Stemming the Rising Tide of Congenital Syphilis in California

Heidi Bauer MD, MS, MPH

California Congenital Syphilis Elimination Summit
Wednesday, September 19, 2018

California Department of PublicHealth

In Celebration: Who's here today

- Local health departments
- State public health dept
- National public health partners
- Community-based orgs
- Training centers
- Healthcare providers
- Disease investigators
- Epidemiologists
- Maternal child health advocates
- Academic partners
- Correctional partners
- Drug treatment
- Industry partners

Overview

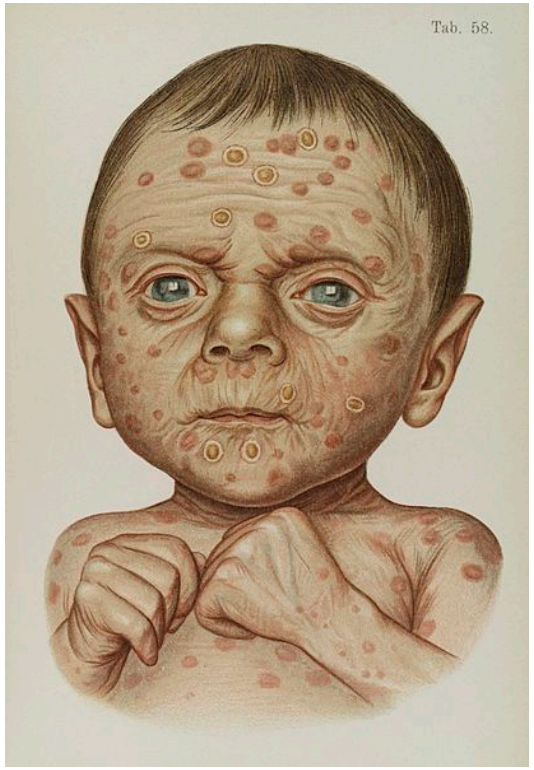
- A little bit of history
- Agenda preview
- Congenital syphilis in CA
- Underlying drivers
- Prevention opportunities

Woodcut 1497

Albrecht Durer, 1496

Rembrandt's portrait of Gerard de Lairesse at age 25.
Oil on canvas, ca. 1665-67.
Metropolitan Museum of Art.

Edvard Munch “The Inheritance” – 1897-99



A lithograph from 1898 of an infant with congenital syphilis. Image: Wellcome Library, London.

Congenital Syphilis Discovery Timeline

1750 1800 1850 1900 1950 2000

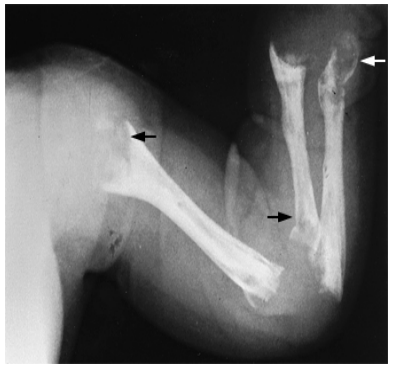
1780: Mercury used in specialized infant hospital in Paris

1905: T. pallidum discovered (Shaudinn & Hoffmann)

1789: Snuffles (Underwood)

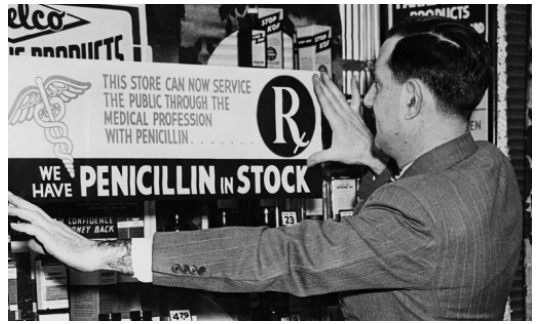
1810: Periosteal bone disease (Bertin)

1863: Late CS (Hutchinson)



1910: Salvarsan (Erlich)

1942: Penicillin (Fleming; Lentz & Ingraham)



Congenital Syphilis affects almost every organ system

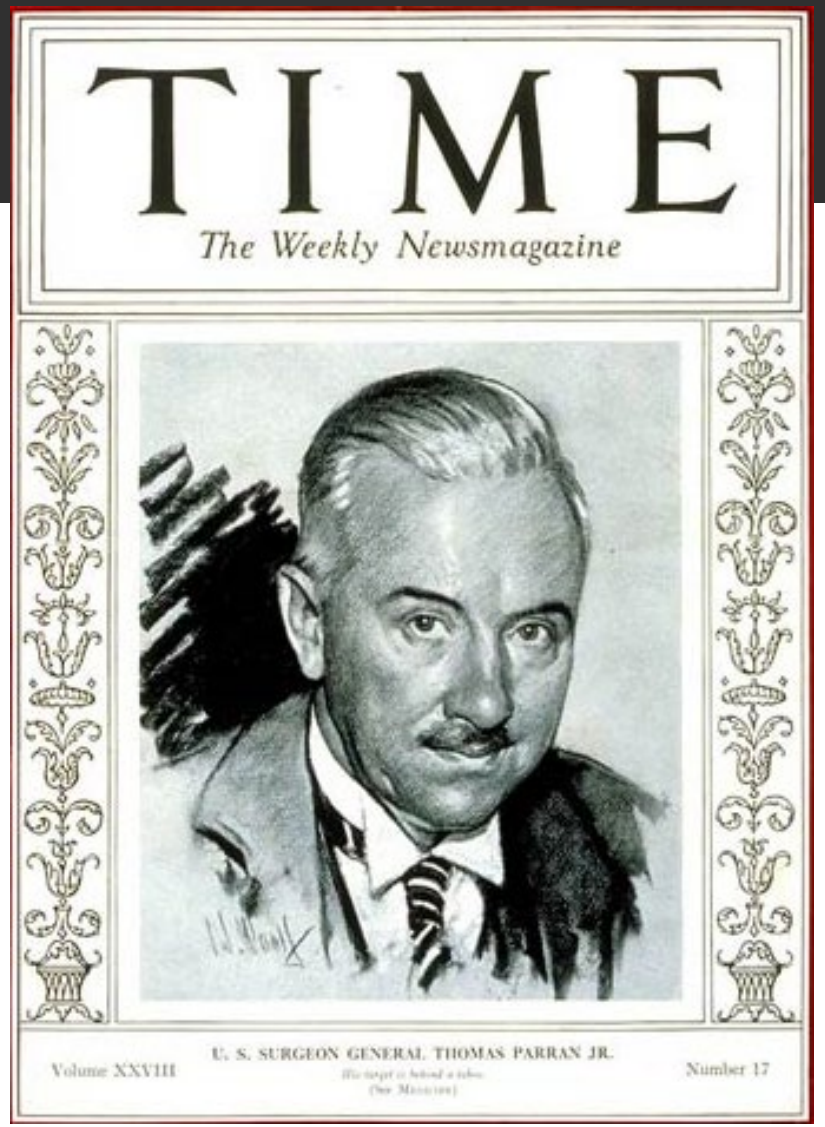
Early manifestations:

- Bone abnormalities
- Enlargement of liver
- Skin rash
- Generalized lymphadenopathy
- Nasal discharge ("snuffles")
- Blood abnormalities
- Neurologic abnormalities
- Fetal and neonatal death

Late manifestations:

- Hearing loss
- Interstitial keratitis
- Vision loss
- Bone and facial abnormalities
- Tooth abnormalities
- Neurologic abnormalities
- Gummas in the skin or mucous membranes

Asymptomatic presentation at birth very common



"The first thing to do completely, is to *wipe out congenital syphilis*. That is one job that doesn't need to take a generation."

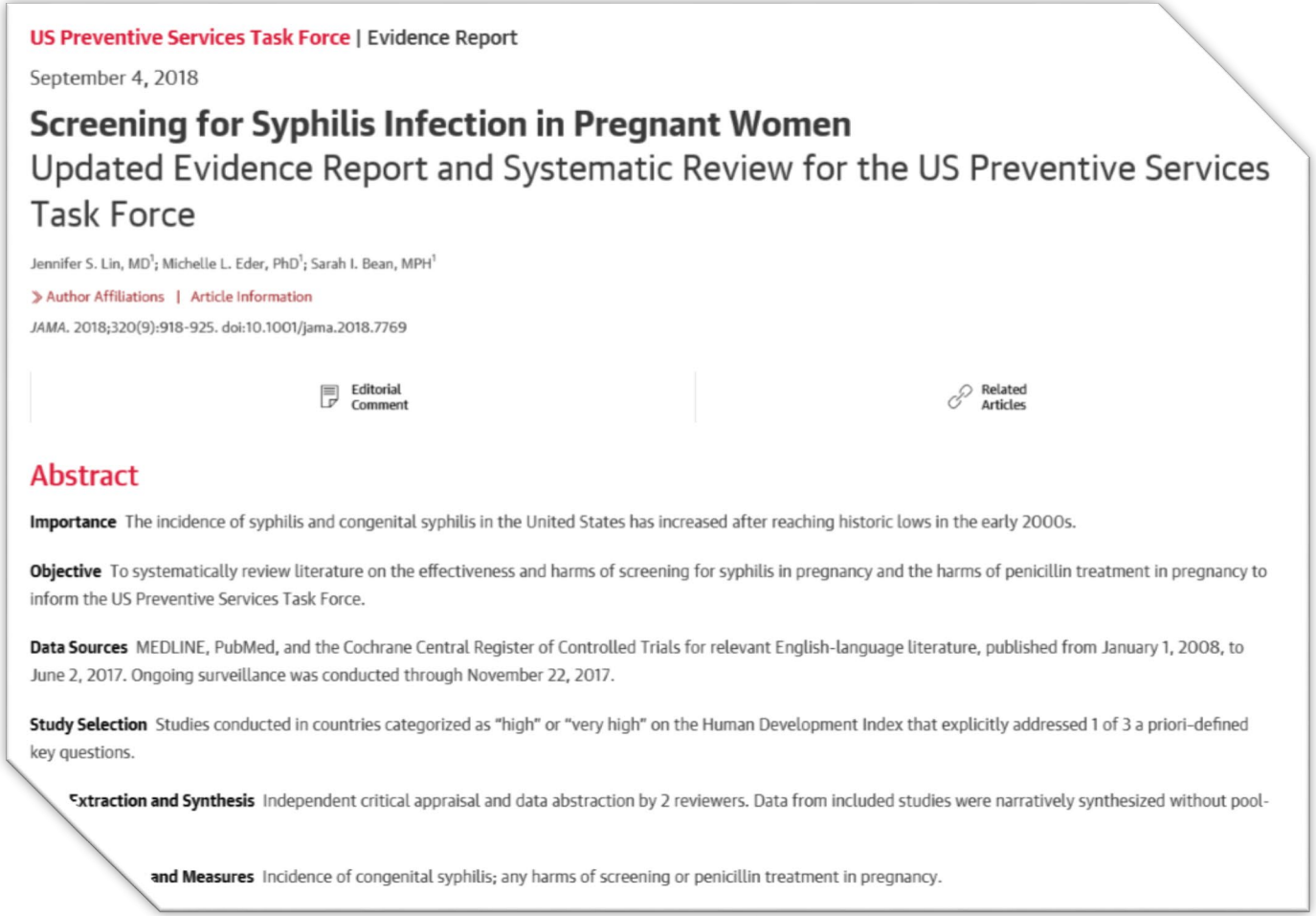
Thomas Parran. **1937**. *Shadow on the Land: Syphilis*. New York, NY: Reynal & Hitchcock

8 decades, 3 generations later, we have failed

Yet, we know how to prevent congenital syphilis

U.S. Preventive Services TASK FORCE

JAMA®
The Journal of the American Medical Association



US Preventive Services Task Force | Evidence Report

September 4, 2018

Screening for Syphilis Infection in Pregnant Women

Updated Evidence Report and Systematic Review for the US Preventive Services Task Force

Jennifer S. Lin, MD[1]; Michelle L. Eder, PhD[1]; Sarah I. Bean, MPH[1]

Author Affiliations | Article Information

JAMA. 2018;320(9):918-925. doi:10.1001/jama.2018.7769

Editorial Comment

Related Articles

Abstract

Importance The incidence of syphilis and congenital syphilis in the United States has increased after reaching historic lows in the early 2000s.

Objective To systematically review literature on the effectiveness and harms of screening for syphilis in pregnancy and the harms of penicillin treatment in pregnancy to inform the US Preventive Services Task Force.

Data Sources MEDLINE, PubMed, and the Cochrane Central Register of Controlled Trials for relevant English-language literature, published from January 1, 2008, to June 2, 2017. Ongoing surveillance was conducted through November 22, 2017.

Study Selection Studies conducted in countries categorized as "high" or "very high" on the Human Development Index that explicitly addressed 1 of 3 a priori–defined key questions.

Extraction and Synthesis Independent critical appraisal and data abstraction by 2 reviewers. Data from included studies were narratively synthesized without pool-

and Measures Incidence of congenital syphilis; any harms of screening or penicillin treatment in pregnancy.

CA CS Elimination Summit – Day 1

9:30 – 10:15	**The National Congenital Syphilis Crisis** Gail Bolan, MD, MPH
10:30 – 11:30	**Congenital Syphilis: Current Management for a Persistent Problem!** Pablo J. Sanchez, MD
12:45 – 2:00	**MCAH: A Collaboration to Enhance Congenital Syphilis Response** ➢ Diana Ramos, MD MPH ➢ Denise Smith, PHN MPA ➢ Jennifer Day, PHN *Facilitator: Ashley Dockter, MPH*
2:15-3:30	**Breakout Sessions**
3:45 – 4:55	**Offering Services to, and Engaging in Care, Pregnant Women Who Are Unstably Housed or Homeless** Dominika Seidman, MD

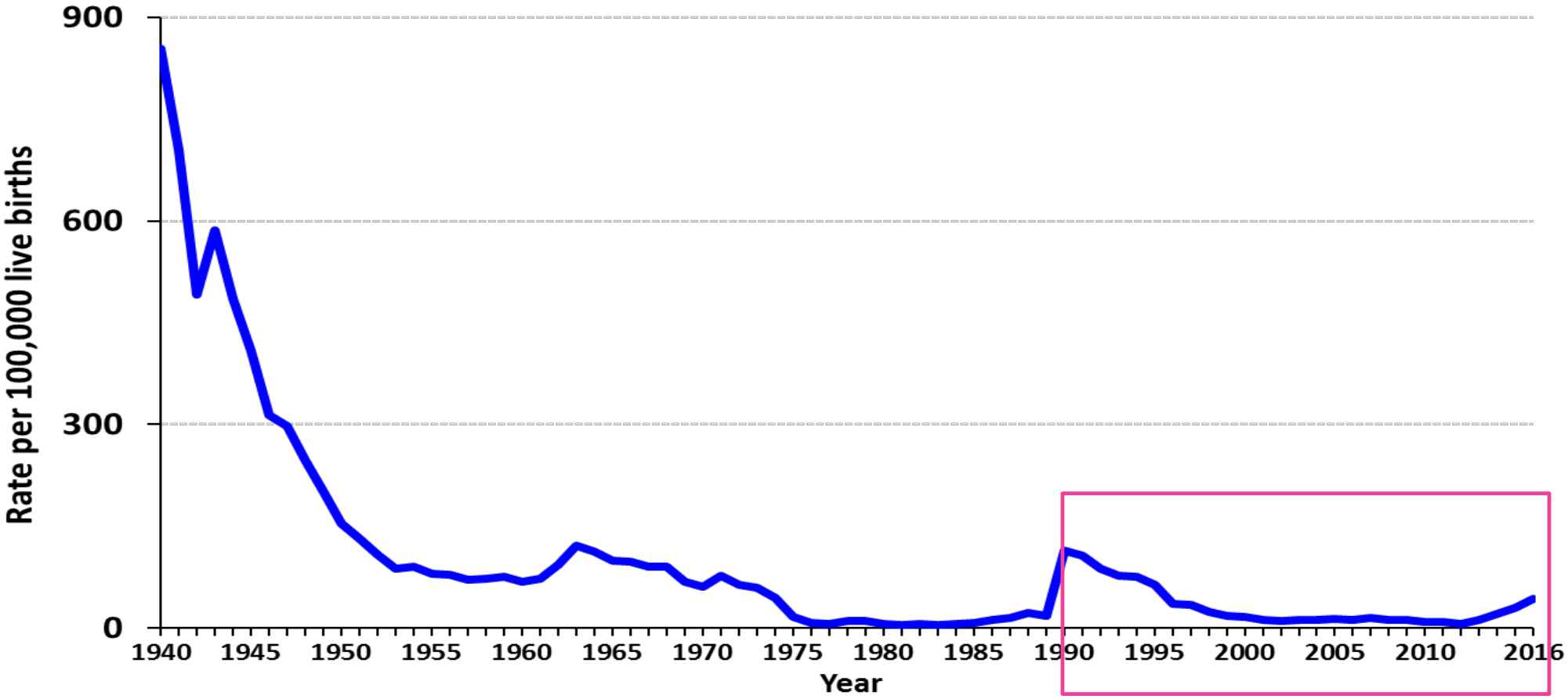
Breakout Sessions:

1	**Pregnancy Intention + Contraceptive Counseling** Erica Neuman, MS
2	**Congenital Syphilis M&M Review Boards** Satvinder Dhaliwal, MPH
3	**Syphilis Screening in Jails Panel** ➢ Jena Adams ➢ Susan Strong, NP *Facilitator: Jennifer Harmon, MPH*
4	**The Harm Reduction Approach to Reducing Risk** Taeko Frost, DrPH

CA CS Elimination Summit – Day 2

8:30 – 9:00	**Rapporteur Session** with Ashley Dockter, MPH
9:00 – 10:45	**Pathways to Congenital Syphilis Elimination in California** Discussion Leaders: Jessica Frasure-Williams, MPH & Ashley Dockter, MPH
11:00 - 11:45	**Bridging Across Groups and STI Transmission Dynamics** Martina Morris, PhD
1:00 – 1:45	**Considerations for Statewide Third Trimester Screening Guidelines** Sarah C. Lewis, MD, MPH Susan Philip, MD, MPH *Facilitator: Jessica Frasure-Williams, MPH*
1:45 – 2:45	**Trauma Informed Care - What Is It? And Can It Help?** Allison Briscoe-Smith, PhD

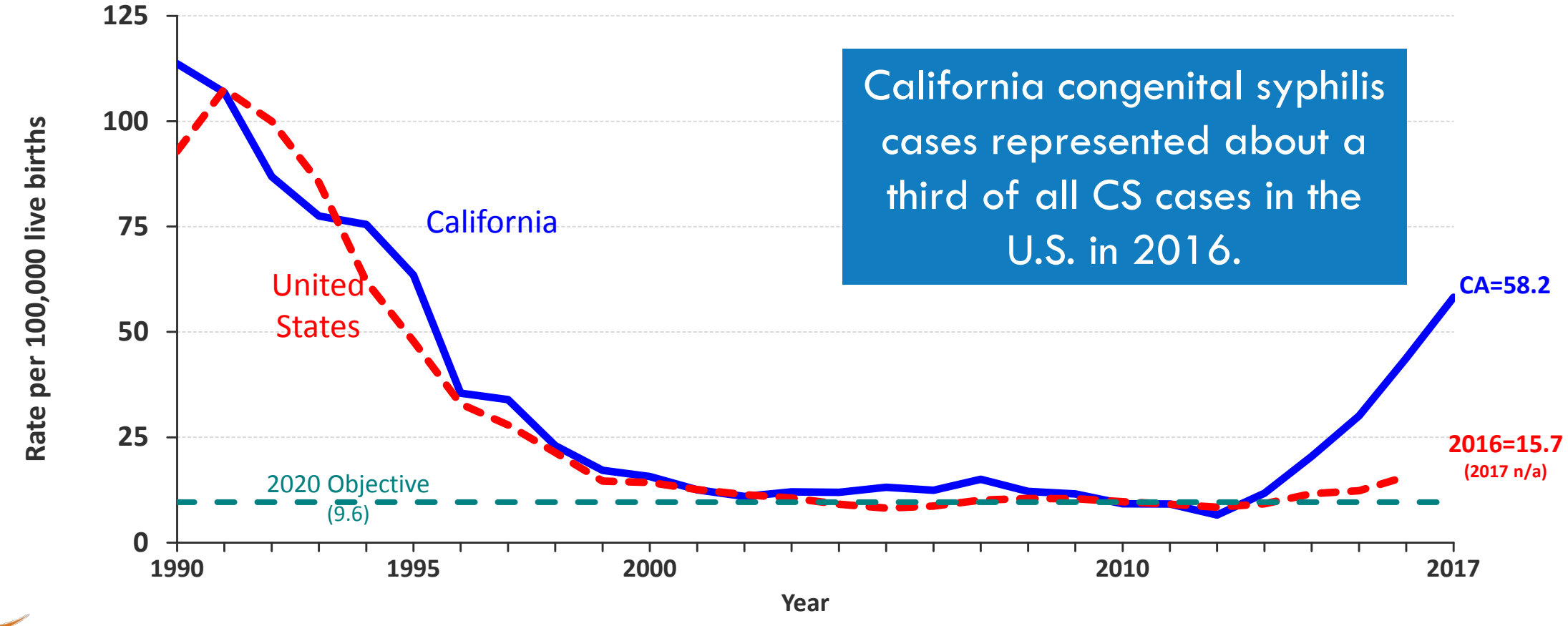
Congenital Syphilis, California Incidence Rates, 1940–2016



CDPH California Department of PublicHealth

Rev. 6/2017

Congenital Syphilis, California versus United States Incidence Rates, 1990–2017

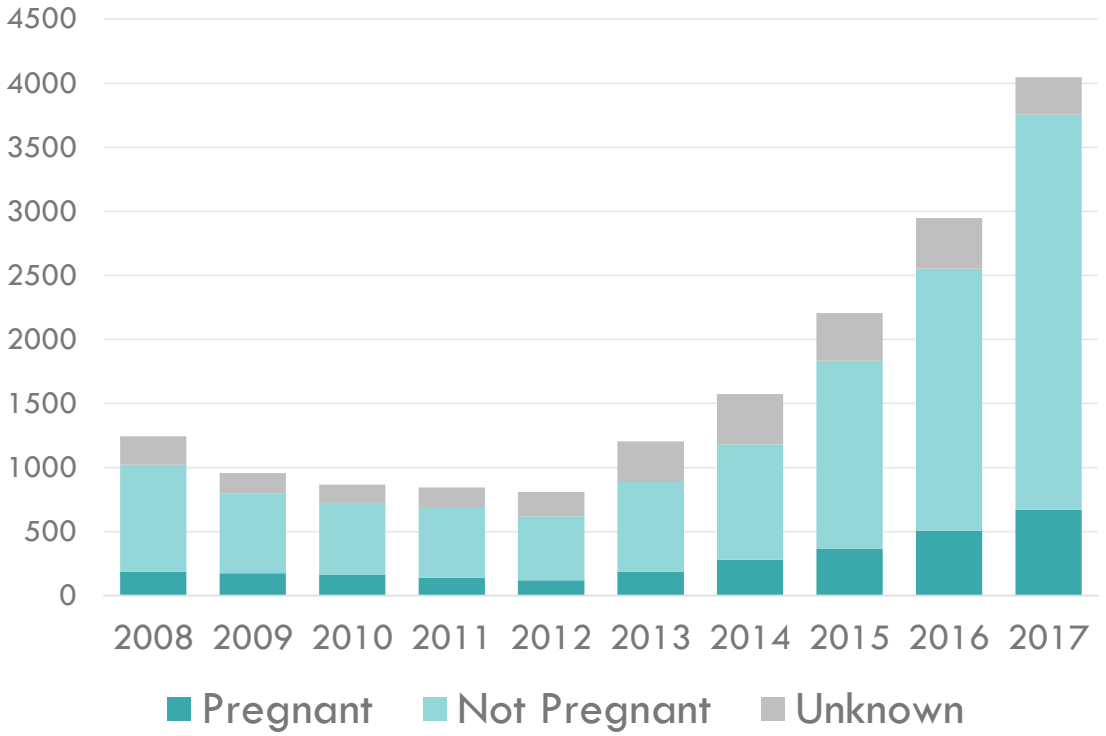


Note: The Modified Kaufman Criteria were used through 1989. The CDC Case Definition (MMWR 1989; 48: 828) was used effective January 1, 1990.

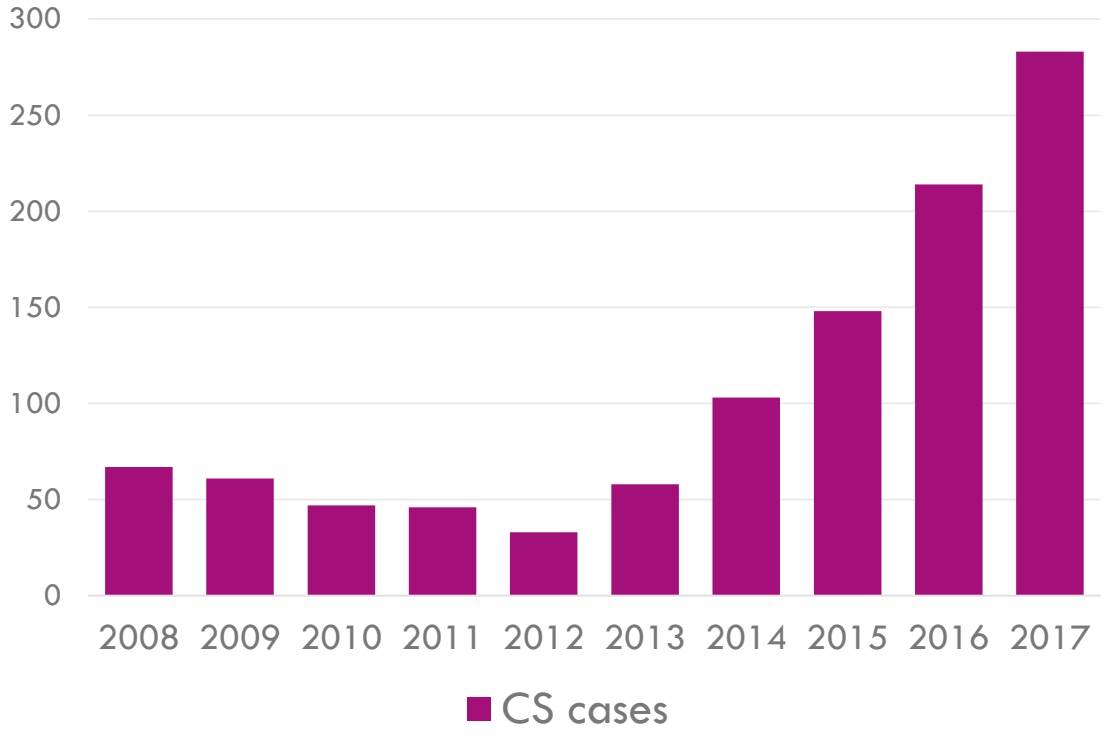
Rev. 7/2018

Syphilis in females and infants has been **increasing** in California since 2012

Female syphilis cases (all stages)

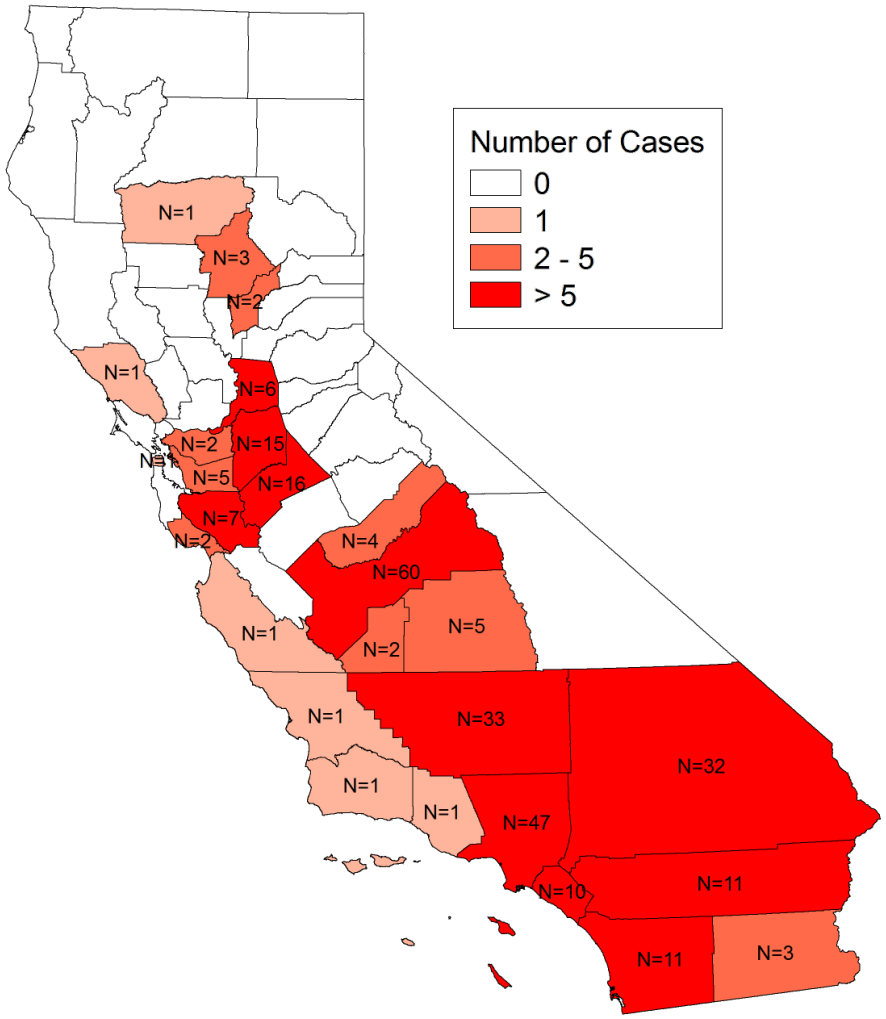


Congenital syphilis cases

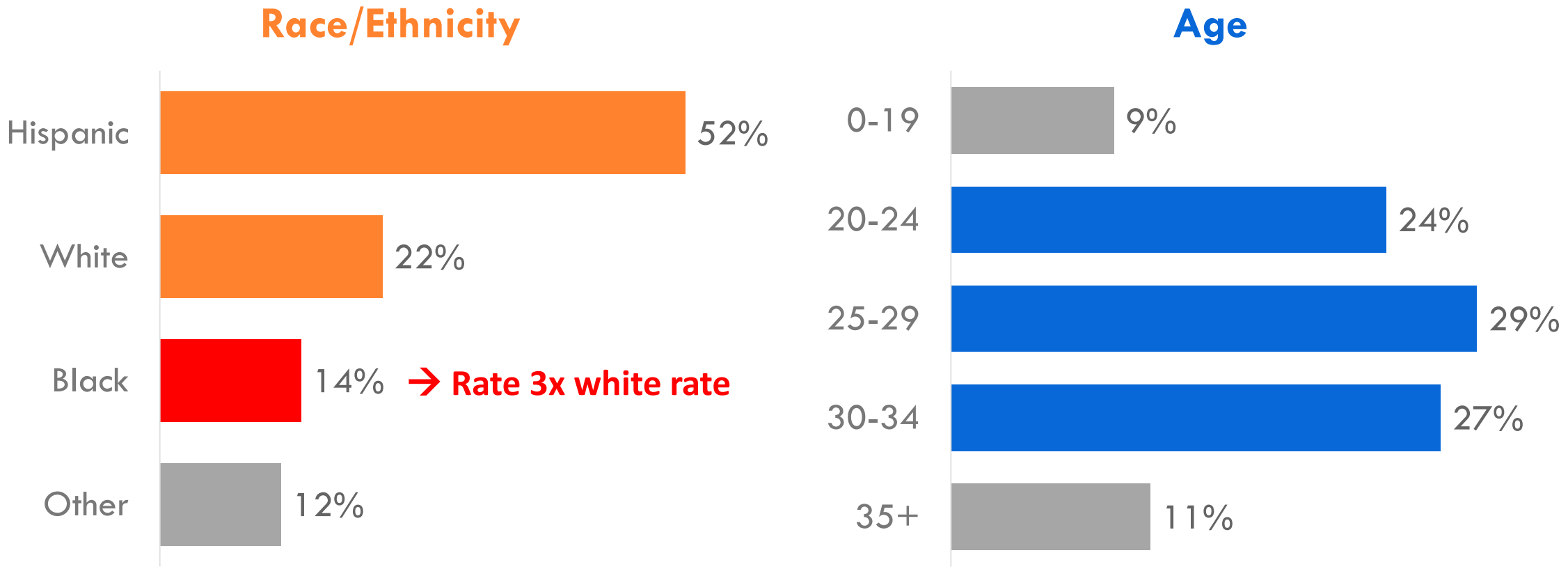


The highest morbidity counties are in **Central** and **Southern California**.

Congenital Syphilis Cases by County, California, 2017

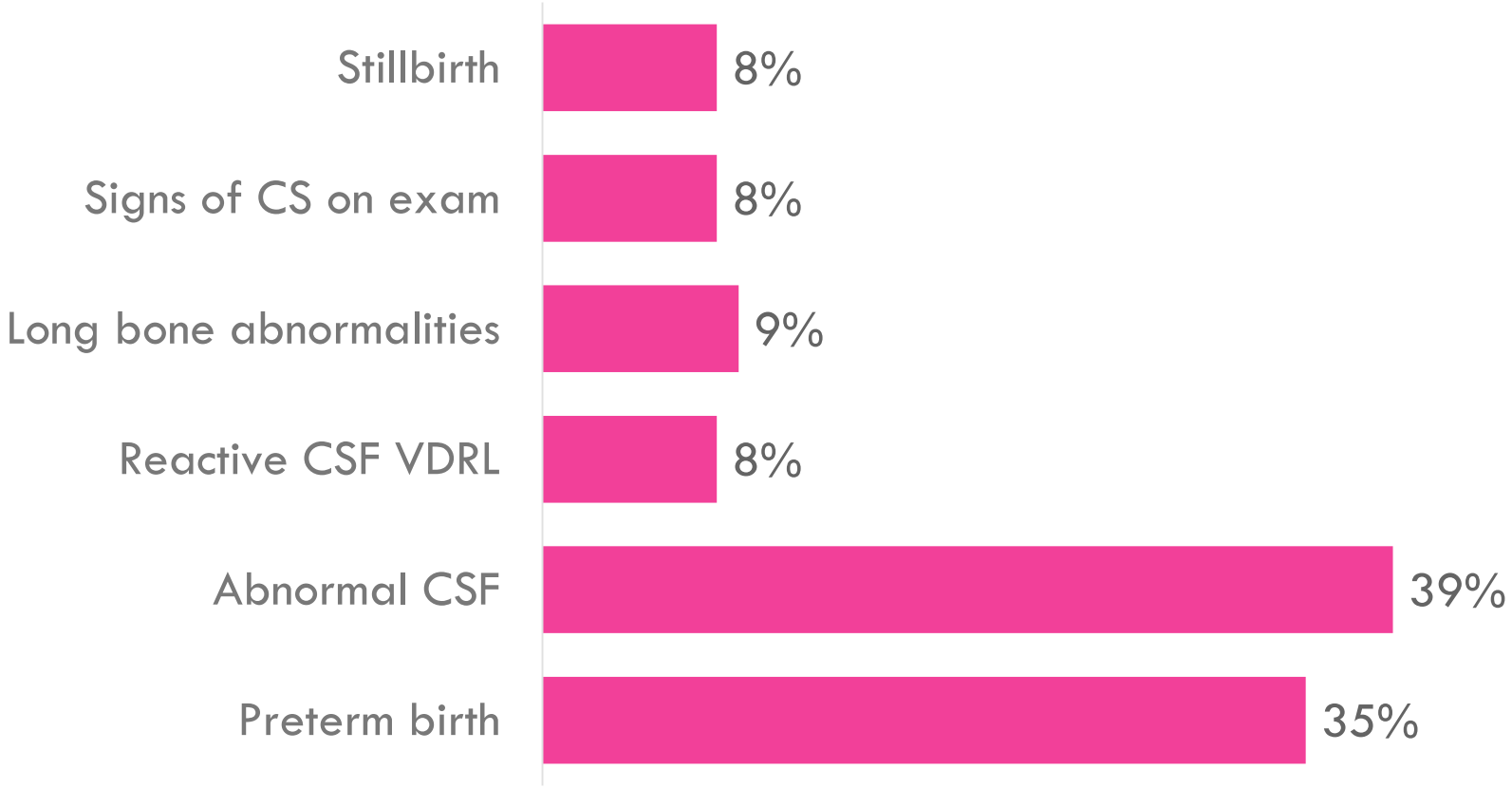


Who are the pregnant women with syphilis in California? Majority Hispanic or White and between age 20 and 34



Source: 2016-2017 California surveillance data

What were the health outcomes of babies with CS?

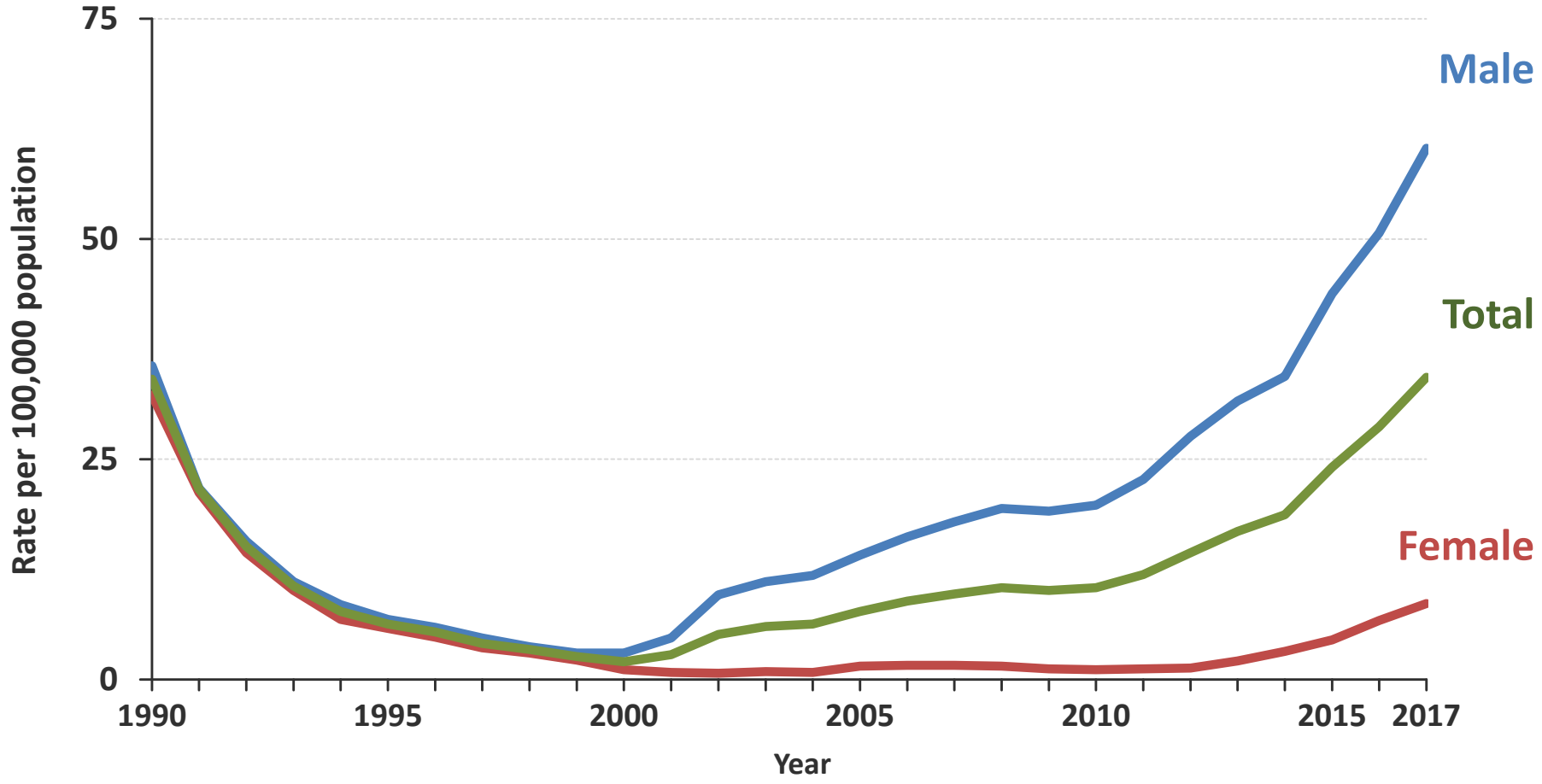


Source: 2016-2017 surveillance data, N=499

WHY???

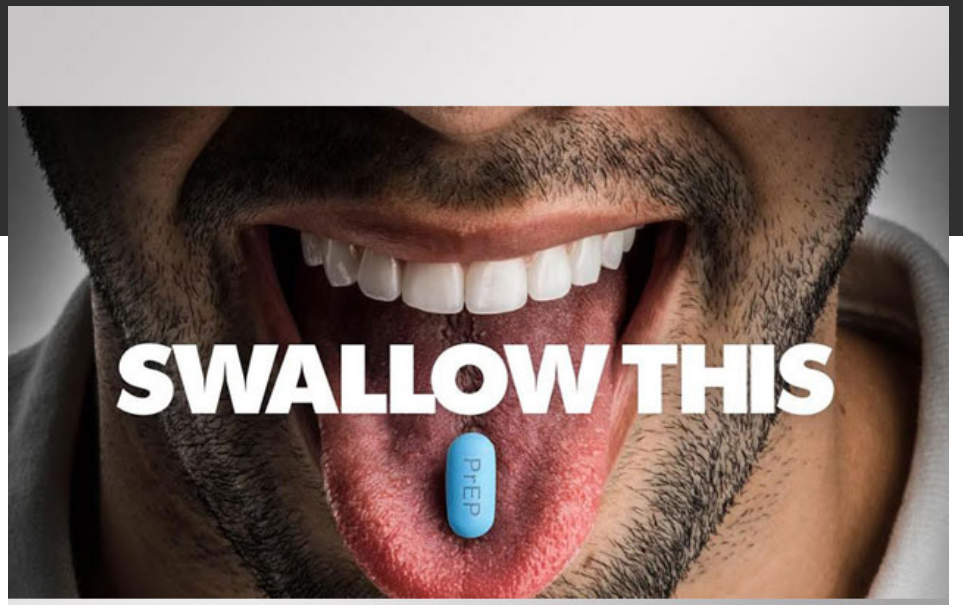
- *What is causing these increases?*
- *Why here?*
- *Why now?*
- *What has changed?*

Early Syphilis, Incidence Rates by Gender
California, 1990–2017



HIV Treatment and Prevention

HIV HAART widely available 1996



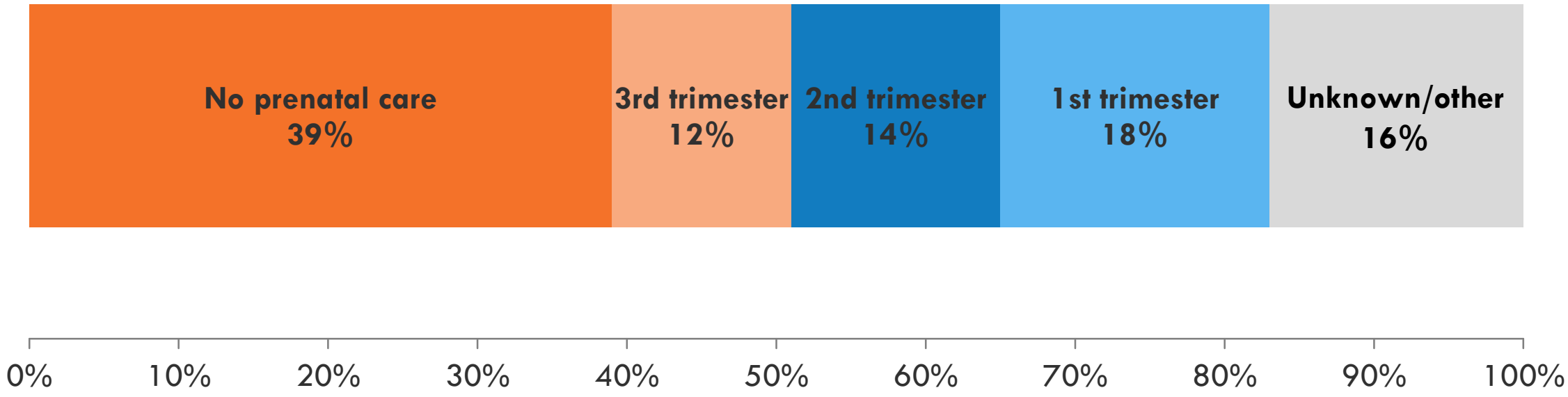
HIV PrEP FDA approved in July 2012

Mobile Hook-up Apps

World wide web 1990 … Smart phone 2007 … Grindr launched 2009

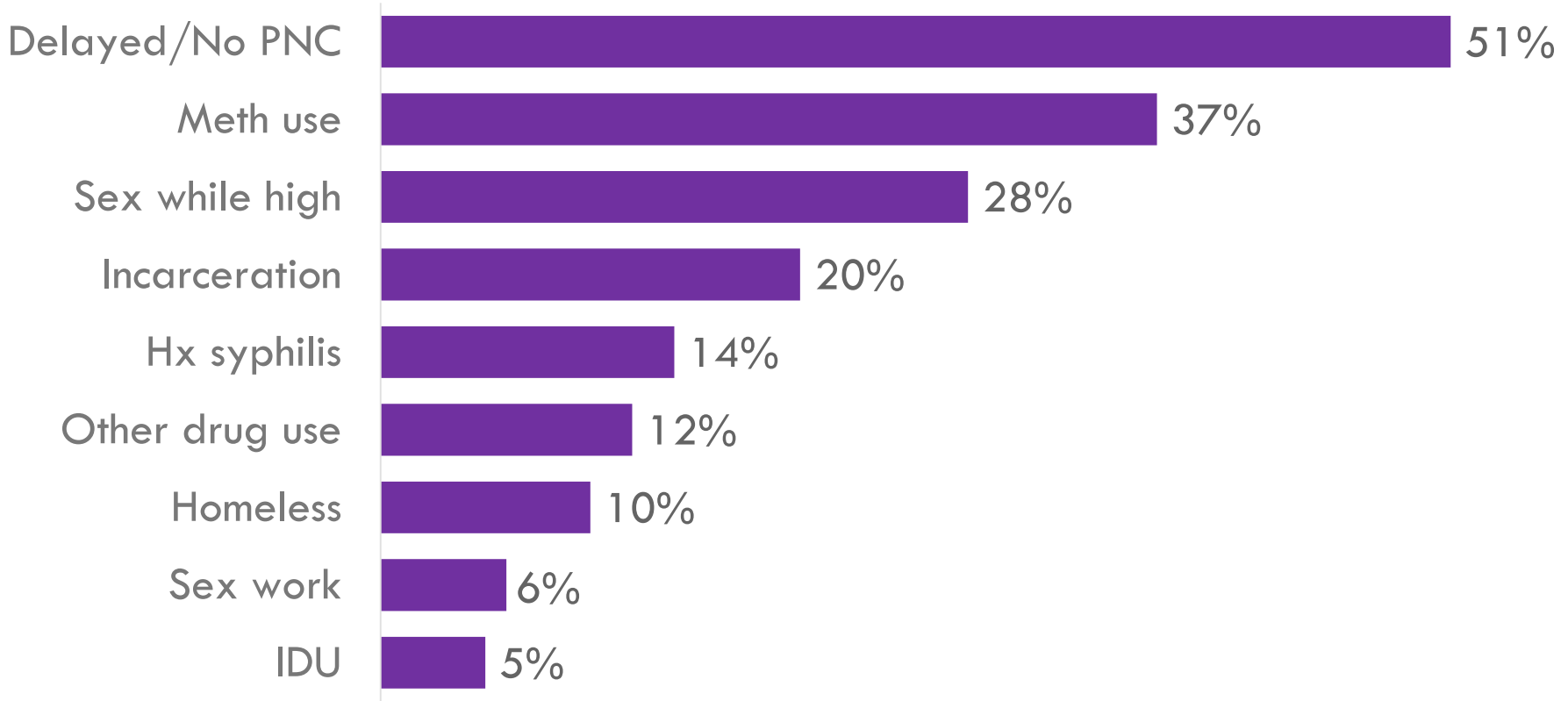
Substance Abuse and Addition?

Over half of the women who gave birth to babies with congenital syphilis initiated prenatal care **in the third trimester or not at all**



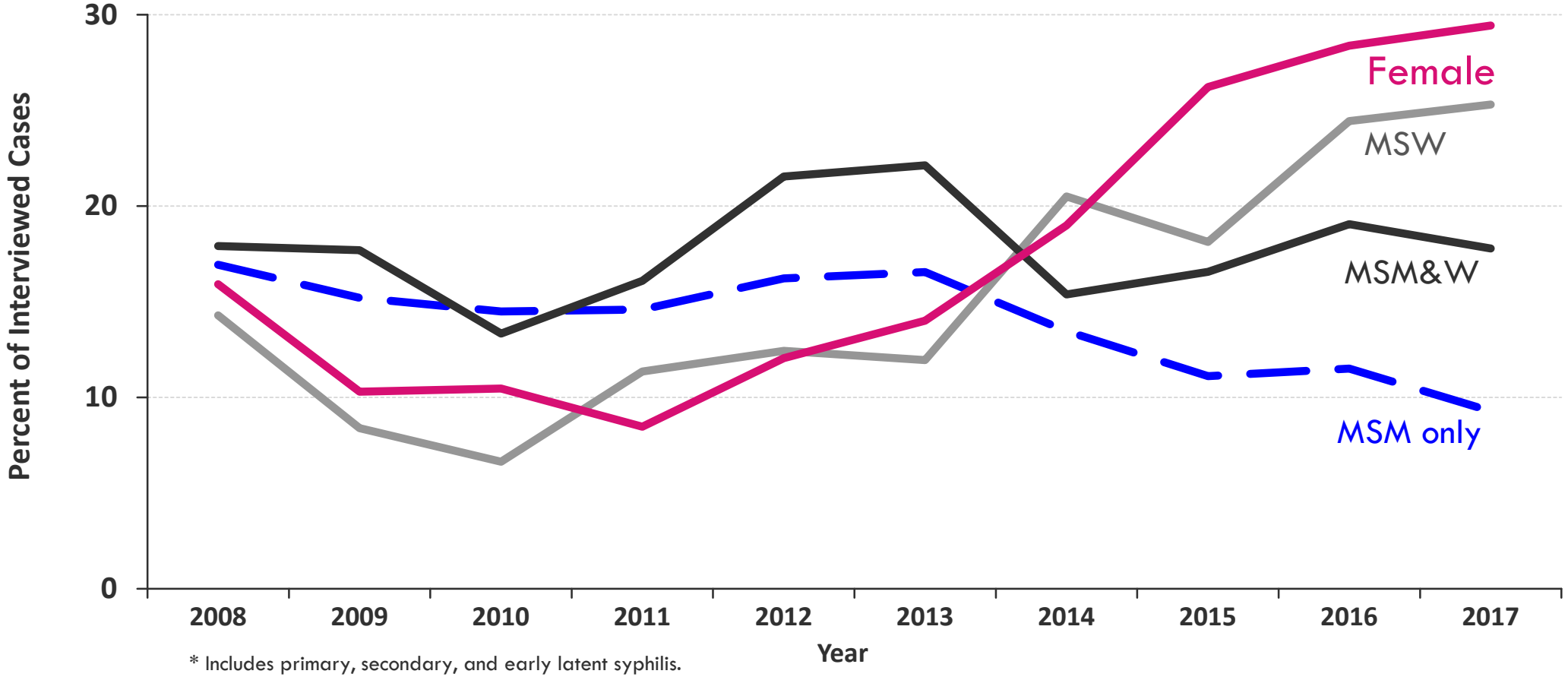
Source: 2016-2017 surveillance data, N=499

Maternal Risk Factors reported by mothers of CS infants



Source: 2016-2017 surveillance data, N=298

Percent of Early Syphilis* Cases who Reported Methamphetamine Use, by Sexual Orientation, CA 2008–2017



* Includes primary, secondary, and early latent syphilis.

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

Rev. 7/2018

Pregnant and Addicted to Heroin

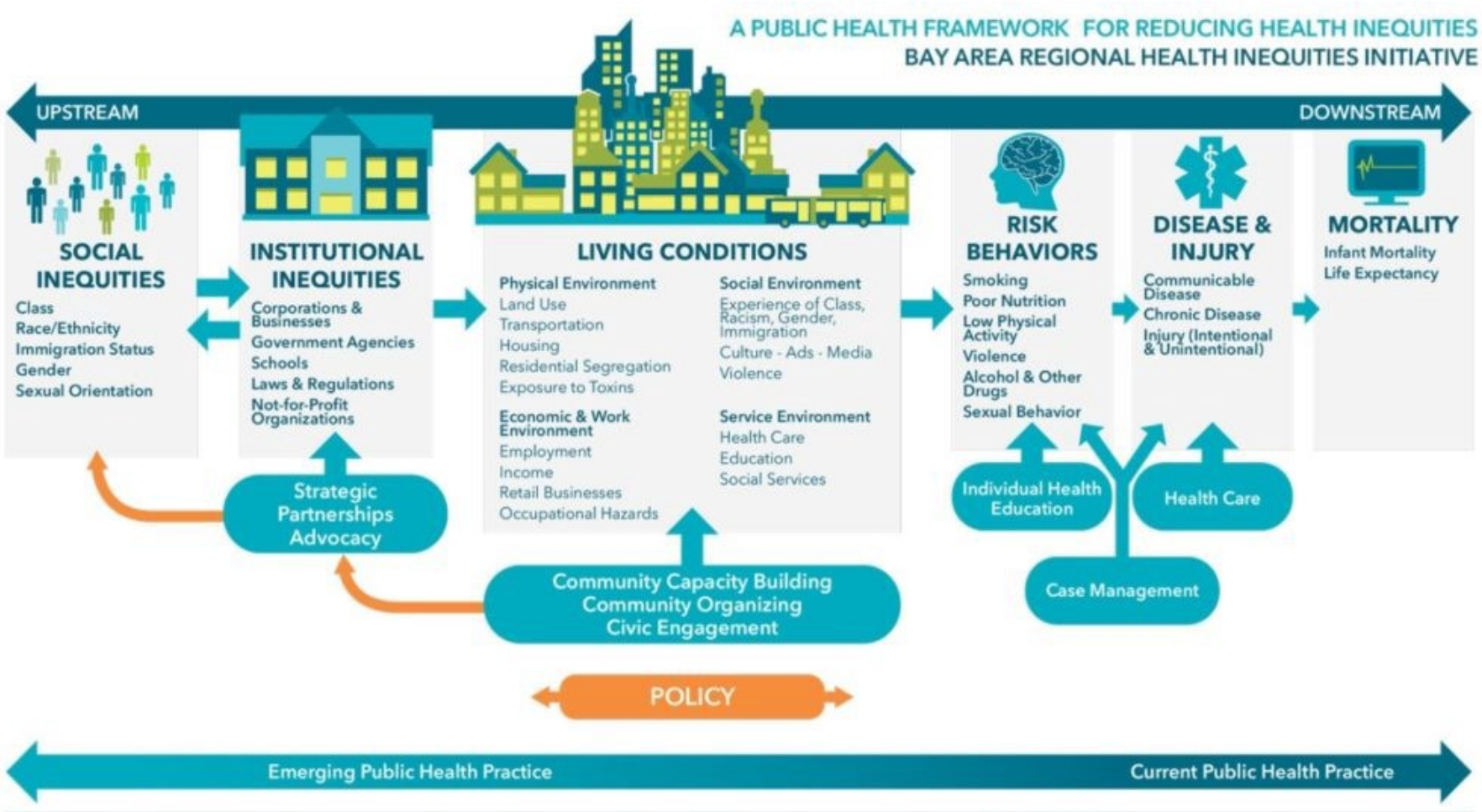
The Atlantic

Rachel Cassandra

Aug 24, 2018

Role of Social Determinants in CS

- Poverty
- Lack of access to care
- Limited transportation
- Housing insecurity
- Sex trafficking
- Domestic violence
- Addiction
- Fear of CPS involvement



Congenital syphilis can be prevented.

Pre-pregnancy

- Screening/dx/tx
- Timely partner services
- Accessible highly effective contraception

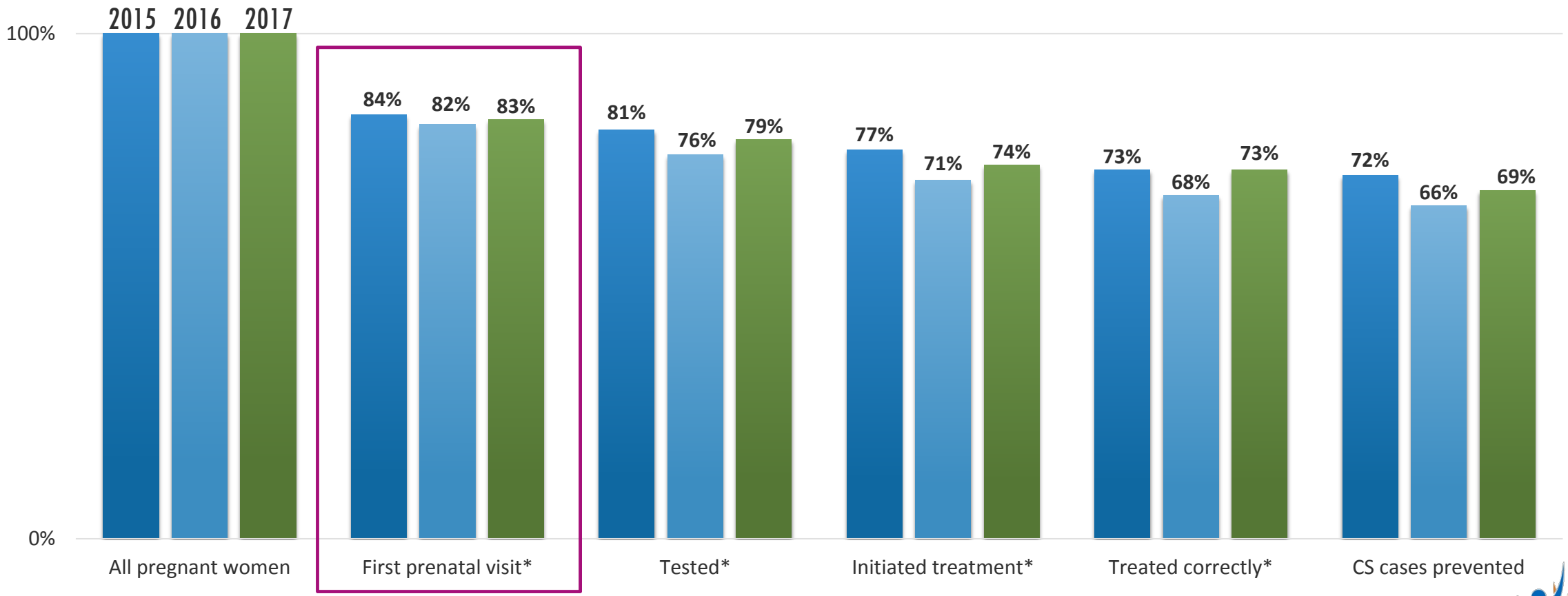
During pregnancy

- Linkage to prenatal care
- Screening/dx
- Timely treatment appropriate for stage
- Timely partner services
- Case management
- Prevent and detect new infection

Birth

- Evaluation and treatment of baby

Prevention gaps include late PNC, testing and timely treatment



* ≥30 days prior to delivery

Source: Nicole Burghardt, 2015-2017 CPA surveillance data

172 missed opportunities for prevention were identified among **69 cases reviewed**.

103 clinical

prenatal

- 41 missed screening
- 27 missed treatment
- 9 missed diagnosis

delivery

- 16 missed treatment of mother
- 10 missed treatment of infant

50 health department

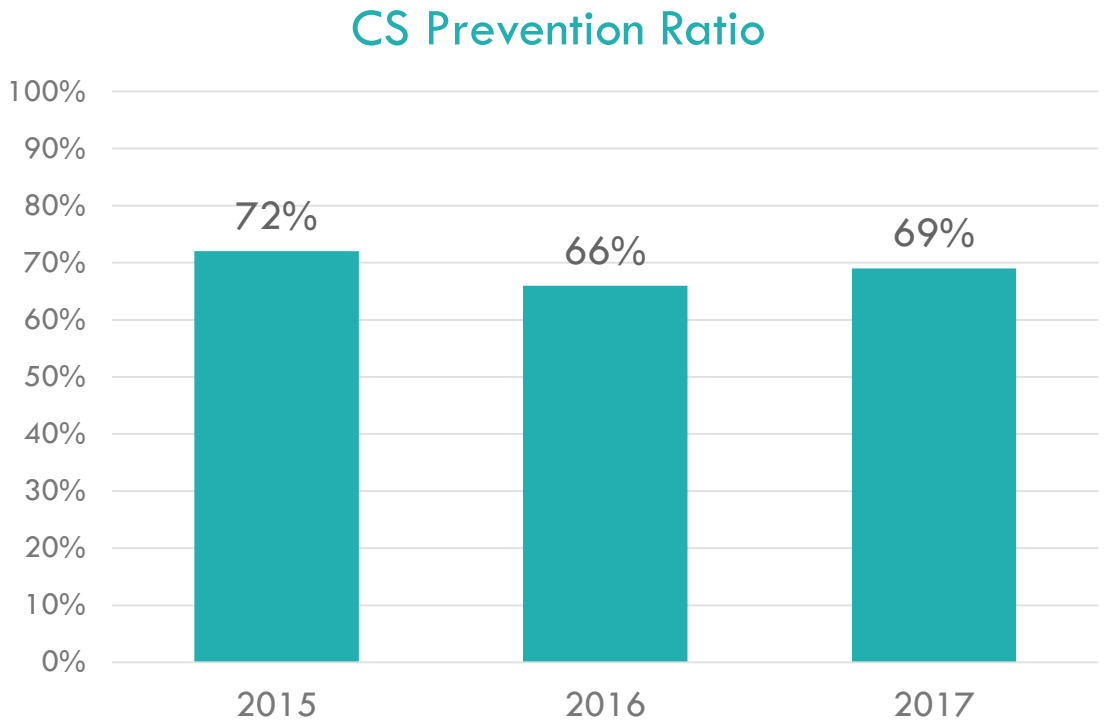
- 28 partners unable to locate
- 11 patients unable to locate
- 11 delays in follow-up

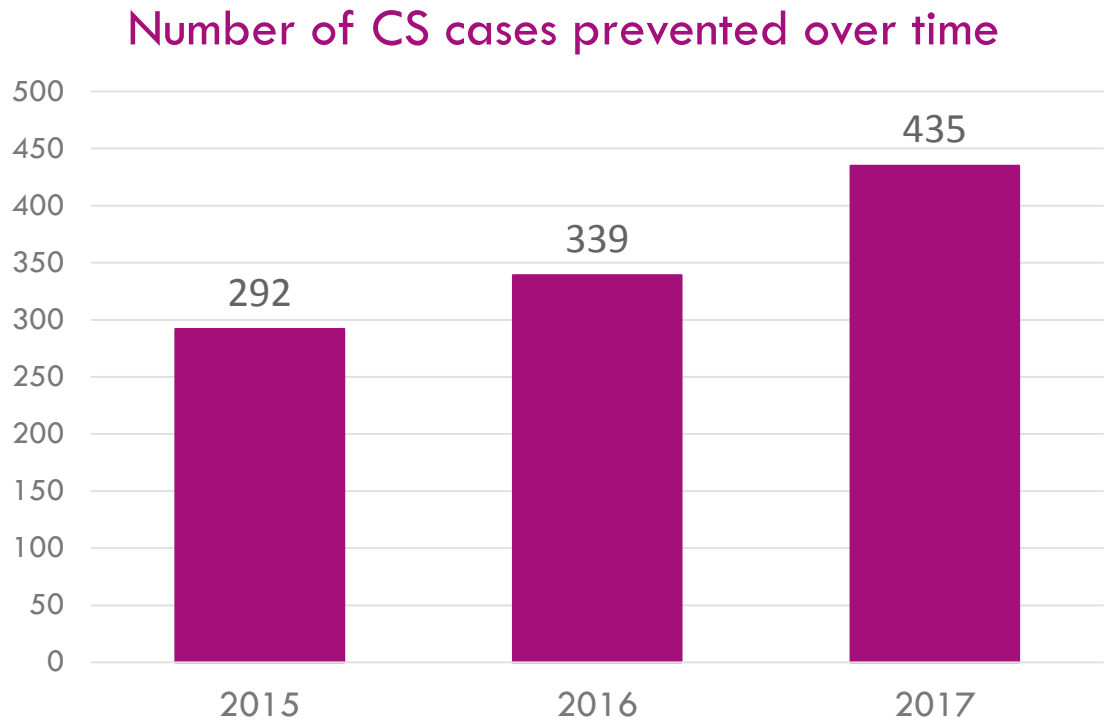
19 other

- 9 lack of jail screening

Source: Ashley Dockter, 2016-June 2018 CPA M&M Review Data

Congenital syphilis prevention outcomes, CPA, 2015-2017





Source: Nicole Burghardt, 2015-2017 CPA surveillance data

Online resources @ STD.ca.gov

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Congenital Syphilis

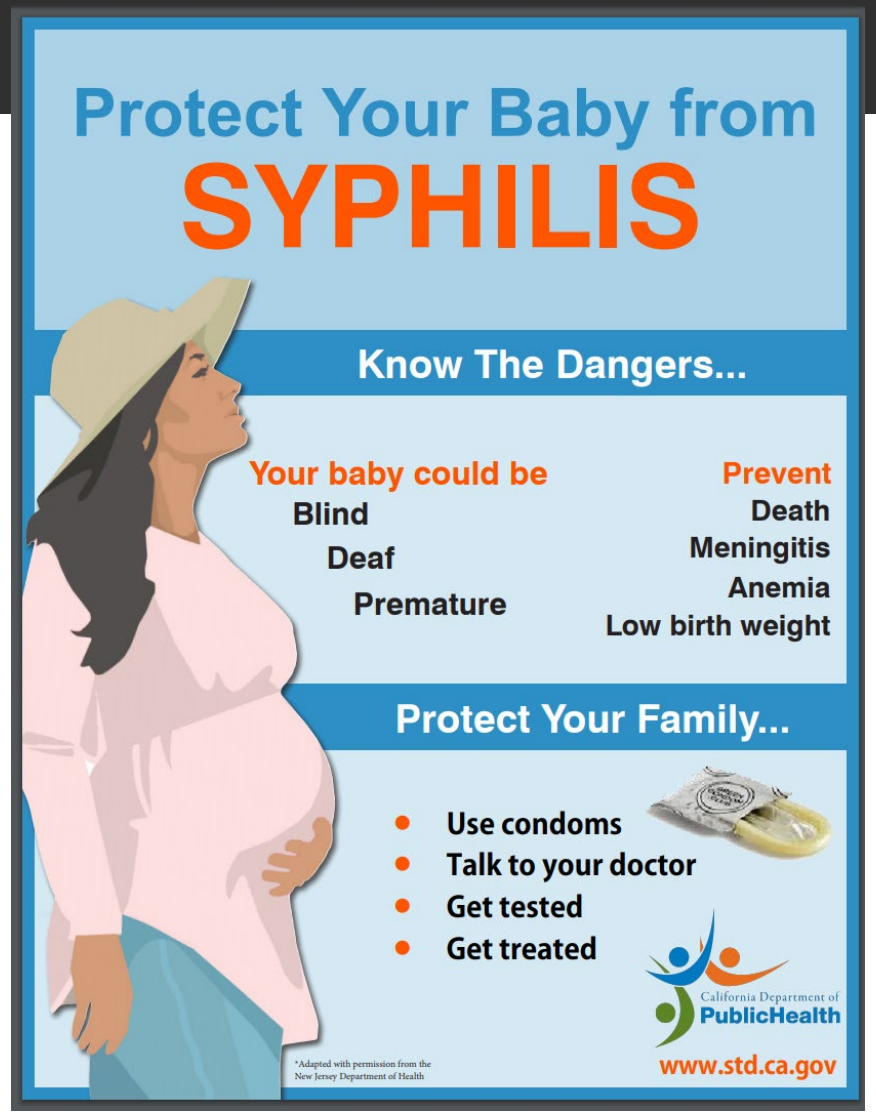
Congenital syphilis is an infection transmitted from mother to child during pregnancy and/or delivery caused by the bacterium *Treponema pallidum*. Congenital syphilis can cause severe illness in babies including premature birth, low birth weight, birth defects, blindness, and hearing loss. It can also lead to stillbirth and infant death. Tests and treatment for pregnant women are readily available.

Over the last several years, California has experienced a steep increase in syphilis among women and congenital syphilis (CS). From 2012 to 2017, the annual number of reported early syphilis cases among women of childbearing age increased by over 600%, from 207 to 1,460 cases. This was accompanied by over a 700% increase in the number of reported CS cases, from 33 to 278 cases, and an increase in syphilitic stillbirths, from one in 2012 to 30 in 2017. In 2017, most female early syphilis cases and congenital syphilis cases in California were reported from the Central Valley; however, an increasing number of counties throughout California are reporting their first CS case in years. Most women who gave birth to babies with congenital syphilis received prenatal care late in pregnancy or not at all.

Note: 2017 data are provisional.

Resources for Providers

Resources for Local Health



Pathways to Congenital Syphilis Elimination in California

Vision

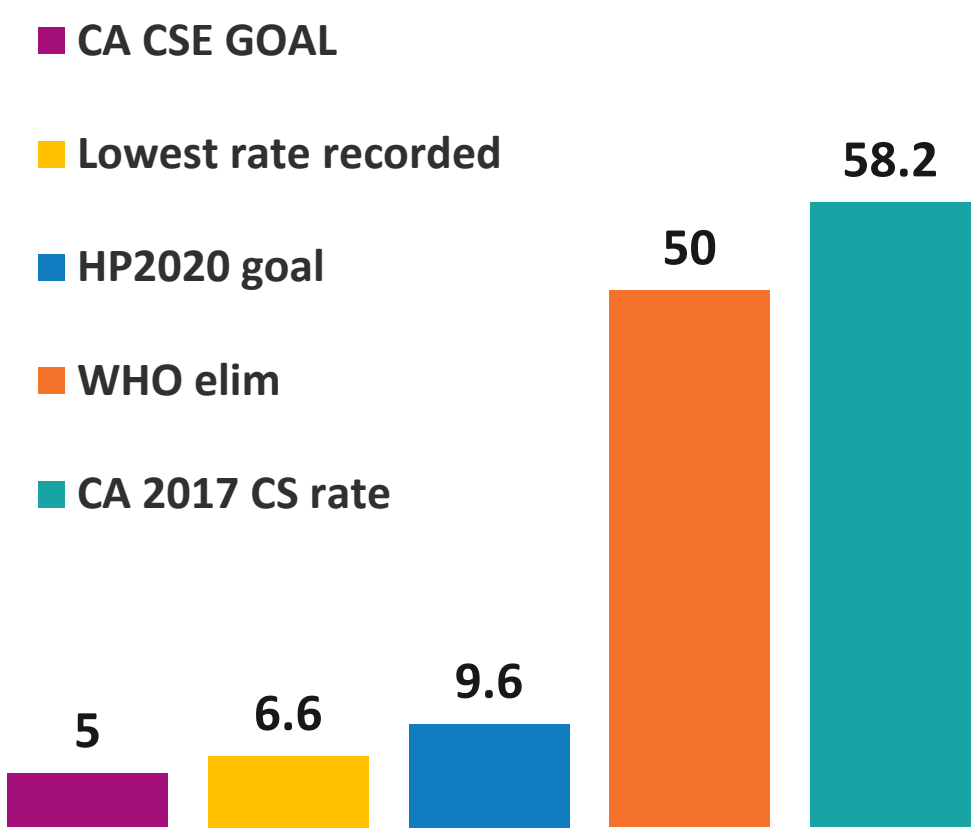
Achieve congenital syphilis elimination in California by 2023.

Purpose

Provide all stakeholders in congenital syphilis prevention with a specific, measurable goal and action steps to guide their prevention efforts.

Pathways to Congenital Syphilis Elimination

- Proposed elimination goal for births in CA: **5 per 100,000**
  - Lowest recorded rate in CA (2012) was 6.6 per 100,000
  - Healthy people 2020 goal is 9.6 per 100,000
  - WHO elimination defined as 50 per 100,000
  - CA CS rate in 2017 was 58.2 per 100,000
- Where: Statewide AND in every county with over 8,000 births
- By When: 2023



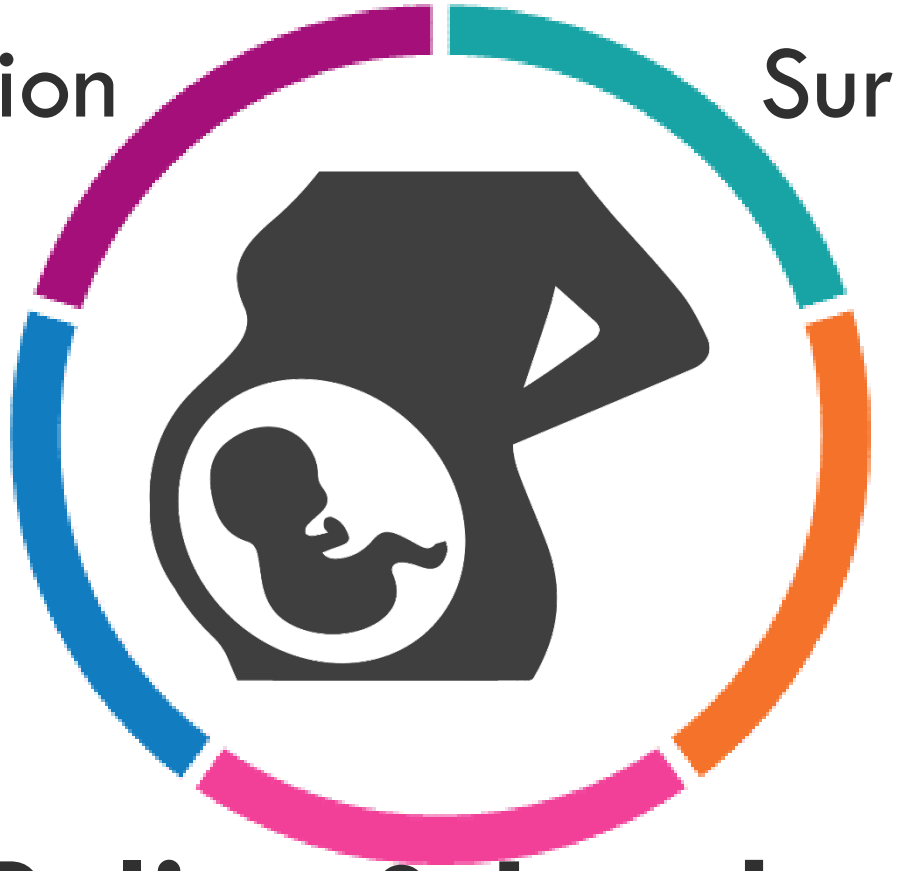
Audience: **ALL** stakeholders/partners in congenital syphilis prevention

- Local health jurisdictions
- State government agencies/ programs
- Healthcare providers
- Community-based organizations
- Corrections
- Academic and Private Sectors
- Policy makers
- The public

Framework

Disease Investigation

Surveillance/Epi



Health Promotion

Clinical

Policy & Leadership

High Priority Strategies for Congenital Syphilis Elimination

Testing	• Third trimester and delivery screening in pregnancy • Corrections, drug treatment, emergency departments • Family planning, primary care screening reproductive age females
Treatment	• On-site bicillin treatment; adequate reimbursement • Maximize 340B program • Evaluation and treatment of exposed infants
Case Review	• M&M continuous case review
Public Health	• Active surveillance • Outbreak response and disease intervention
Access to PNC	• Housing, transportation, social supports • Substance abuse treatment

Thank you

Denise Gilson
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Nicole Burghardt
Kelly Nguyen
Jessica Frasure-Williams
Juli Carlos-Henderson, LA County

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