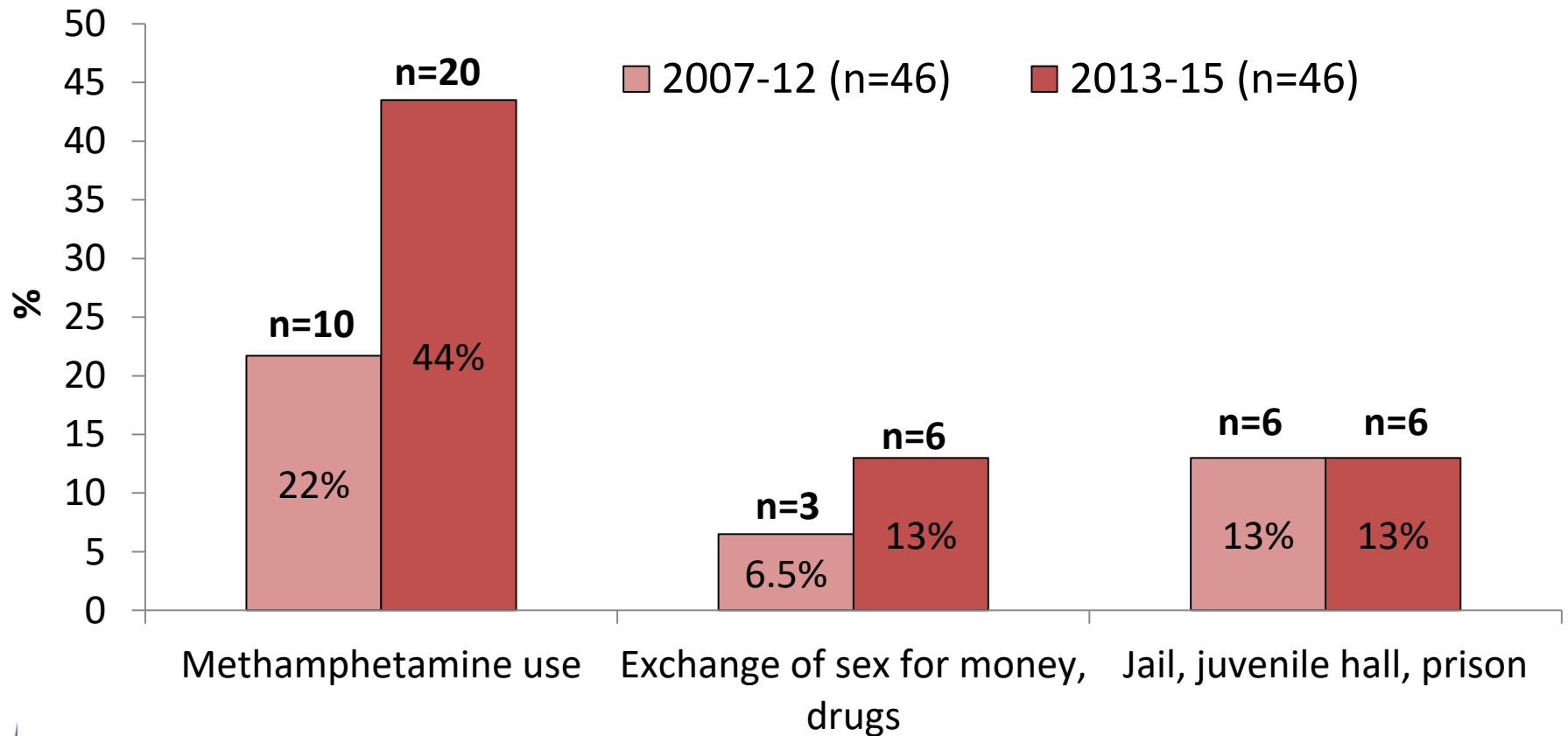
## Over half of mothers initiated prenatal care only in 3<sup>rd</sup> trimester or not at all



*Nationally, 74% initiate in 1<sup>st</sup> Trimester; only 6% in 3<sup>rd</sup> Trimester or not at all (CDC, 2011)*

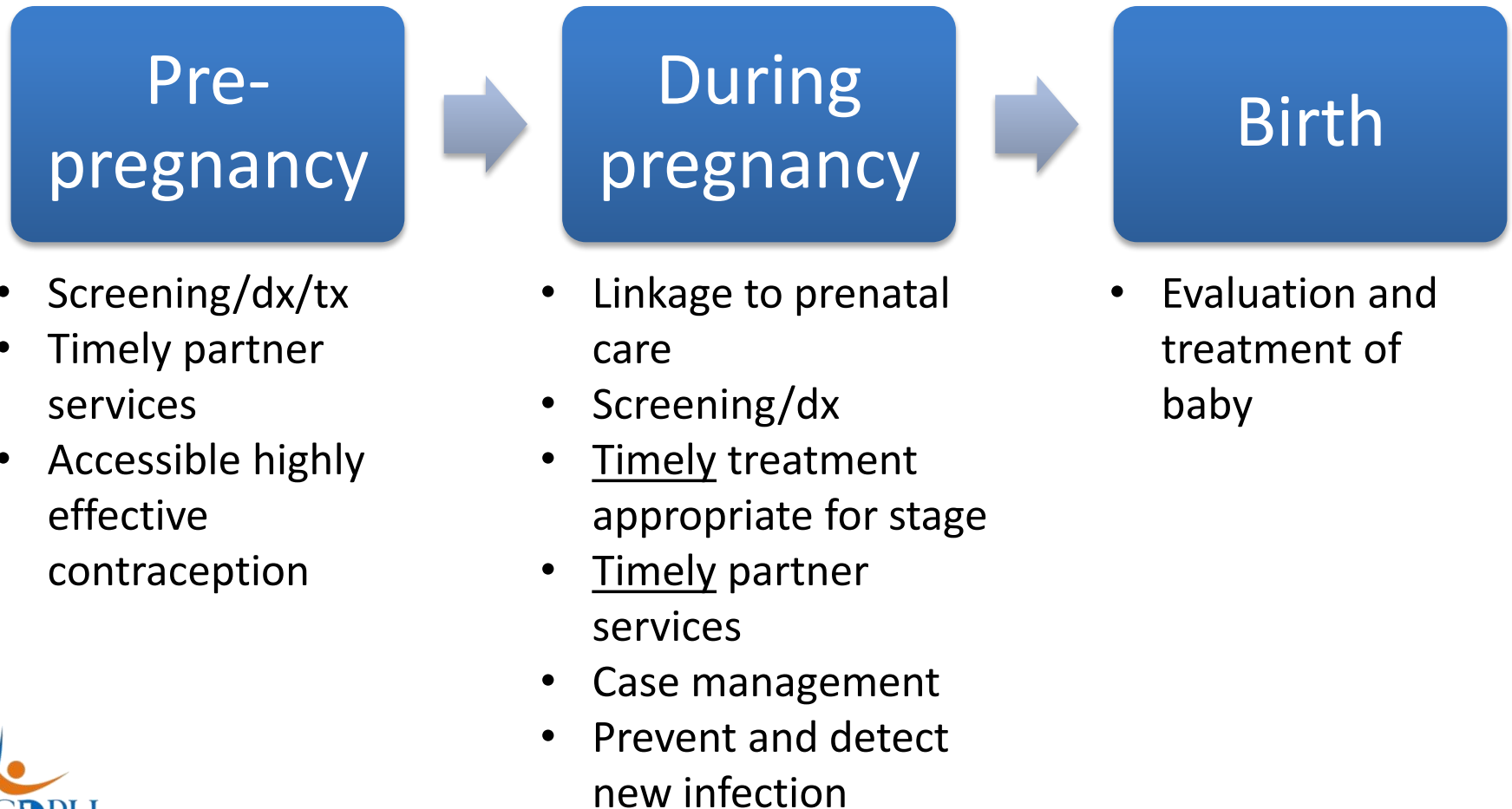
# Maternal risk characteristics for interviewed early syphilis cases (n=92)

70% (92 of 132) interviewed



**Risk in 12 months prior to diagnosis**

# Public Health Response: Points of Intervention to Prevent CS



# Evaluation of Infants Born to Mothers with Syphilis

- CDC STD Treatment Guidelines have detailed guidance on evaluation and treatment
- Treatment decisions based on:
  - Identification of syphilis in the mother
  - Adequate maternal treatment
  - Clinical, lab, x-ray evidence of syphilis in neonate
  - Comparison of maternal (at delivery) and neonatal **nontreponemal** titers (same test-preferably same lab)

Maternal non-trep and trep IgG antibodies can transfer via placenta thus complicating interpretation of neonate serologies

# Evaluation of Infants (during first month of life) Born to Mothers with Syphilis

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- All infants born to women with reactive syphilis serology should be evaluated with a quantitative nontreponemal test (do not use cord blood, which may be contaminated by mother's blood)
- Thorough physical exam for evidence of congenital syphilis
- Darkfield exam or PCR testing of suspicious lesions or body fluids (e.g., nasal discharge) and placenta

# Scenario 1: "Proven or Highly Probable Congenital Syphilis"

- Abnormal physical exam consistent with congenital syphilis  
OR
  - Serum VDRL/RPR titer that is 4-fold higher than maternal titer  
OR
  - Positive darkfield or PCR of lesions or body fluids (or placenta)
- **Full work-up and 10 days treatment recommended**



# “Full” Evaluation for Congenital Syphilis

- Careful physical exam
- CSF analysis for VDRL, cell count and protein
- CBC with differential
- Other tests as indicated, including:
  - X-rays (long bone and chest)
  - Liver function tests
  - Ophthalmologic exam
  - Neuroimaging
  - Auditory brainstem response

# Scenario 2: “Possible Congenital Syphilis”

Normal physical exam, Nontrep Titer = or < 4-Fold Maternal Titer  
AND

## Maternal factors:

- Not treated, inadequately treated, or no documentation of treatment OR
- Treatment with erythromycin or other nonstandard regimen OR
- Maternal treatment less than 4 weeks prior to delivery

## ➤ **Work-up/Rx:**

- Complete evaluation if 10 days treatment not planned
- Complete evaluation not necessary if 10 days treatment given
- If complete evaluation is normal and infant follow-up certain, single dose benzathine PCN, 50,000 U/KG IM may be given

# Scenario 3: “Congenital Syphilis Less Likely”

Normal physical exam, Nontrep Titer = or < 4-Fold Maternal Titer  
AND

## Maternal factors:

- Treated during pregnancy, treatment was appropriate and administered > 4 weeks prior to delivery AND
- No evidence of reinfection or relapse

## ➤ **Work-up/Rx:**

- No evaluation needed, but single dose benzathine PCN 50,000 U/KG IM recommended

# Scenario 4: “Congenital Syphilis Unlikely”

Normal physical exam, Nontreponemal Titer = or < 4-Fold Maternal Titer  
AND

## Maternal factors:

- Treated adequately before pregnancy AND
- Low and stable nontreponemal titers before and during pregnancy and at delivery (VDRL < 1:2, RPR < 1:4)

## ➤ **Work-up/Rx:**

- No evaluation needed, no Rx required (but some experts would give single dose benzathine PCN 50,000 U/KG IM, particularly if follow-up uncertain)

# Congenital Syphilis

## Treatment for Neonates

- Aqueous crystalline penicillin G 100,000-150,000 units/kg/d, given as 50,000 units/kg/dose IV q12 hours x 7 days, then q8 hours x 3 days (total 10 days)

OR

- Procaine penicillin G 50,000 units/kg/dose IM qd x 10 days (only for neonates) \*current drug shortage

- Single dose (ONLY for scenario 2 w/normal work-up, scenario 3 and 4): Benzathine penicillin G 50,000 units/KG/dose IM in a single dose

# Evaluation and treatment of infants and children $\geq 1$ month\*

- CSF analysis
- CBC, differential
- Other tests as clinically indicated

## Treatment:

Aqueous crystalline penicillin G 200,000-300,000 units/kg/day IV, administered as 50,000 units/kg IV q4-6 hours x 10 days

\* See CDC STD Treatment Guidelines for full details

# Congenital Syphilis: Follow-up

- Serologic testing (RPR) every 2-3 months (whether treatment given or not) until test becomes nonreactive
- Nontreponemal titer should decline by 3 months and be non-reactive by 6 months if treated adequately or uninfected (may take longer if treated after neonatal period)
- Re-evaluate and treat if:
  - Nontreponemal titer persistent at 6-12 months
- If initial CSF is abnormal, repeat at 6 months. If abnormal, retreat

# Patient Education Materials

## Protect Yourself and Your Baby from Syphilis

### What is Congenital Syphilis?

Syphilis is a sexually transmitted disease (STD).

Congenital syphilis occurs when a pregnant woman with syphilis passes the infection to her unborn child.

This can cause serious problems like premature birth, low birth weight, birth defects and stillbirth.

### What are Symptoms of Syphilis?

Most people with syphilis have symptoms such as a sore or rash. Even if they do, they may not notice them.

The only way to know for sure is to get tested!

Getting tested for syphilis is part of routine prenatal care.

### Who Should Get Tested?

If you are pregnant or might get pregnant, it is important to get routine prenatal care.

Getting tested for syphilis and other STDs is part of routine prenatal care.

Pregnant women should get syphilis testing at the first prenatal visit.

Be sure to get your syphilis test results and follow any medical advice at that time.

These clinics offer **FREE or LOW-COST** STD testing and treatment and pregnancy planning services.

**Clinic Name1**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

**Clinic Name2**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

**Clinic Name3**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

**Clinic Name4**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

**Clinic Name5**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

**Clinic Name6**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic hours (M-F, xx-xx)

For a complete list of free or low-cost clinics near you, visit <https://gettested.cdc.gov/> or call Public Health at xxx-xxx-xxxx.

County  
Health Department  
logo here



## Protecting Yourself and Your Baby from Syphilis



### Get Yourself Tested!

You can get syphilis and other STDs more than once.

If you need to get tested or would like more information on protecting yourself and your baby, talk to your health care provider, or visit a local clinic.

These clinics offer **FREE or LOW-COST** STD testing and treatment and pregnancy planning services.

**Clinic Name1**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic Hours (M-F, xx-xx)

**Clinic Name2**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic Hours (M-F, xx-xx)

**Clinic Name3**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic Hours (M-F, xx-xx)

**Clinic Name4**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic Hours (M-F, xx-xx)

**Clinic Name5**  
Street Address  
City  
Phone: xxx.xxx.xxx  
Clinic Hours (M-F, xx-xx)

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For a list of free or low-cost clinics near you, go to <https://gettested.cdc.gov/> or call Public Health at xxx-xxx-xxxx.

County Public Health  
logo here



### How is Syphilis Treated?

Syphilis can be cured, even during pregnancy. Proper treatment will help prevent your baby from becoming infected.

Be sure to inform your sex partner(s) because they will need to be tested and treated too. This will help them stay healthy, avoid infecting others and avoid reinfecting you.



If you would like to customize and distribute within your LHJ, contact Ashley Dockter at

[ashley.dockter@cdph.ca.gov](mailto:ashley.dockter@cdph.ca.gov)



is part of routine prenatal care.

Pregnant women should get tested for syphilis at the first prenatal visit.

Be sure to get your syphilis test results and follow any medical advice at that time.

The clinics listed on the front of this brochure offer **FREE or LOW-COST** STD testing and treatment and pregnancy planning services.



# Update for Health Care Providers



## CONCERNING INCREASES IN SYPHILIS IN WOMEN AND CONGENITAL SYPHILIS:

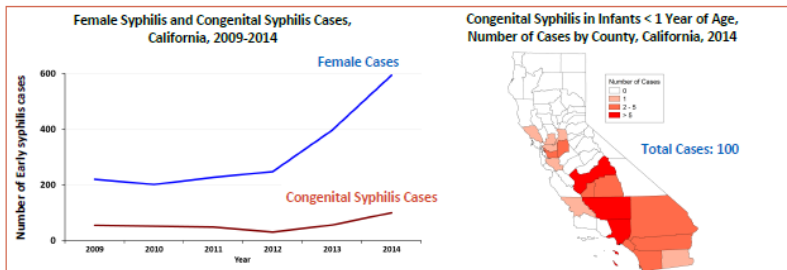
AN UPDATE FOR CALIFORNIA HEALTH CARE PROVIDERS



### THE PROBLEM: INCREASING CONGENITAL SYPHILIS IN CALIFORNIA

California has had a concerning increase in syphilis among women over the past two years. This has been accompanied by a tripling of congenital syphilis cases from 2012 to 2014. In 2014, most female early syphilis cases and congenital syphilis cases in California were reported from the Central Valley and Los Angeles County.<sup>1</sup> Most women who gave birth to babies with congenital syphilis received prenatal care late in pregnancy or not at all.

This increase in numbers of congenital syphilis cases in California is an important public health problem requiring immediate attention from medical providers caring for pregnant women and women of reproductive age.



### WHAT IS CONGENITAL SYPHILIS?

Congenital syphilis occurs when syphilis is transmitted from an infected mother to her fetus during pregnancy. It is a potentially devastating disease that can cause severe illness in babies including premature birth, low birth weight, birth defects, blindness and hearing loss. It can also lead to stillbirth and infant death.<sup>2</sup>

### CONGENITAL SYPHILIS CAN BE PREVENTED!

Congenital syphilis can be prevented with early detection and timely and effective treatment of syphilis in pregnant women and women who could become pregnant. Preconception and interconception care should include screening for HIV and sexually transmitted diseases (STDs), including syphilis, in women at risk, in addition to access to highly effective contraception.

### PRENATAL SCREENING: IT'S THE LAW!

All pregnant women should receive routine prenatal care which includes syphilis testing. In California, it is required by law that pregnant women get tested for syphilis at their first prenatal visit.<sup>3</sup>

Syphilis testing should be repeated during the third trimester (28-32 weeks gestational age) and at delivery in women who are at high risk for syphilis or live in areas with high rates of syphilis,<sup>4</sup> particularly among females. Routine risk assessment should be conducted throughout pregnancy to assess the risk factors highlighted in the box on page 2; this should inform the need for additional testing.

Infants should not be discharged from the hospital unless the syphilis serologic status of the mother has been determined at least once during pregnancy and, for at-risk women, again at delivery.

1. California Department of Public Health (CDPH) Sexually Transmitted Diseases Control Branch Congenital Syphilis Prevention Guidance [http://www.cdph.ca.gov/programs/std/Documents/Bauer\\_CA STD Controllers Letter\\_Congenital%20Syphilis\\_04\\_01\\_15.pdf](http://www.cdph.ca.gov/programs/std/Documents/Bauer_CA STD Controllers Letter_Congenital%20Syphilis_04_01_15.pdf)
2. Centers for Disease Control and Prevention Syphilis Fact Sheet <http://www.cdc.gov/std/syphilis/stdfact-syphilis.htm>
3. California State Code <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=health&group=120001-121000&file=120675-120715>
4. Centers for Disease Control and Prevention 2015 Treatment Guidelines for Syphilis in Pregnancy <http://www.cdc.gov/std/tg2015/syphilis-pregnancy.htm>

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### WOMEN WHO WOULD BENEFIT FROM ADDITIONAL SYPHILIS TESTING IN THE THIRD TRIMESTER (28-32 WEEKS) AND AT DELIVERY INCLUDE THOSE WHO:

- Have signs and symptoms of syphilis infection.
- Live in areas with high rates of syphilis, particularly among females.
- Receive late or limited prenatal care.
- Not get tested in the first or second trimester.
- Have partners that may have other partners, or partners with male partners.
- Are involved with substance use or exchange sex for money, housing, or other resources.

### COMMON MISTAKES

- Not reporting syphilis cases to local health departments within 24 hours.
- Not strictly adhering to treatment guidelines for pregnant women with syphilis.
- Not properly conducting routine risk assessment throughout pregnancy to determine need for additional testing.

### DIAGNOSING SYPHILIS

Syphilis is diagnosed by reviewing patient history, taking a sexual risk assessment, physical exam, and blood tests. Making the diagnosis of syphilis requires interpretation of both treponemal and non-treponemal serology tests results. Guidance on interpreting syphilis test results, refer to the CDPH screening and diagnostic guide listed in the *Sources for Health Care Providers* section.

### SYPHILIS TREATMENT

Treatment for a pregnant woman is based on the stage of her infection. To prevent adverse pregnancy outcomes, clinicians should treat patients as soon as possible.<sup>5</sup> Treating a pregnant woman infected with syphilis also treats her fetus.<sup>6</sup>

#### Treatment for Early Syphilis (determined to be less than one year's duration)

Benzathine penicillin G 2.4 million units by intramuscular injection in a single dose

OR

#### Treatment for Late Latent Syphilis or Unknown Duration

Benzathine penicillin G 2.4 million units by intramuscular injection every 7 days for 3 weeks (7.2 million units total)

**Pregnancy, penicillin is the only recommended therapy.** Pregnant women with penicillin allergies should be desensitized and treated with penicillin.<sup>7</sup> There are no alternatives.

In pregnant women, benzathine penicillin doses for treatment of late latent syphilis **must be administered at 7-day intervals**; if a dose is missed or late, the entire series must be restarted.

### ARTNER TREATMENT AND THE ROLE OF LOCAL HEALTH DEPARTMENTS

Unprotected sex with an untreated partner can cause re-infection, it is especially important to ensure that the partner(s) receive treatment and to inform pregnant women about the risk to their infants if they have sex with an untreated partner. Local health departments are key collaborators in the prevention of congenital syphilis, and can assist with partner treatment.

California law requires that all syphilis infections be reported to the local health department where the patient resides within 24 hours of diagnosis. Contact information for local health department staff working on syphilis prevention and reporting can be found here: [http://www.cdph.ca.gov/HealthInfo/Documents/2014\\_CD\\_Contact\\_Info.doc](http://www.cdph.ca.gov/HealthInfo/Documents/2014_CD_Contact_Info.doc)

### SOURCES FOR HEALTH CARE PROVIDERS

Centers for Disease Control and Prevention: <http://www.cdc.gov/std/syphilis>

California Department of Public Health (CDPH): <http://www.cdph.ca.gov/programs/std>

Use of Treponemal Immunoassays for Screening and Diagnosis of Syphilis [http://www.cdph.ca.gov/Programs/DCDC/DCDC/Pages/Immunology/Documents/Treponemal\\_Immunoassays\\_for\\_Syphilis\\_Screening\\_and\\_Diagnosis.pdf](http://www.cdph.ca.gov/Programs/DCDC/DCDC/Pages/Immunology/Documents/Treponemal_Immunoassays_for_Syphilis_Screening_and_Diagnosis.pdf)

2015 STD Treatment Guidelines: Syphilis During Pregnancy <http://www.cdc.gov/std/tg2015/syphilis-pregnancy.htm>  
Santis, M., De Luca, C., Mappa, I., Spagnuolo, T., Ucameli, A., Straface, G., & Scambia, G. (2012). Syphilis infection during pregnancy: Fetal risks and clinical management. *Infectious Diseases in Obstetrics and Gynecology*, 2012.

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SAN JOAQUIN COUNTY

# Public Health Services

*Healthy Future*

Date: March 23, 2016

To: Medical Care Providers

From: Alvaro Garza, MD, MPH, Health Officer

Julie Vaishampayan, MD, MPH, Assistant Health Officer

Please distribute to all  
providers and relevant  
medical staff in your  
office.

## Health Alert

### Ongoing Increase in Syphilis in Women Calls for Testing All Pregnant Women in the First & Third Trimester, and at Delivery

Situation: San Joaquin County is experiencing an increase in heterosexual transmission of syphilis, syphilis in women, and congenital syphilis. In 2015, 57% of syphilis was transmitted through heterosexual contact. Syphilis in women has increased dramatically and now accounts for 29% of all reported syphilis in the county. Six babies were reported with congenital syphilis in 2015 compared to two babies diagnosed with congenital syphilis in 2014. See Figure below.

**The Health Officer is designating San Joaquin County as an area with high syphilis morbidity.**

Such a designation calls for all clinicians to follow best practices and guidelines as established by the CDPH, CDC

# CDC Call to Action

## Efforts are needed:

- ✓ to create new tools;
- ✓ to detect and treat syphilis;
- ✓ increase testing;
- ✓ control the further spread of syphilis; and
- ✓ improve electronic medical records in order to improve patient outcomes.

## CDC Call to Action

Let's Work Together to Stem the Tide of Rising Syphilis in the United States



April 2017

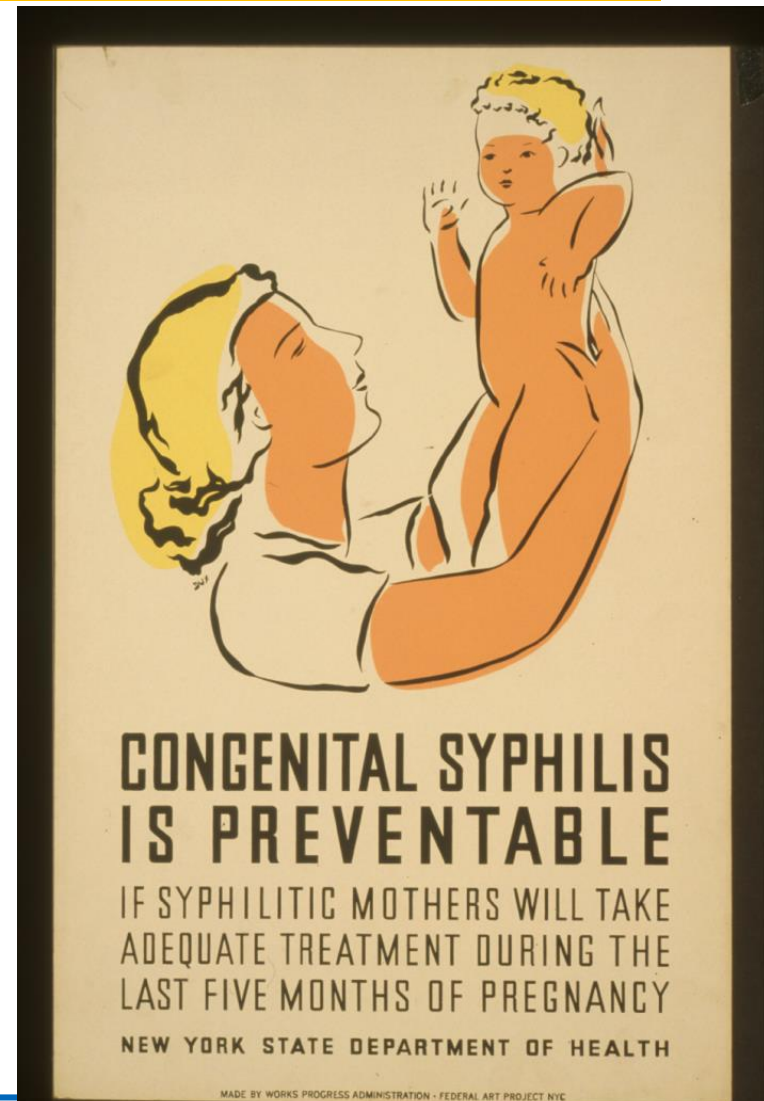
<https://www.cdc.gov/std/syphilis/resources.htm>

# Take-Home Points:

## Congenital Syphilis in California

- Female syphilis and congenital syphilis cases are increasing in California.
- Most congenital syphilis cases can and should be prevented.
- Confirm maternal syphilis testing at delivery; infants should not be discharged without this information.
- Ensure exposed infants are evaluated and treated according to guidelines; this is an opportunity to prevent morbidity associated with untreated syphilis.
- Follow infants until RPRs become nonreactive.
- Report to local health department within 24 hours.

Use [stdccn.org](http://stdccn.org) for management questions.



# Hepatitis C

- Rates of hepatitis C are increasing among women of childbearing age in California
- Test pregnant women for hepatitis C if at risk
  - HIV+; ever injected drugs, even once many years ago
- Vertical transmission risk of HCV: 5% HCV+; 15-20% if HIV+/HCV+
- Currently no prophylaxis to prevent MTCT
  - Treat BEFORE pregnancy; HCV treatment not currently recommended during pregnancy
- “Perinatal hepatitis C” (hepatitis C in an infant ages 2-36 months) reportable to public health as of January 2018
- Curative HCV direct-acting antiviral treatments FDA approved for persons 12 years of age and older

Sources: [Society for Maternal-Fetal Medicine Consult Series #43, Hepatitis C in pregnancy: Screening, treatment, and management](#); AASLD/IDSA [www.hcvguidelines.org](http://www.hcvguidelines.org)



# Clinical Guidelines and Consultation



[www.cdc.gov/std/treatment/](http://www.cdc.gov/std/treatment/)



**STD Clinical Consultation  
Network**

Enter your consult online at:

**[www.stdccn.org](http://www.stdccn.org)**



**CDC STD Treatment Guidelines  
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# Thanks!

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