



# STDs, HIV, and COVID-19: Hard-Won Lessons in Pandemic Response

**Getting to Zero Web Series: October 1, 2020**

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Santa Clara County Public Health Department

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# Learning Objectives

At the completion of this presentation, participants will be able to:

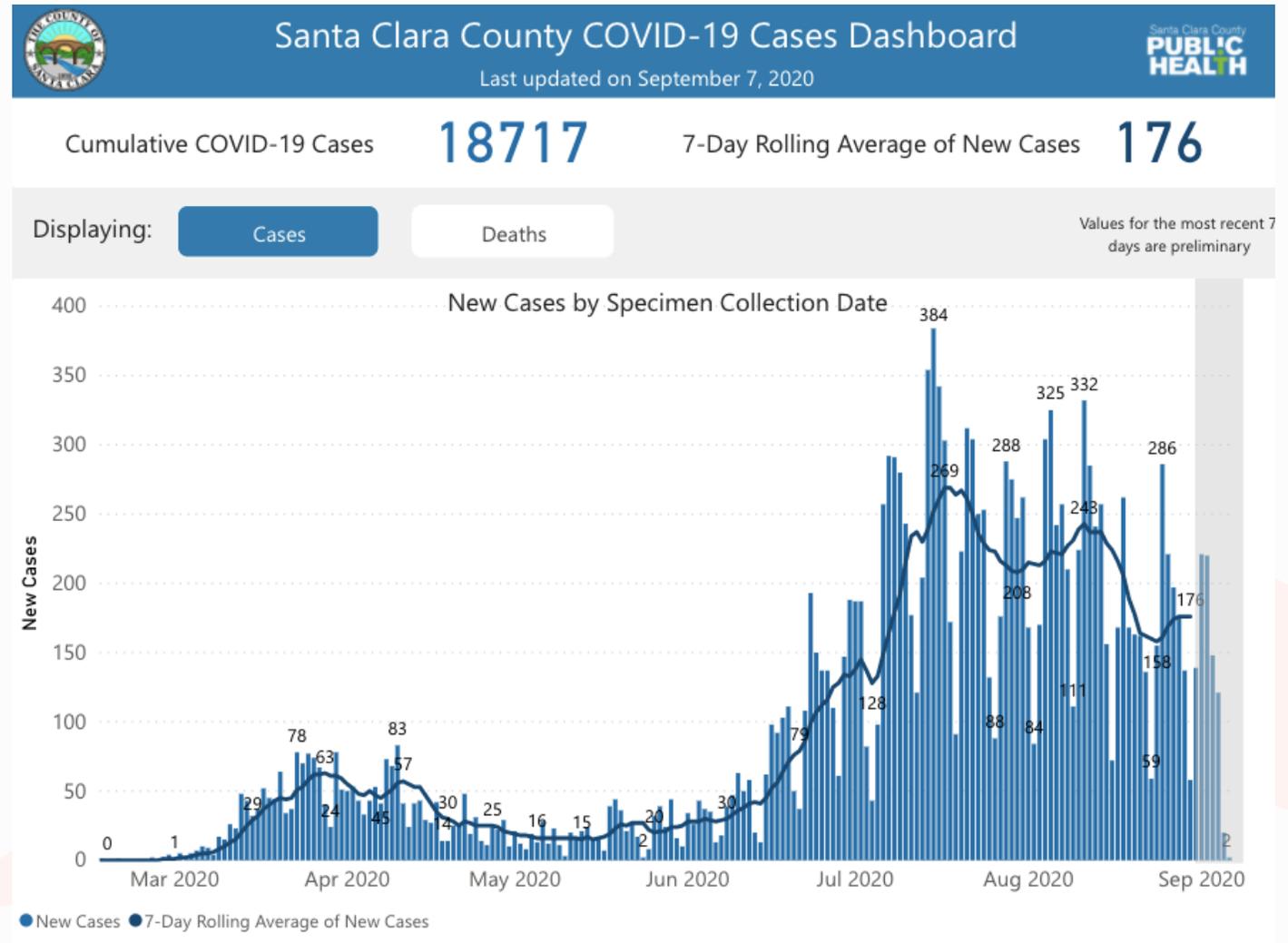
- Describe local HIV and STD epidemiology in Santa Clara County.
- Identify three best practices in STD and HIV prevention.
- Compare disease control strategies between Covid-19 and STDs.
- Examine clinical opportunities to address social determinants of health.

# COVID-19 Data and Response

## LESSONS LEARNED...AND STILL LEARNING

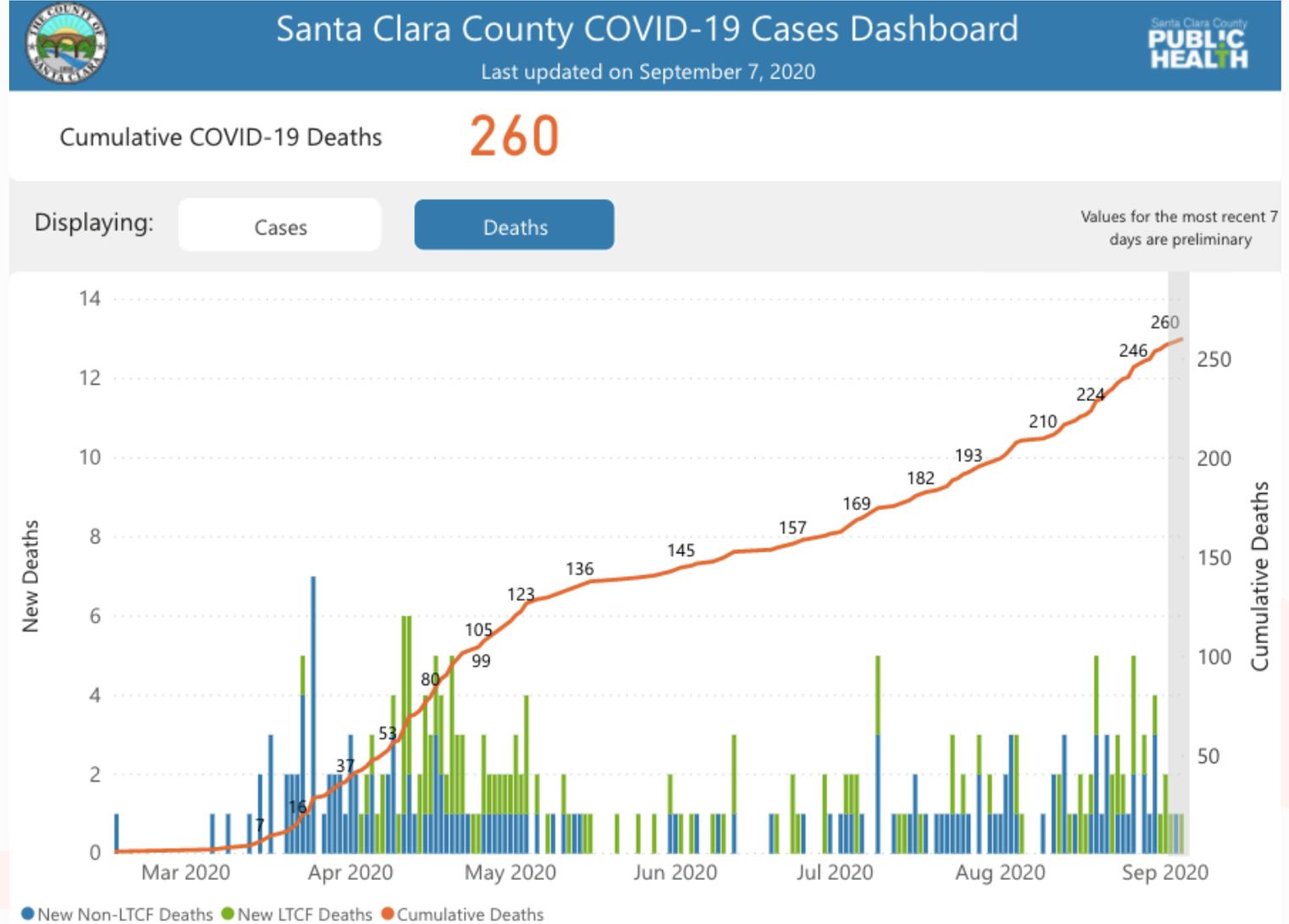
# COVID-19 in Santa Clara County

Early hit but  
protected by early  
shelter-in-place  
order



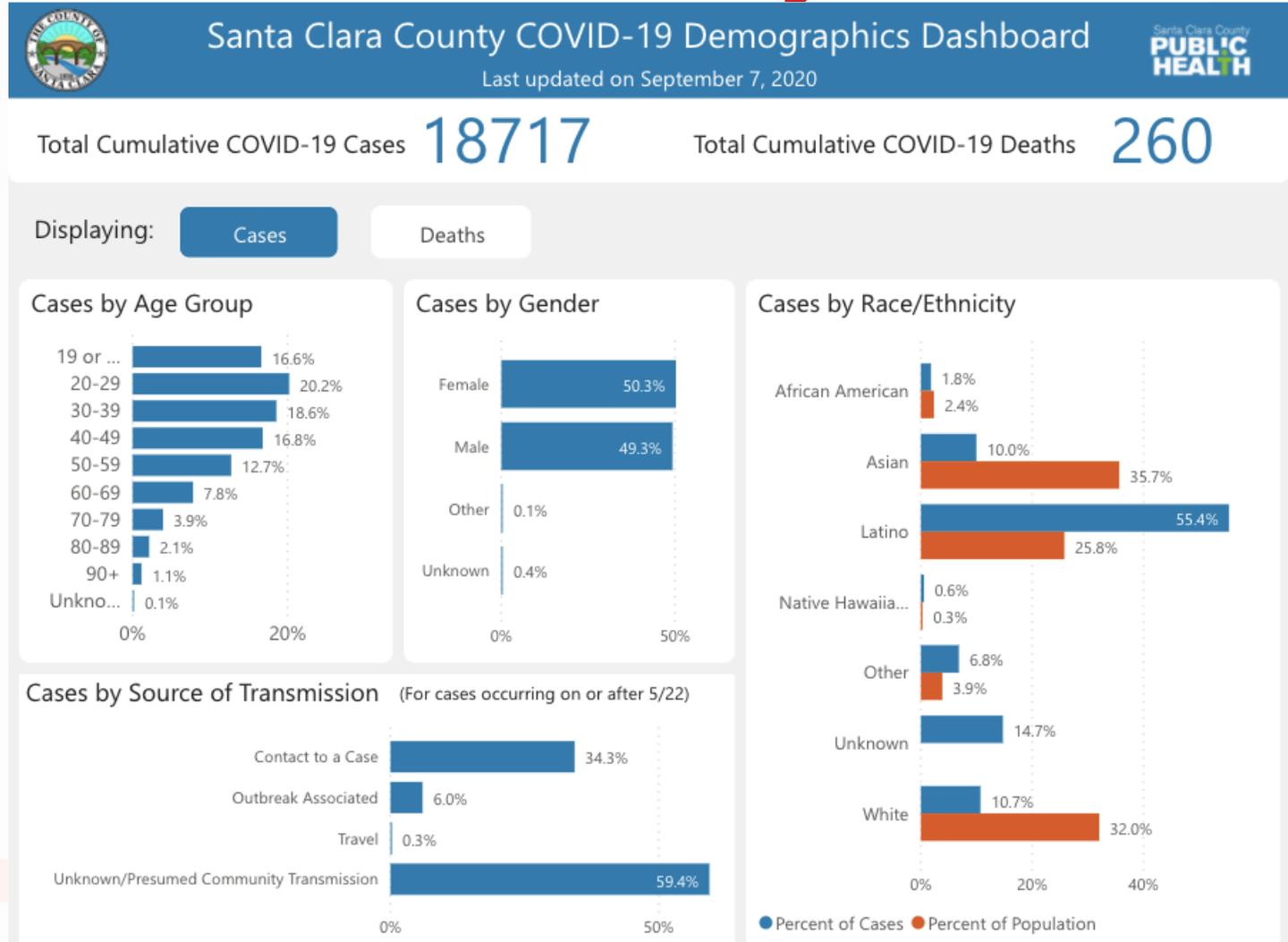
# COVID-19 in Santa Clara County Cont'd

Early hit but protected by early shelter-in-place order.



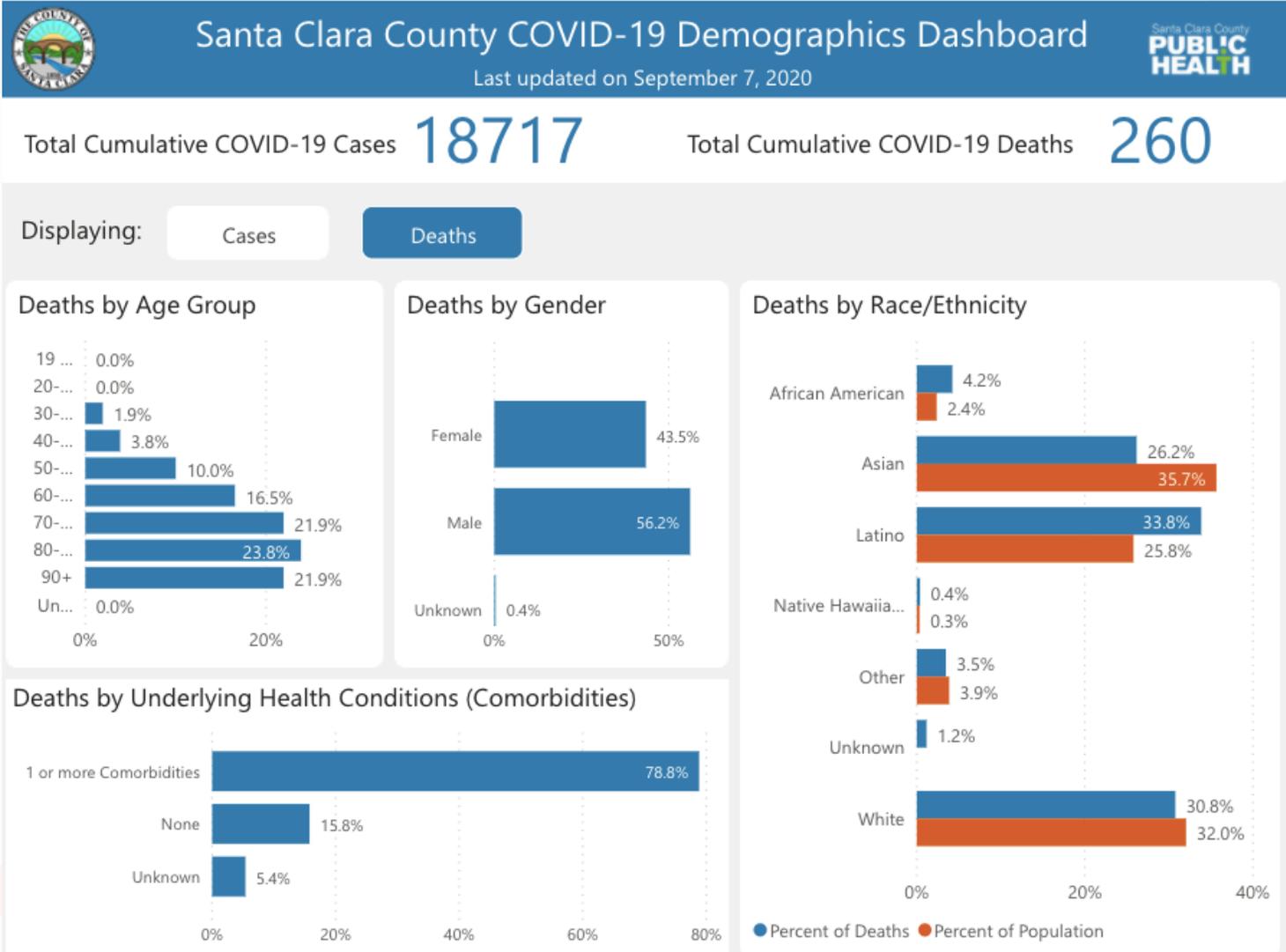
# COVID-19 in Santa Clara County Cont'd

Rapid transition from travel-associated to locally vulnerable.



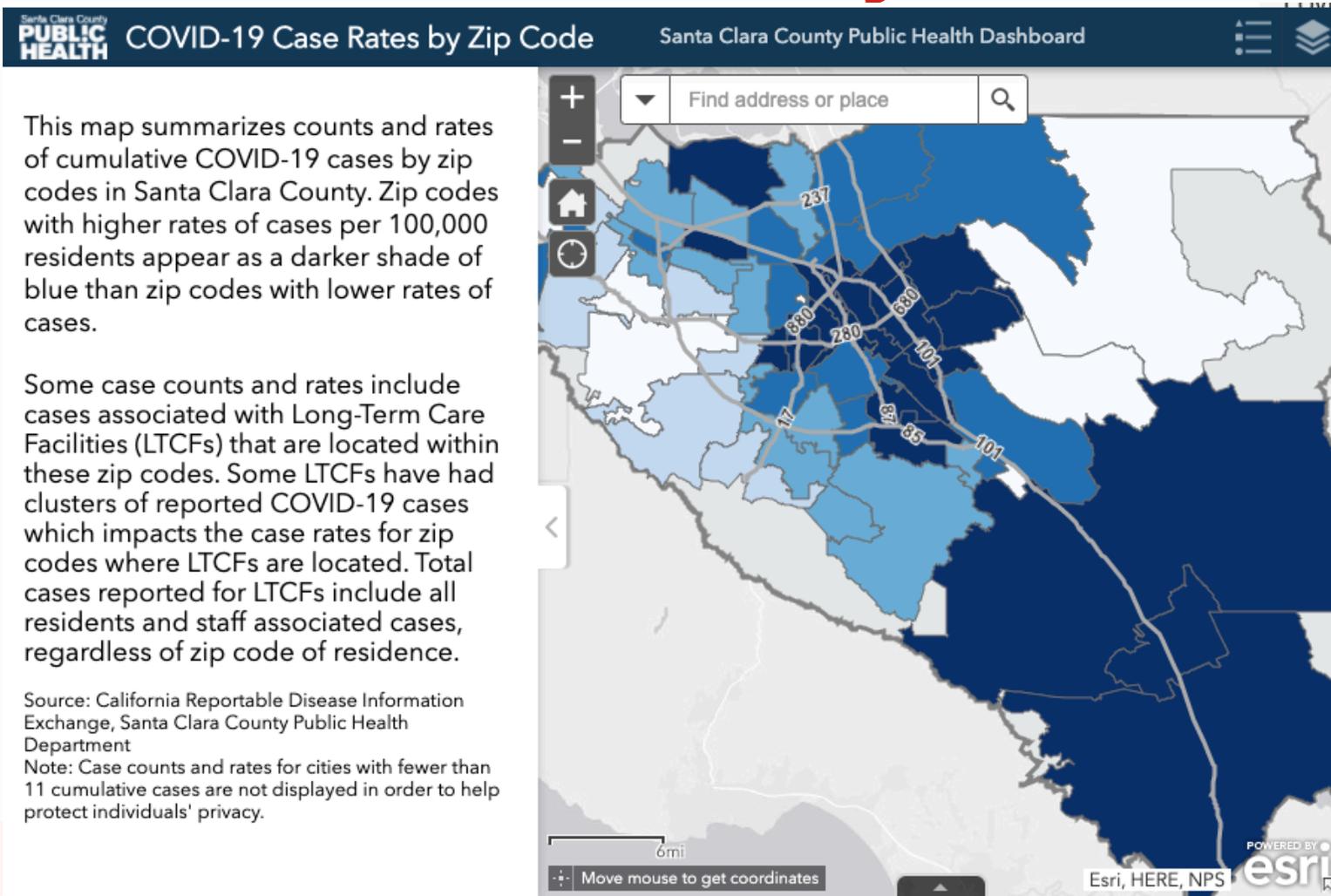
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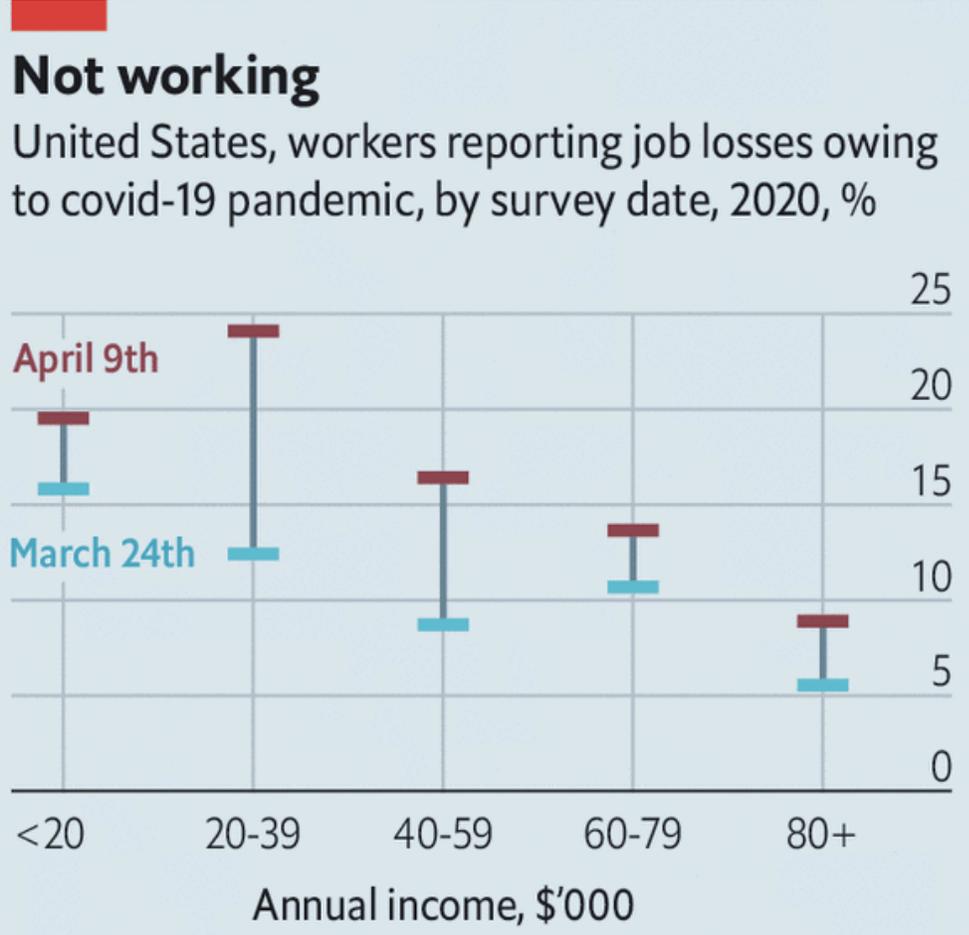
# COVID-19 in Santa Clara County Cont'd

Rapid transition from travel-associated to locally vulnerable.



# Non-COVID-19 Effects of the Pandemic

*The*  
*Victim*  
*No*  
As the coronavirus  
with other



*len*  
*but*  
system, people  
ment.

Source: "Inequality in the Impact of the Coronavirus Shock: Evidence for the US from Survey Wave 2", by Abi Adams-Prassl et al.

# WE CAN SOLVE THE CORONAVIRUS-TEST MESS NOW—IF WE WANT TO

*The key to taming the pandemic will be both a new commitment to “assurance testing” and a new vision of what public health really means.*



By Atul Gawande  
September 2, 2020



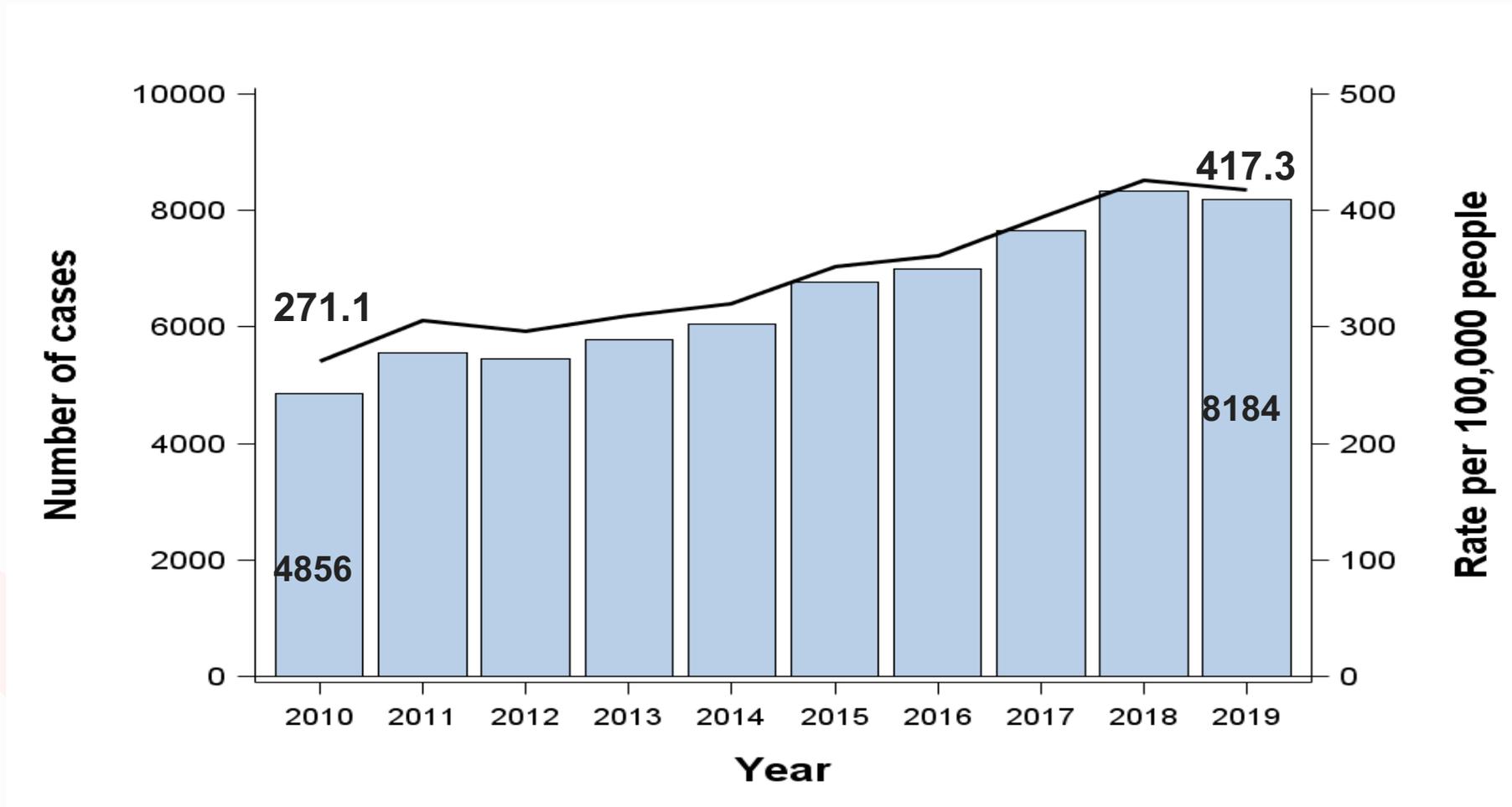
*The lunacy of our testing system is the lunacy of our health system in microcosm.* Photograph by Drew Angerer /



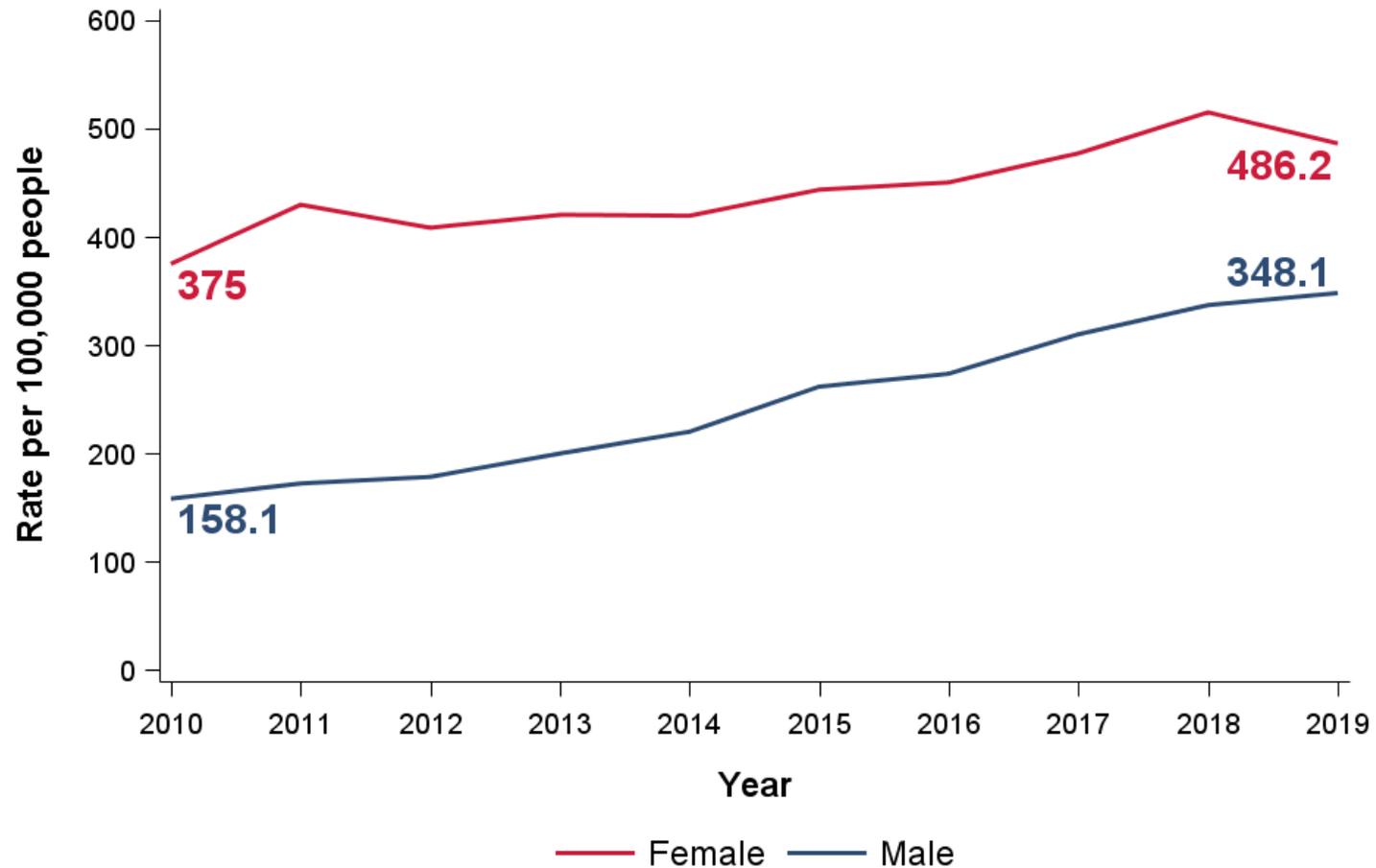
## 2019 Disease Surveillance Update

**THE WRONG DIRECTION:  
STD AND HIV TRENDS IN SANTA CLARA COUNTY**

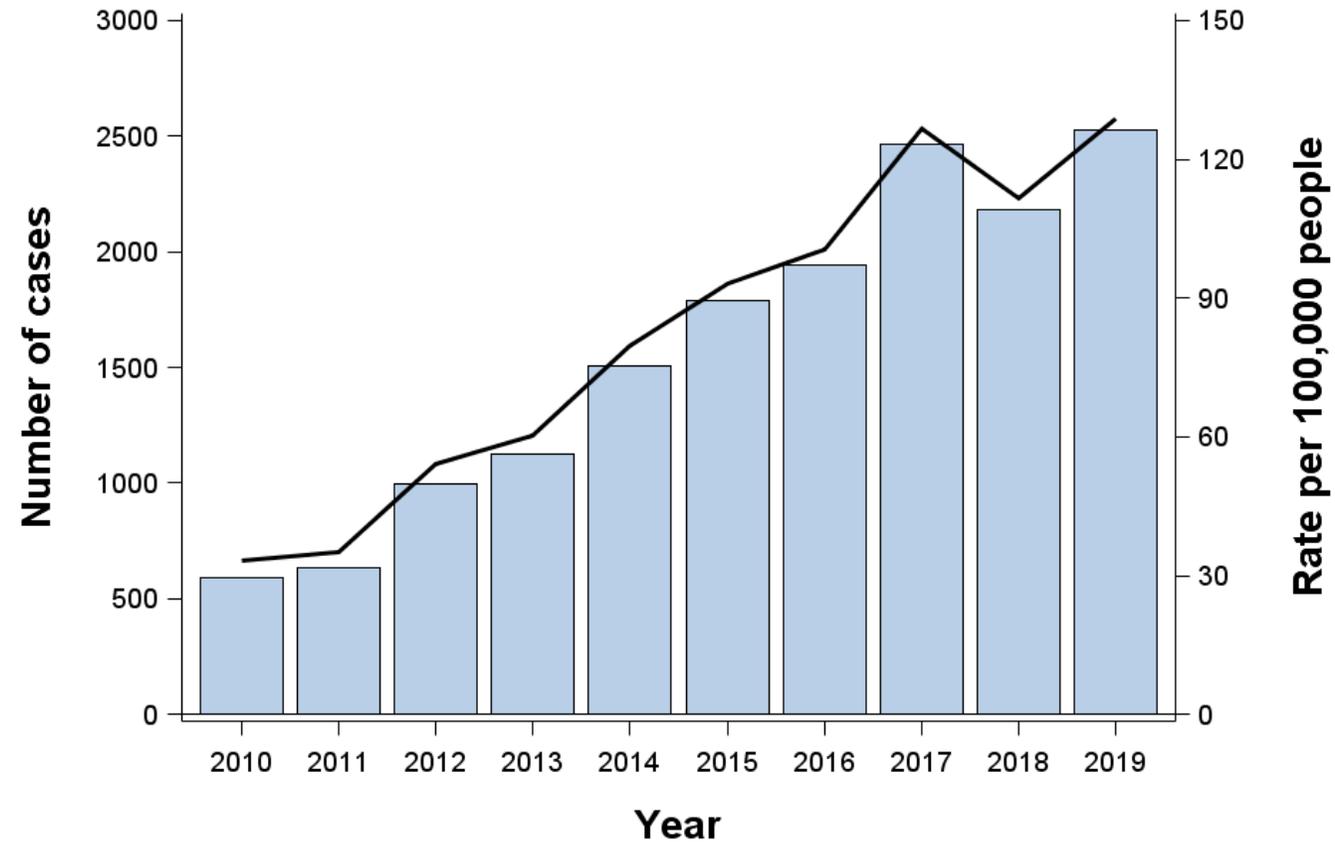
# Chlamydia Case Counts and Rates: Santa Clara County, 2010 – 2019



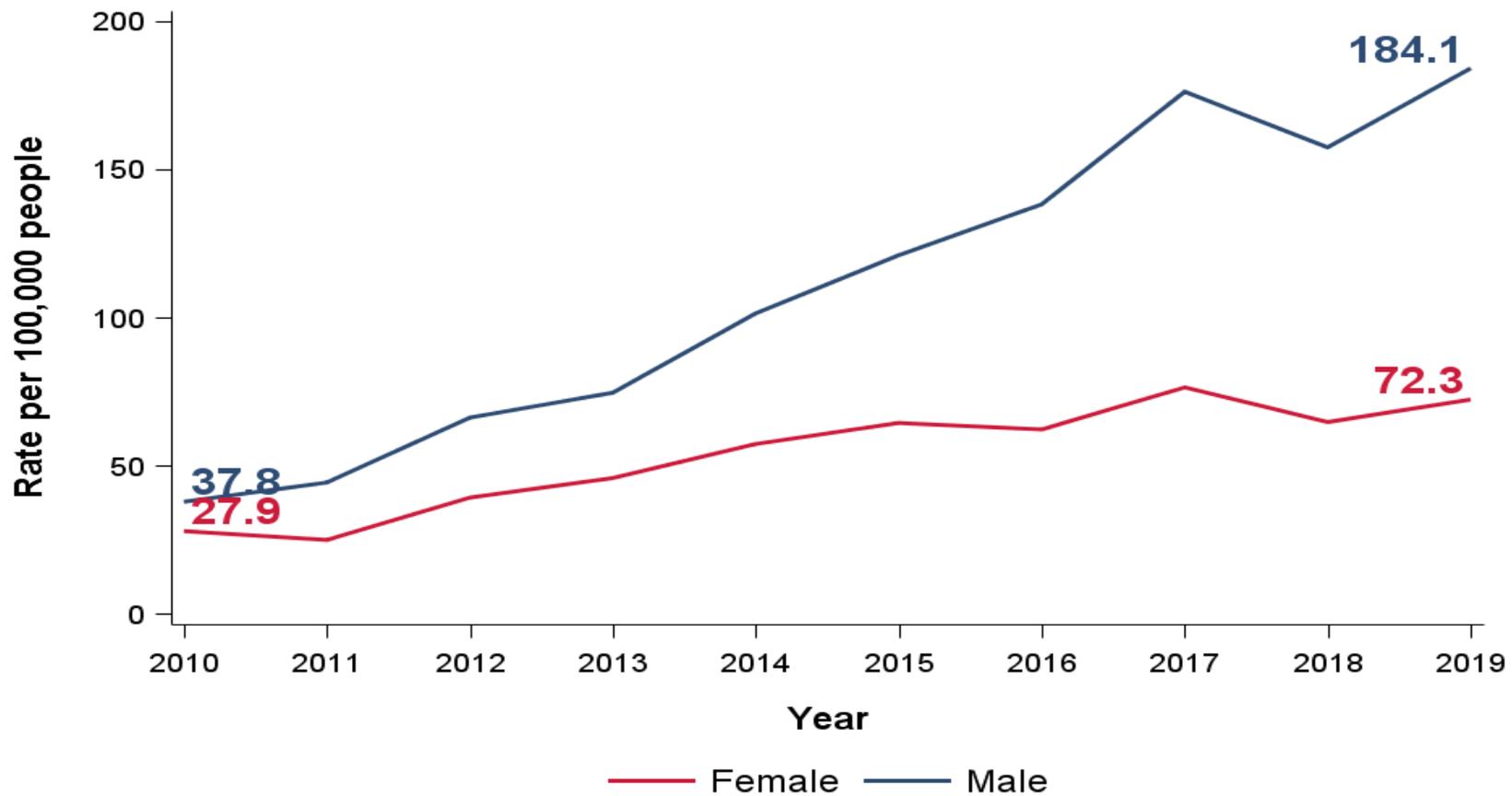
# Chlamydia Case Rates by Sex: Santa Clara County, 2010 – 2019



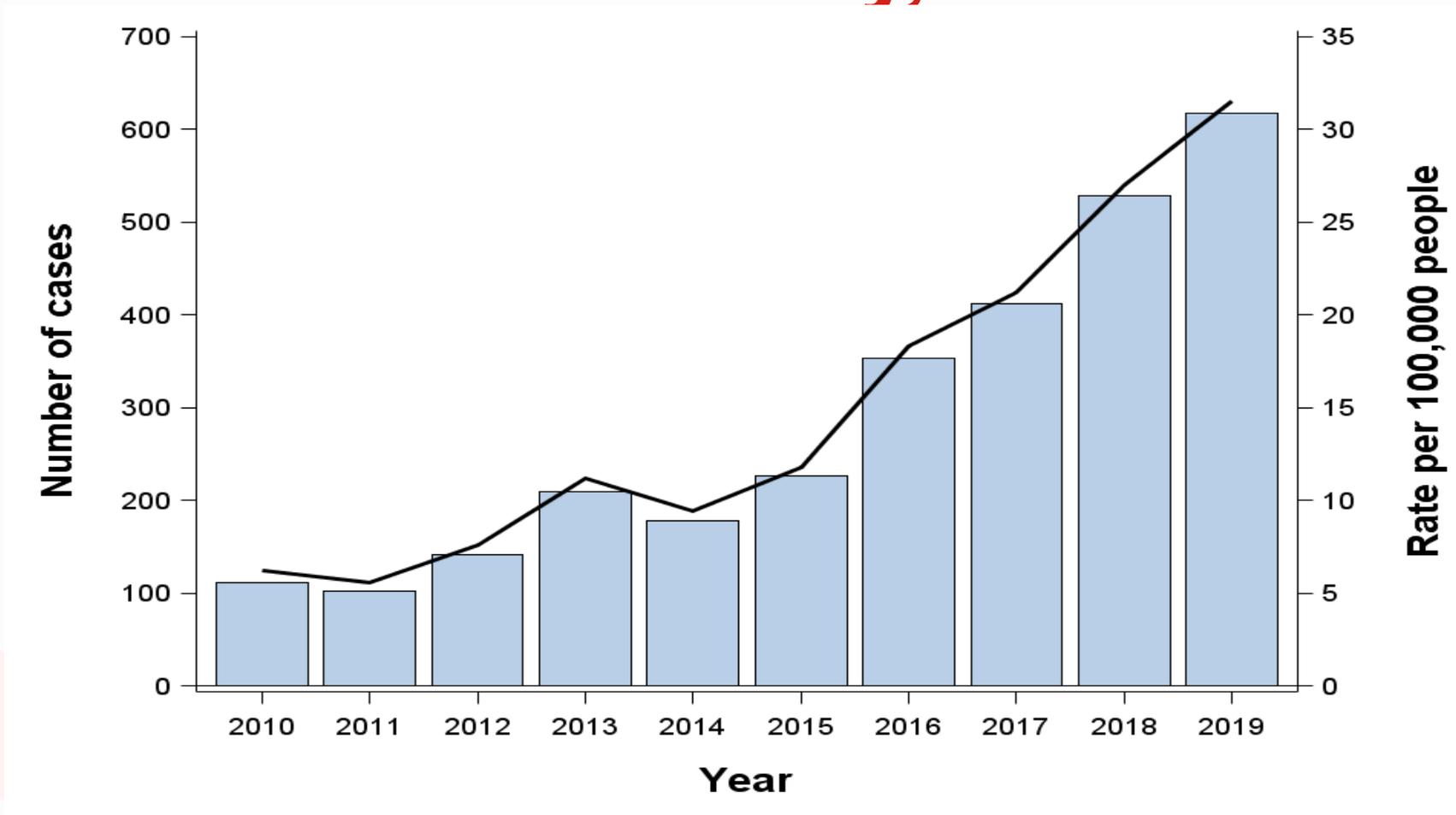
# Gonorrhea Case Counts and Rates: Santa Clara County, 2010 – 2019



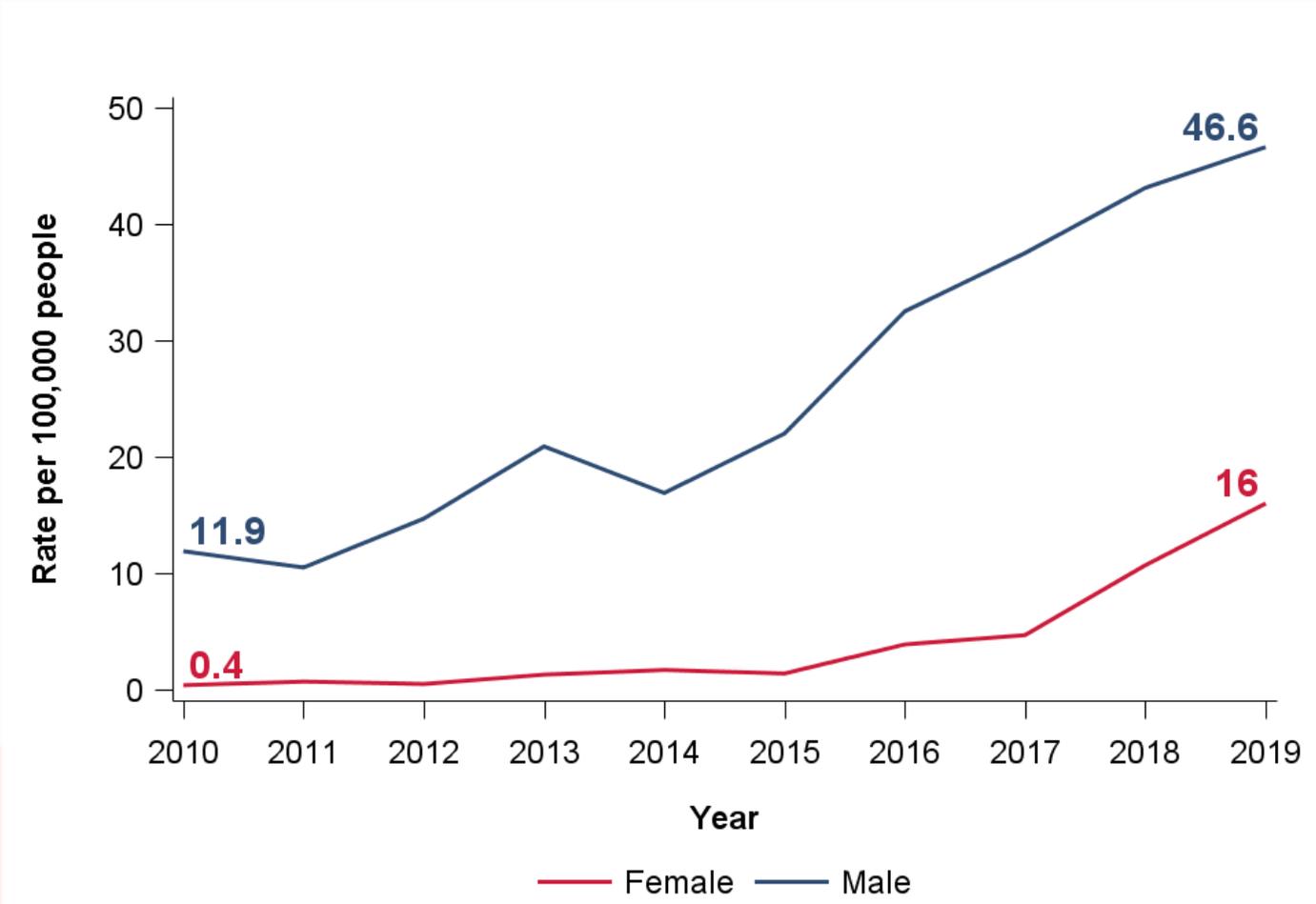
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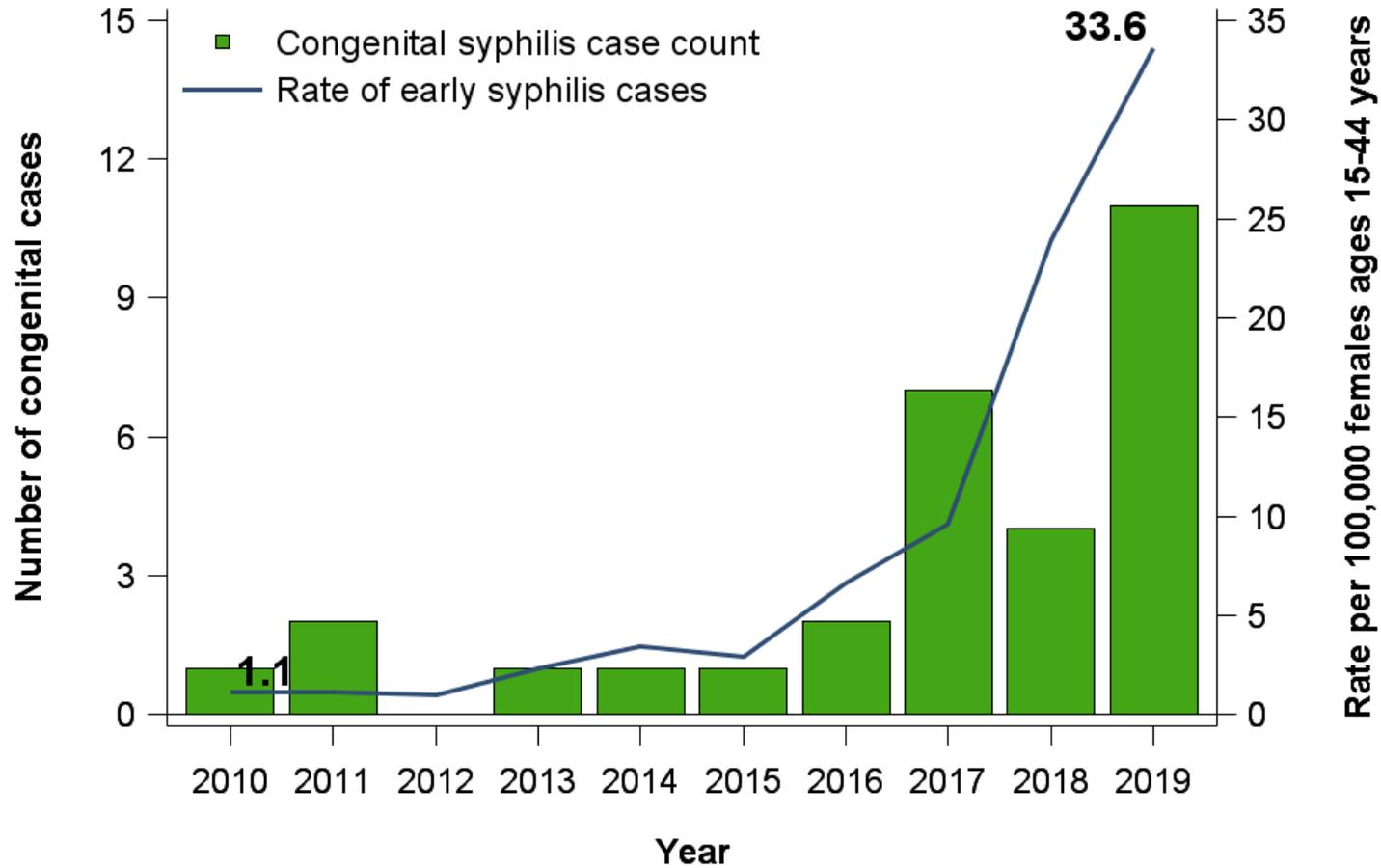
# Early Syphilis Case Counts & Rates: Santa Clara County, 2010 – 2019



# Early Syphilis Case Rates by Sex: Santa Clara County, 2010 – 2019

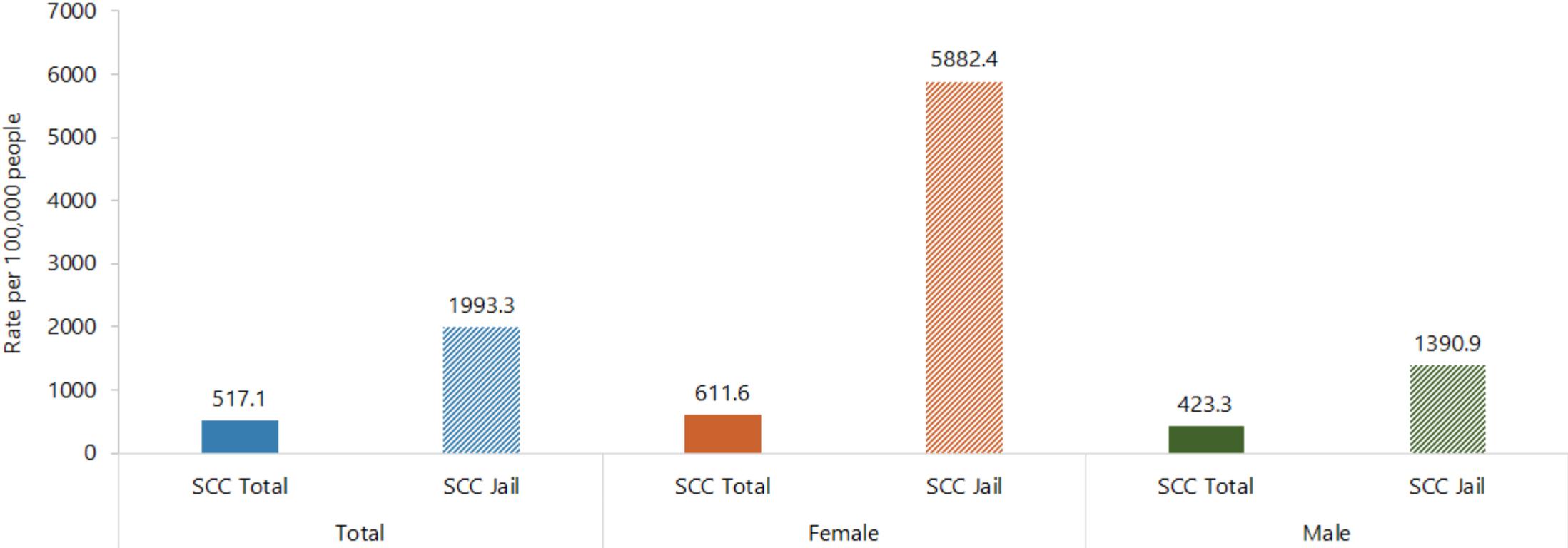


# Congenital Syphilis Cases and Early Syphilis Case Rates among Females ages 15 – 44 years, Santa Clara County, 2010 – 2019



# Sexually Transmitted Infections in SCC Jails, 2018

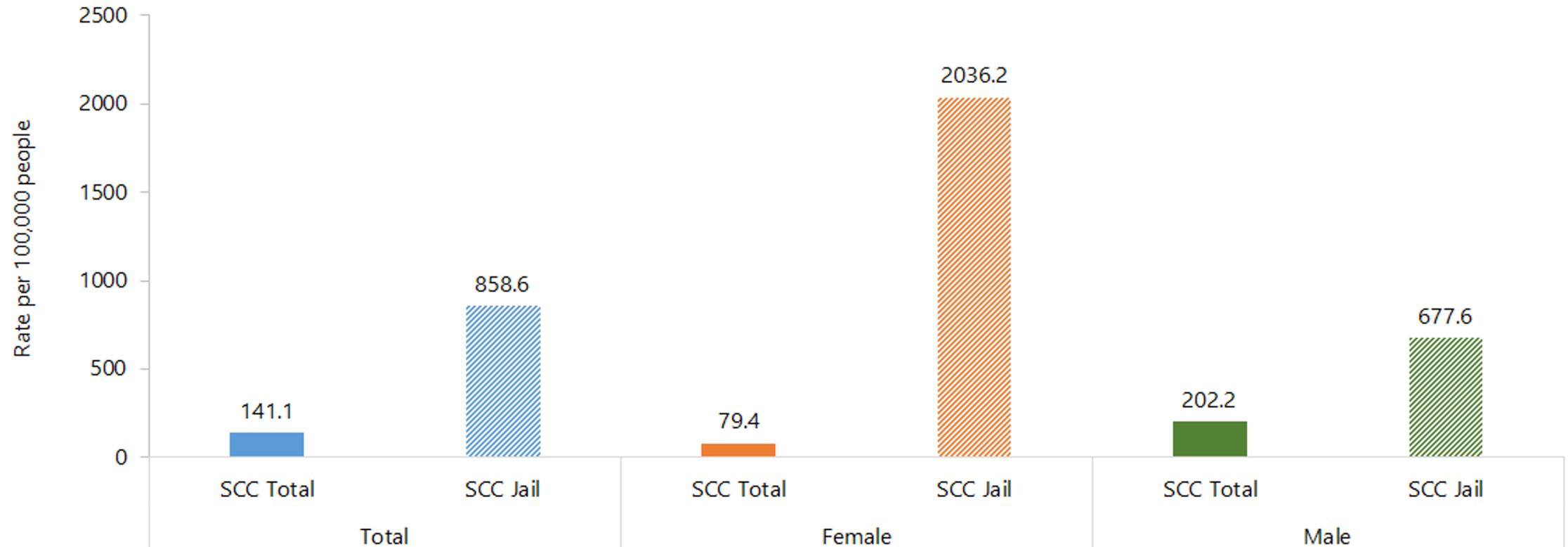
Rate of Chlamydia Cases, by Gender, 2018



Source: Santa Clara County Public Health Department, CalREDIE (2018), data are provisional as of March 6, 2019; the 2018 data may be underreported due to reporting delay; State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2018, December 2018; State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, February 2017; Office of the Sheriff, Santa Clara County Department of Correction, [https://www.sccgov.org/doc/Doc\\_daily\\_pop.pdf](https://www.sccgov.org/doc/Doc_daily_pop.pdf). Accessed March 6, 2019

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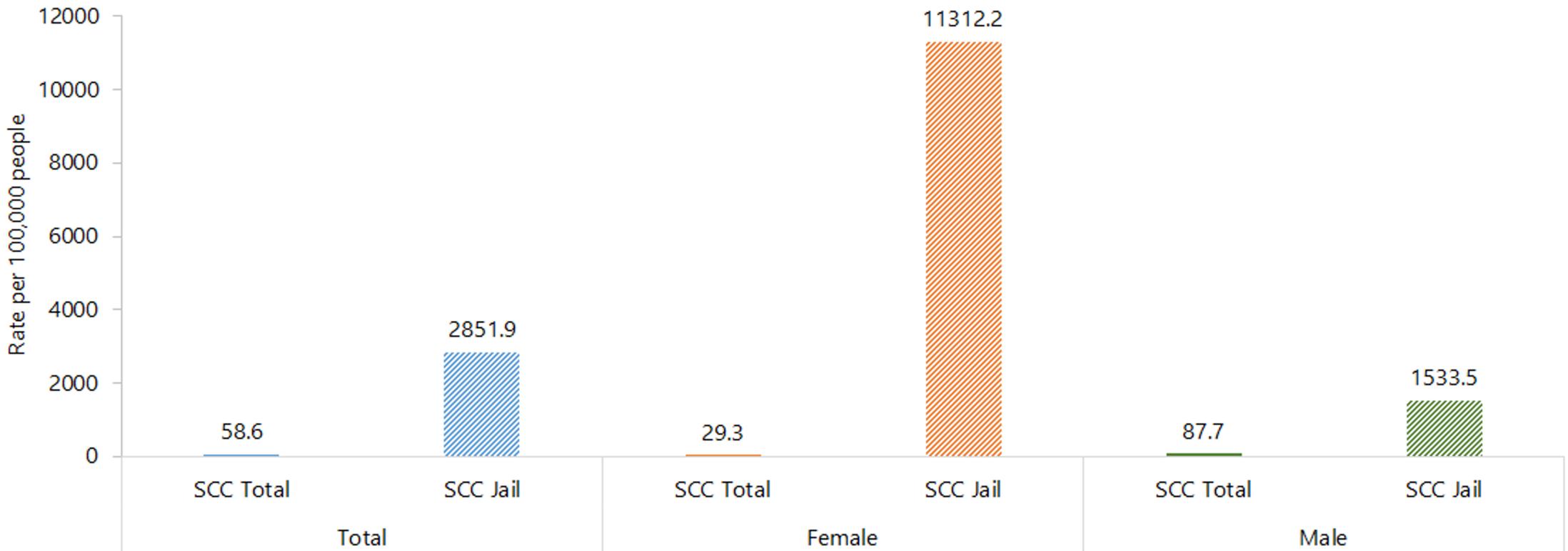
Rate of Gonorrhea Cases, by Gender, 2018



Source: Santa Clara County Public Health Department, CalREDIE (2018), data are provisional as of March 6, 2019; the 2018 data may be underreported due to reporting delay; State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2018, December 2018; State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010–2060, Sacramento, California, February 2017; Office of the Sheriff, Santa Clara County Department of Correction, [https://www.sccgov.org/doc/Doc\\_daily\\_pop.pdf](https://www.sccgov.org/doc/Doc_daily_pop.pdf). Accessed March 6, 2019

# Sexually Transmitted Infections in SCC Jails, 2018

Rate of Syphilis\* Cases, by Gender, 2018



Note: \*include primary, secondary, early non-primary non-secondary, late latent, late with clinical manifestations, latent with unknown duration, and stage unknown/reactor;  
 Source: Santa Clara County Public Health Department, CalREDIE (2018), data are provisional as of March 6, 2019; the 2018 data may be underreported due to reporting delay; State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year—July 1, 2010–2018, December 2018; State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, February 2017; Office of the Sheriff, Santa Clara County Department of Correction, [https://www.sccgov.org/doc/Doc\\_daily\\_pop.pdf](https://www.sccgov.org/doc/Doc_daily_pop.pdf). Accessed March 6, 2019

# Syphilis and Congenital Syphilis

- Transmitted sexually and trans-placentally
- Diagnosed with blood tests
- Curable with antibiotics
- Most asymptomatic; rash, sores
- Can cause blindness, deafness, stroke
- Congenital infection can cause miscarriage, stillbirth, lifelong disability, or death
  - Often asymptomatic at birth
  - Preventable with antibiotics in pregnancy



# Parental Risk Factors for Congenital Syphilis

- Substance use, especially methamphetamines
- Incarceration
- Homelessness or unstable housing
- Mental illness, especially bipolar disorder
- Recent visit to the emergency room or emergency psychiatric care
- Lack of prenatal care
- Any of the above in a sexual partner

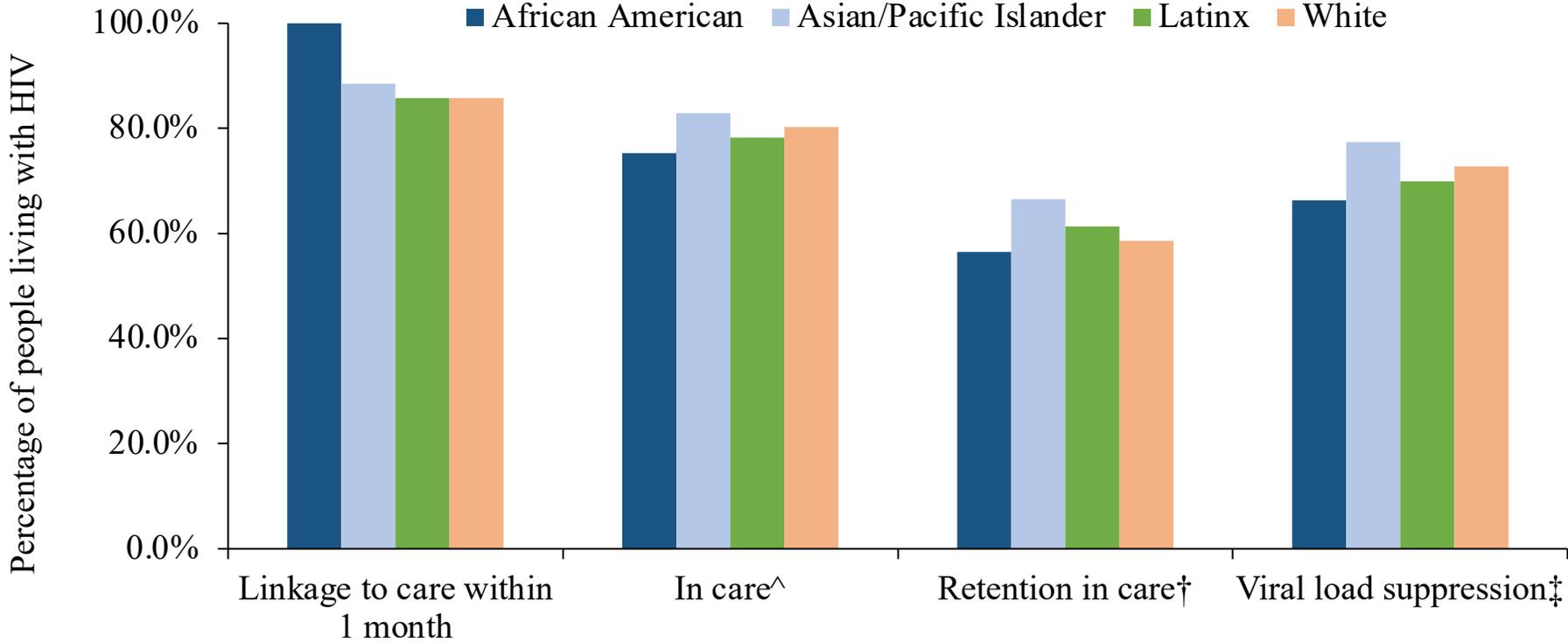
# Characteristics of People Living with HIV\*

## Santa Clara County, 2019

		N	%	Rate
<b>Race/ethnicity</b>	African American	384	11%	825.8
	Asian/Pacific Islander	434	12%	66.7
	Latinx	1,497	43%	278.9
	White	1,060	30%	160.5
	Other/Unknown	106	3%	-
<b>Transmission mode</b>	MSM	2,205	63%	-
	IDU	157	5%	-
	MSM & IDU	213	6%	-
	Heterosexual contact	358	10%	-
	Other/Unknown	548	16%	-

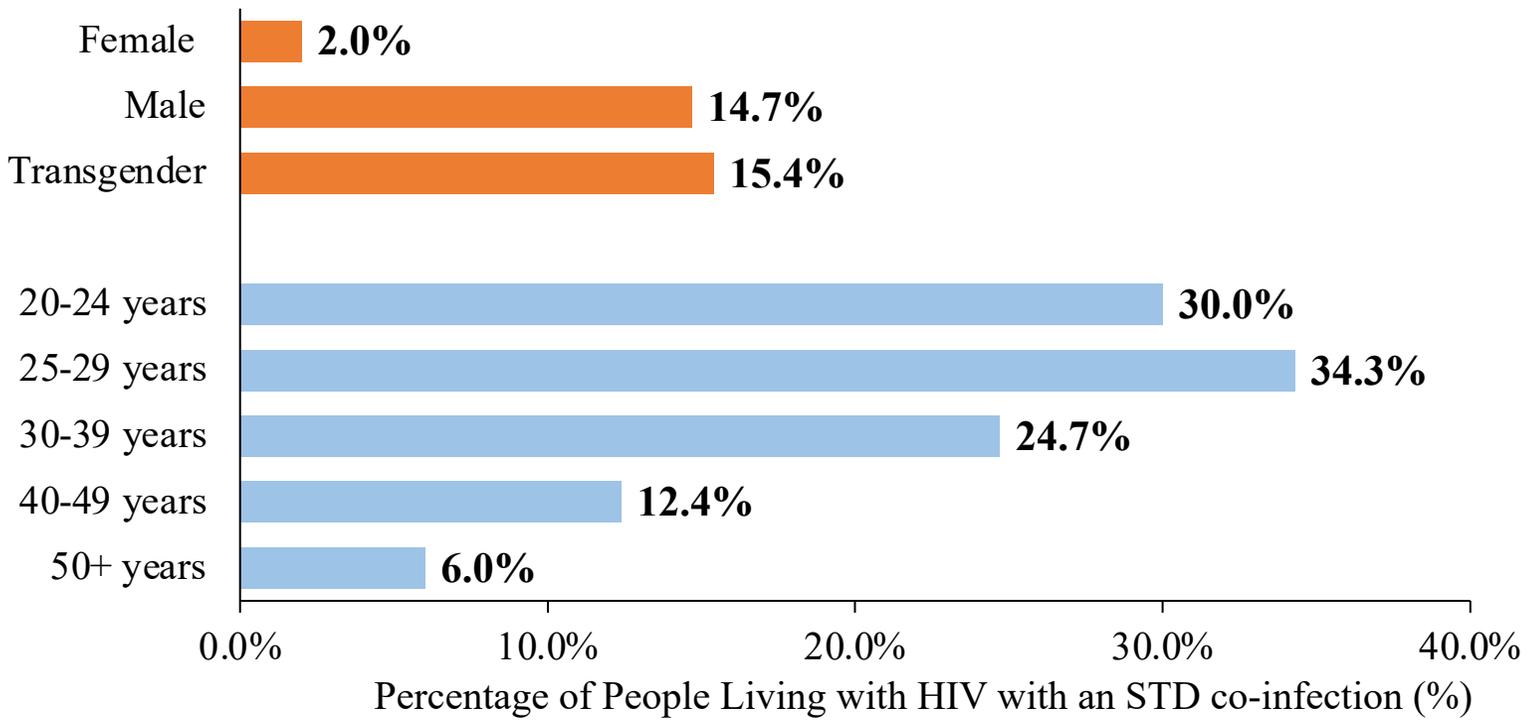
- \* People diagnosed with HIV through 12/31/2019 and alive in the same year and had most recent address in Santa Clara County.
- ^ Includes transgender women and transgender men.
- Rate is not calculated due to lack of reliable population estimation.
- Source: 1. Santa Clara County Public Health Department, eHARS data as of May 1, 2020, and are provisional; 2. State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year — July 1, 2010–2019, December 2019; 3. State of California, Department of Finance, State and County Population Projections by Race/Ethnicity and Age, 2010-2060, Sacramento, California, January 2020.

# HIV Continuum of Care by Race/Ethnicity Santa Clara County, 2019



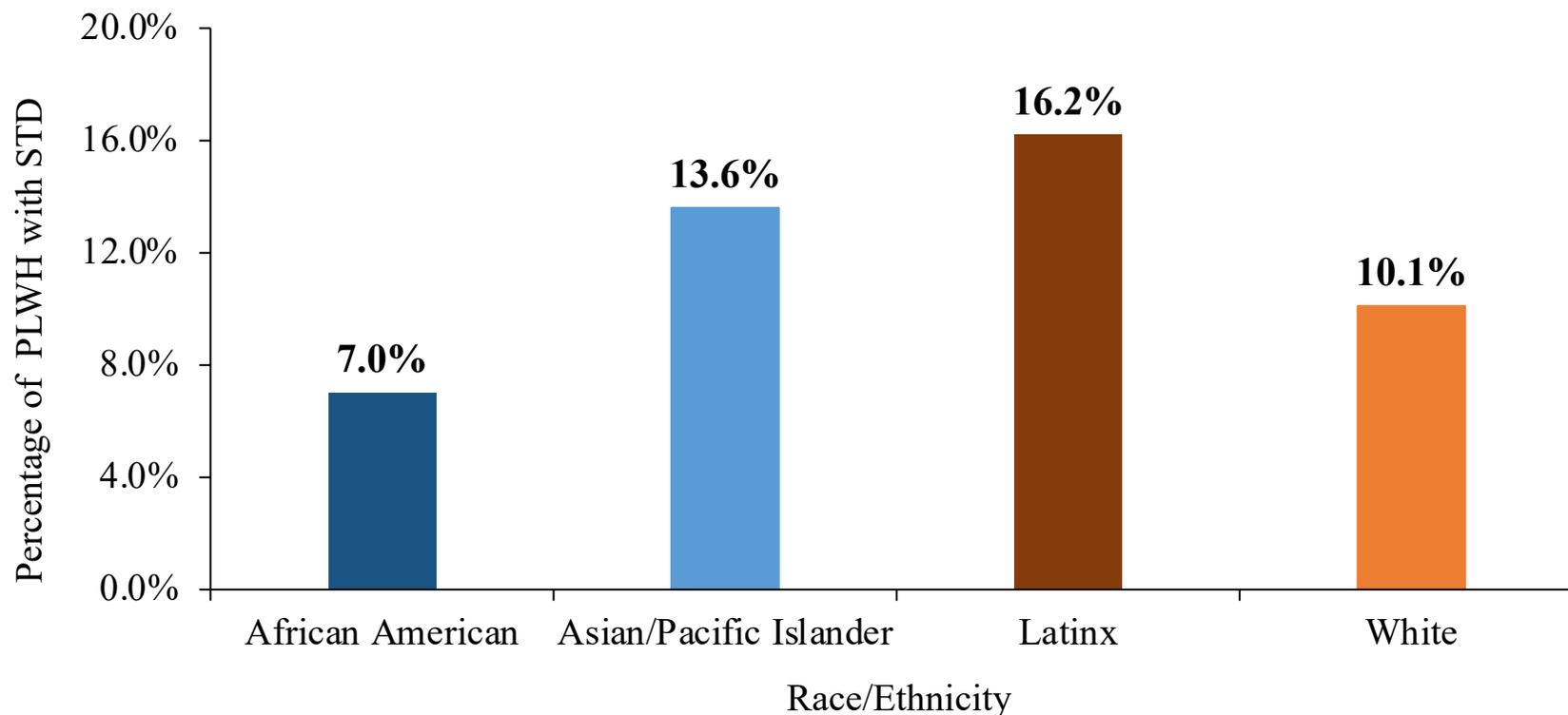
<sup>^</sup> People who were diagnosed with HIV through 2018 and alive in 2019 and who had at least 1 documented CD4 or viral load test in 2019.  
<sup>†</sup> People who were diagnosed with HIV through 2018 and alive in 2019, and who had at least 2 documented CD4 or viral load test in 2019, at least 3 months apart.  
<sup>‡</sup> People who were diagnosed with HIV through 2018 and alive in 2019, with most recent HIV viral load in 2019 less than 200 copies/ml.  
 Source: Santa Clara County Public Health Department, eHARS data as of May 1, 2020.

# Percentage of People Living with HIV with STD† by Sex and Age Group, Santa Clara County, 2019



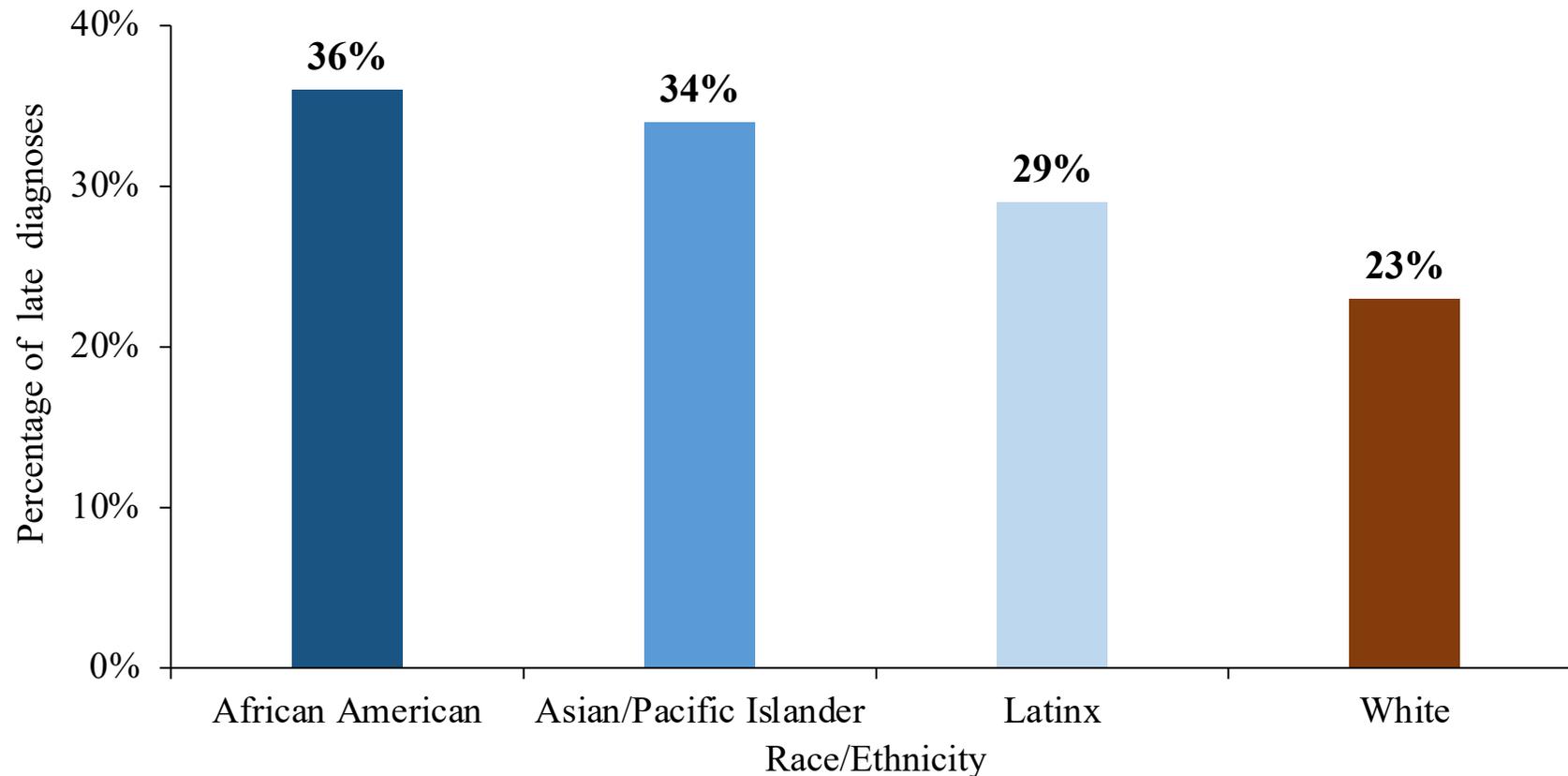
† People living with HIV ages 13 and older diagnosed with chlamydia or gonorrhea or syphilis of all stages in 2019. A person with multiple episodes of one disease in the year will be only counted once for the disease.  
Source: 1. Santa Clara County Public Health Department, eHARS data as of May 1, 2020; 2. Santa Clara County Public Health Department,

# Percentage of People Living with HIV with STD† by Race/Ethnicity, Santa Clara County, 2019



† People living with HIV ages 13 and older diagnosed with chlamydia or gonorrhea or syphilis of all stages in 2019. A person with multiple episodes of one disease in the year will be only counted once for the disease. Source: 1. Santa Clara County Public Health Department, eHARS data as of May 1, 2020; 2. Santa Clara County Public Health Department, CalREDIE(2019), data as of May 1, 2020, and are provisional.

# Percentage of late HIV diagnosis\* by race/ethnicity Santa Clara County, 2010 – 2018



\*Late diagnosis is defined as having AIDS diagnosis within 3 months of diagnosis of HIV infection.  
Source: Santa Clara County Public Health Department, eHARS data as of May 1, 2020.



**What has changed**

**THE RIGHT DIRECTION:  
NEW OPTIONS IN STD AND HIV**

# Who Should be Screened for CT/GC?

## Females

- < 25 annually, 25+ if at risk
- Pregnant <25, if at risk

## MSM

- At least annually
- Exposed sites: genital, rectal, throat

## Hetero males

- High prevalence settings

## HIV +

- At least annually
- All exposed sites

## Patients on PrEP

- Every 3 months

## Post-Tx

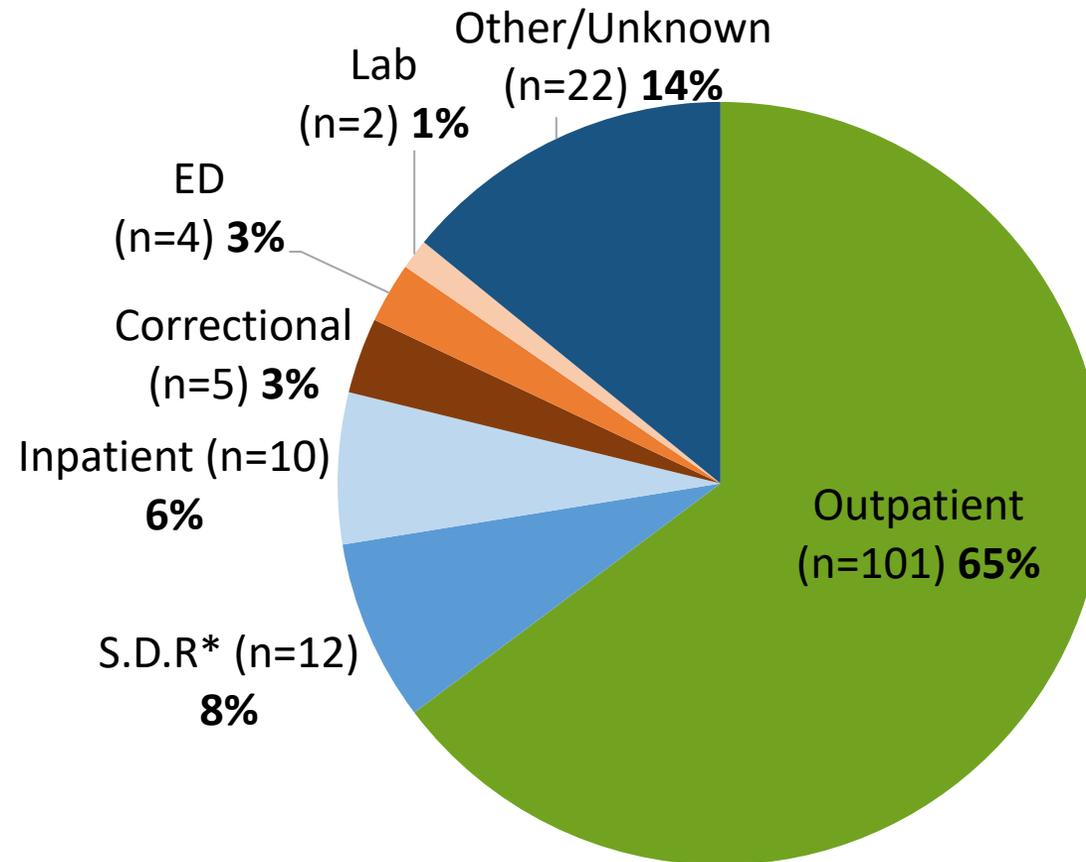
- All patients, 3 months after treatment

# Syphilis Screening Recommendations – CDC

- MSM, including those on PrEP: Annually up to q3-6 months if at higher risk
- Correctional settings
- HIV-infected individuals
- STD clinics/individuals
- Pregnant patients
  - At first prenatal visit, ideally in first trimester
  - Again in third trimester (approx. 28w)
  - Again at delivery **if high risk or missed 1<sup>st</sup> or 3<sup>rd</sup> trimester screen**
  - Any person who delivers a stillborn infant should be tested

**More than 50% of pregnant patients with syphilis report no risk factors.**

# HIV Diagnosis by Facility Type, Santa Clara County, 2017



# HIV in the 1980s to 2020: Everything Has Changed

## Yesterday

- Behavioral Prevention
- Treatment when ready
- Barriers to Treatment
- Lifelong transmission
- Death Sentence

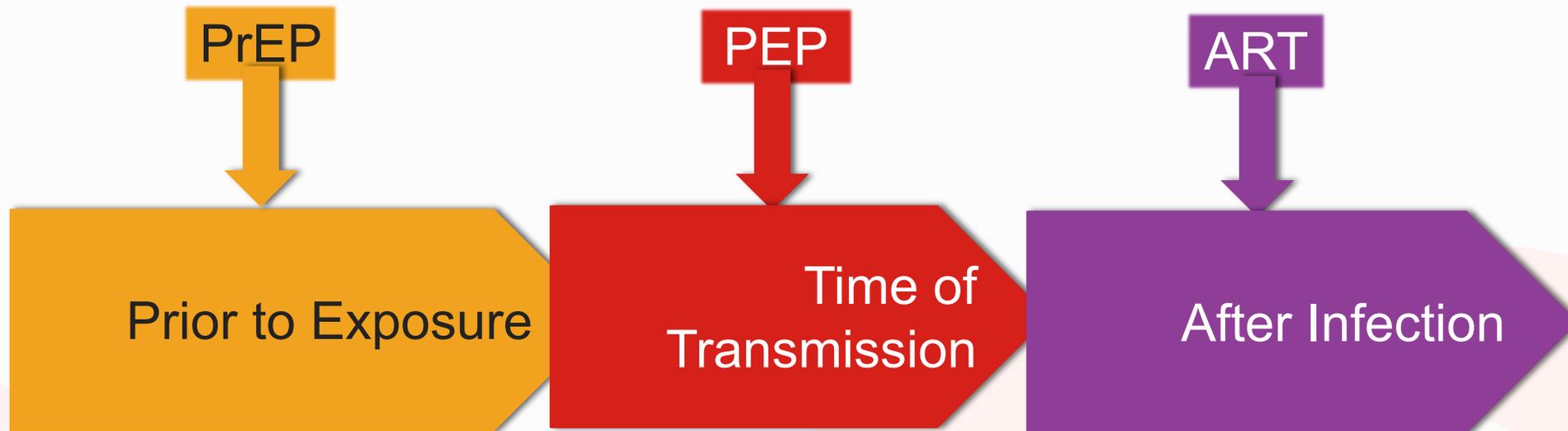


## Today

- PrEP and PEP
- Same-Day Treatment Initiation
- Wrap-around Services
- Undetectable = Untransmittable
- Equal Life Expectancy



# Antiretroviral Therapy (ART) for HIV Prevention



# What is PrEP?

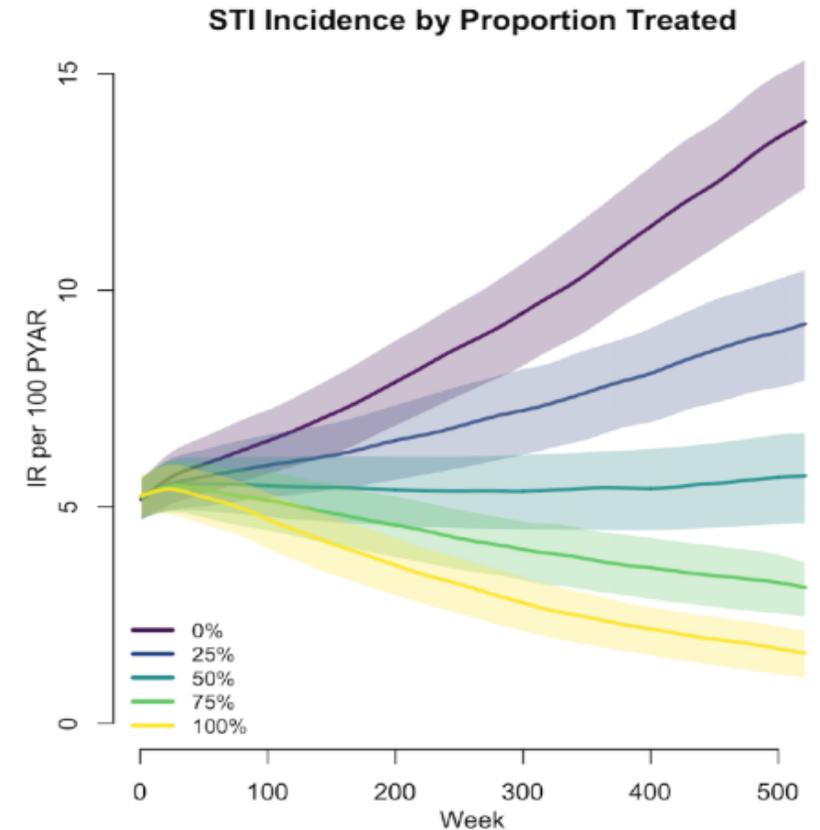
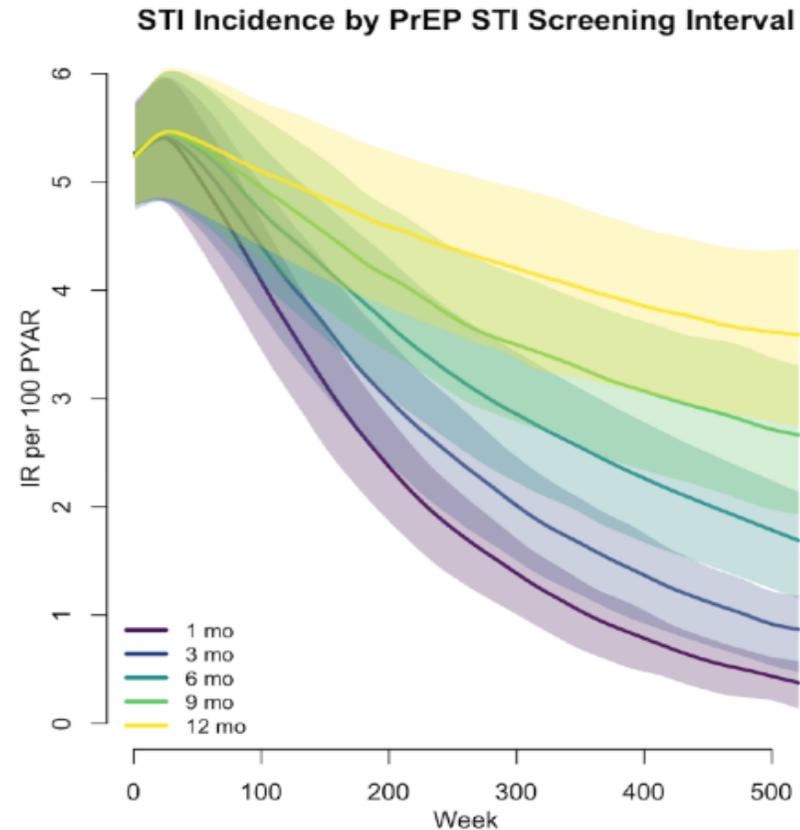
- **Pre-exposure** prophylaxis for HIV infection
- Truvada is the only FDA-Approved medication for PrEP
- 99% reduction in HIV risk if taken every day
- Extremely low risk of side effects and adverse reactions



# Modeling Study of PrEP Impact on STI Incidence

- With 40% PrEP coverage and 40% risk compensation.
- 42% and of GC and 40% of CT infections would be averted over the next 10 years.

Jenness et al. *CID*. 2017.  
Slide courtesy of Stephanie E. Cohen



- For a combined STI incidence outcome, performing STI screening at **quarterly versus biannual intervals** would result in a **further 50% reduction in incidence**.
- Under 40% RC, **STI incidence would decline** only if **>50% of PrEP users were adequately screened and treated** for infection, consistent with the guidelines.

# What is Post Exposure Prophylaxis (PEP)?

**PEP** involves taking anti-HIV drugs **as soon as possible** after a potential exposure



to prevent HIV infection



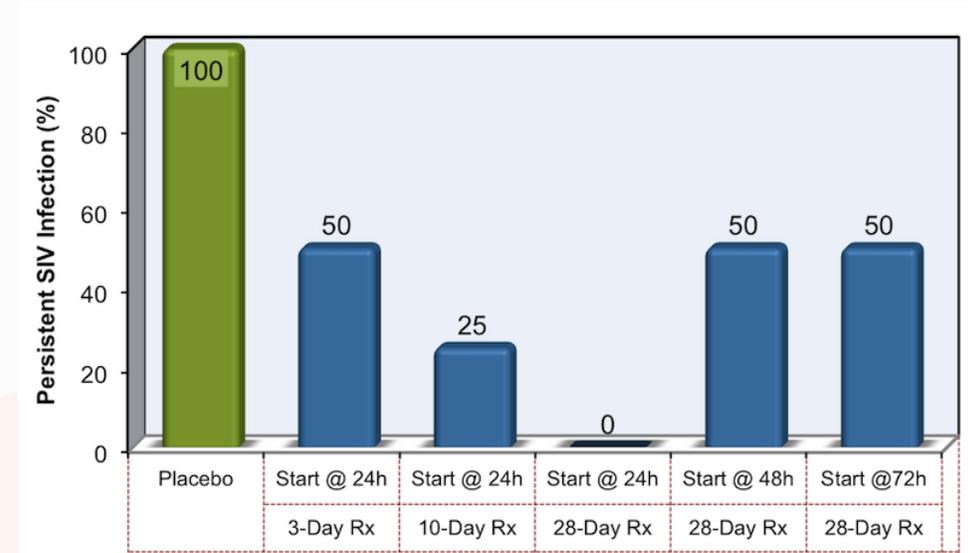
To be effective, **PEP** must begin **within 72 hours** of exposure

You can get **PEP** from your doctor's office, emergency rooms, urgent care clinics, or a **local HIV clinic.**



# Recommended PEP Regimens

- Initiation is time sensitive: **Give first dose in ED/UC**
- Adherence is critical: fill 28 days (or 30) up front
- Regimens should be
  - Be easy to take
  - Minimize side effects and adverse events
  - Cover usually transmitted resistance patterns
- 3 drug regimens are preferred:
  - 2 NRTI backbone + NNRTI / PI / Integrase Inhibitor



# Recommended PEP Regimens



**PLUS**



Isentress  
(raltegravir)  
400mg PO bid

**OR**

Truvada  
(emtricitabine & tenofovir  
DF) 1 tablet PO daily



Tivicay  
(dolutegravir)  
50mg PO daily

# Labs & Monitoring for nPEP

Exposed patient & source:

1. HIV test
2. HBV test
3. HCV test
4. Other STI (chlamydia, gonorrhea, syphilis)
5. Pregnancy
6. Serum Creatinine
7. Liver function tests

Table 2. Recommended schedule of laboratory evaluations of source and exposed persons for providing nPEP with preferred regimens

Test	Source	Exposed persons			
	Baseline	Baseline	4–6 weeks after exposure	3 months after exposure	6 months after exposure
		For all persons considered for or prescribed nPEP for any exposure			
HIV Ag/Ab testing <sup>a</sup> (or antibody testing if Ag/Ab test unavailable)	✓	✓	✓	✓	✓ <sup>b</sup>
Hepatitis B serology, including: hepatitis B surface antigen hepatitis B surface antibody hepatitis B core antibody	✓	✓	—	—	✓ <sup>c</sup>
Hepatitis C antibody test	✓	✓	—	—	✓ <sup>d</sup>
		For all persons considered for or prescribed nPEP for sexual exposure			
Syphilis serology <sup>e</sup>	✓	✓	✓	—	✓
Gonorrhea <sup>f</sup>	✓	✓	✓ <sup>g</sup>	—	—
Chlamydia <sup>f</sup>	✓	✓	✓ <sup>g</sup>	—	—
Pregnancy <sup>h</sup>	—	✓	✓	—	—
		For persons prescribed tenofovir DF+ emtricitabine + raltegravir or tenofovir DF+ emtricitabine + dolutegravir			
Serum creatinine (for calculating estimated creatinine clearance <sup>i</sup> )		✓	✓	—	—
Alanine transaminase, aspartate aminotransferase		✓	✓	—	—
		For all persons with HIV infection confirmed at any visit			
HIV viral load	✓			✓ <sup>j</sup>	
HIV genotypic resistance	✓			✓ <sup>j</sup>	

# Order sets for PEP & PrEP

- Success to date creating in Epic
- PEP order set for ED & Urgent Care
- PrEP order set for Primary Care
- Include:
  - Note template
  - Lab orders
  - Medication orders
  - Diagnosis codes
  - Patient education information

The screenshot shows the Epic Dx/Tx interface. The top navigation bar includes 'Order Sets', 'Prep for Surgery', 'References', 'Patient Education Materials', 'Images', 'History', 'Quick Questions', 'MAR', and 'Medications'. The main content area is divided into three sections: 'BestPractice Advisories' (No advisories to address), 'Visit Diagnoses' (with a search bar and '+ Add' button), and 'Problem List' (with a '+ Create Patient Care Coordination Note' button). The 'Visit Diagnoses' section contains a table with two entries:

	P	ICD-10-CM	PL
1.	HIV exposure	Z20.6	<a href="#">Change Dx</a> <a href="#">X</a>
2.	Routine screening for STI (sexually transmitted infection)	Z11.3	<a href="#">Change Dx</a> <a href="#">X</a>

The screenshot shows the Epic Orders interface for a patient visit. The top bar indicates the order set is for a 'visit with Diane Gatdula Montefalcon, NP for NEW PATIENT - Purple# 1 new PrEP Initiation add pregnancy test. Pt. has HIV + p'. The 'Orders' section shows a pharmacy order for 'VHC LENZEN PHARMACY' with a routing of 'Per protocol: no cosign required'. The 'Order Sets' section is expanded to show 'HIV Pre-exposure Prophylaxis (PrEP) - Initial Visit', which includes a link to 'HIV PrEP Individual Risk Calculator'. The 'Lab Tests' section is expanded to show a list of tests with checkboxes and descriptions:

- HIV-1 and HIV-2 antibodies, P24 Antigen
  - Routine, Lab Collect, Approximate, Expires-10/25/2018, Vein. I informed the patient that I ordered an HIV test and provided information that if tests negative for HIV should continue to be routinely tested. I advised the patient that he or she has the right to decline the test. The
- Panel 7
  - Routine, Lab Collect, Approximate, Expires-10/25/2018, Vein
- Hemogram with differential
  - Routine, Lab Collect, Approximate, Expires-10/25/2018, Vein
- Liver function test
  - P Routine, Lab Collect, Approximate, Expires-10/25/2018, Vein
- Phosphorus
  - Routine, Lab Collect, Approximate, Expires-10/25/2018, Vein
- Urinalysis

# Undetectable = Untransmittable

- CDC announcement in 2017 examining hundreds of studies, thousands of couples and sex acts showed ZERO sexual transmissions from someone with an undetectable viral load



# Rapid ART Initiation

- Nearly universal recommendation
- Streamlined clinical assessment and counseling
- Simplified regimens with increased safety/tolerability
- Improved immune recovery, enhanced adherence
- Earlier benefit of treatment as prevention
- Remaining barriers:
  - Coverage enrollment
  - Referrals and transfer of care
  - Provider uptake

# The First Four Years

## **SANTA CLARA COUNTY GETTING TO ZERO**

# Getting to Zero in Santa Clara County

## Four Priority Strategies

- PrEP and PEP Access
- Guideline-based STI and HIV testing
- Linkage and retention in HIV care
- Reduction of stigma

GETTING TO ZERO  
SILICON VALLEY  
SANTA CLARA COUNTY

GET INVOLVED OTHER INITIATIVES

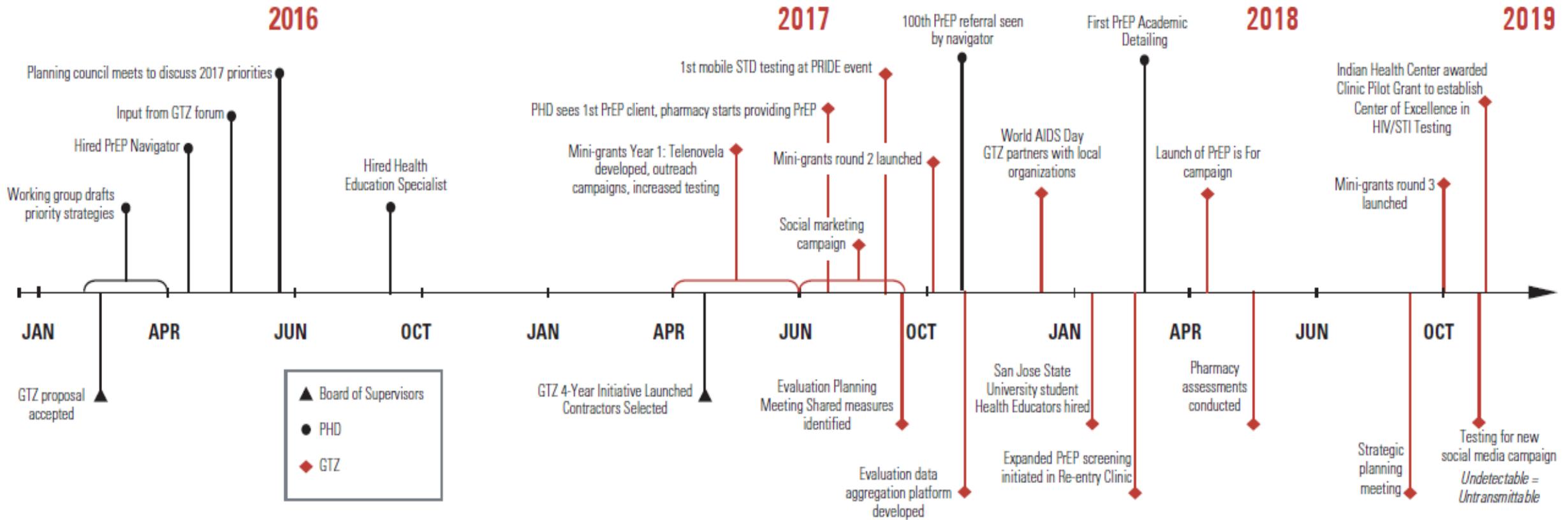
ABOUT STRATEGY FOR PROVIDERS MINI-GRANTS

"Santa Clara County is committed to stopping HIV. We want everyone to live long and healthy lives."  
*Ken Yeager  
Santa Clara County Supervisor*

**GETTING TO ZERO**  
**VISION:** Santa Clara County without new HIV/AIDS cases and optimal health for people living with HIV.  
**MISSION:** To meet the goals of zero new HIV infections, zero HIV-related deaths, and zero HIV stigma/discrimination through a collaborative, countywide, multi-sector, multidimensional approach.

**HIV Stigma  
HIV Deaths  
HIV Infections**

# Getting to Zero (GTZ) Years 1-4



# Major Collaborators with GTZ

- County Departments: Public Health, Office of LGTBQ Affairs, VMC, Custody Health, EMS
- Contract Partners: HealthTrust, Better World Advertising, John Snow, Inc., Bill Wilson Center
- Mini-grant awardees: Caminar/Queer Youth Space, San Jose State University, Planned Parenthood Mar Monte, Community Health Partnership, Colectivo ALA/Teatro Colibri, Roots Clinic, and more



# Funding and Investment

- Initial County General Fund investment of \$500,000 annually x4 years
- Supplemental CGF of \$450,000 for GTZ and \$200,000 for PEP and PrEP in County STI Clinic
- Leverage of Ryan White HIV Grant-funded work for synergistic overlap (~\$4 mil)
- Use of additional State and federal pass-through one-time grants for related work (\$300,000 over 3 years)
- Additional investment of \$100,000 by contracted backbone organization
- In kind support from >30 partners to ensure their ongoing work aligned with GTZ

~\$3.6 mil County General Fund infusion led to more than \$5 mil in leveraged funds, plus in-kind support from community partners.

# PEP & PrEP Expansion Through GTZ

- County's first PrEP navigator hired in 2016: >250 clients served
- Expansion of PrEP navigation to Bill Wilson Center and AACI in 2018
- All major VHC pharmacies trained in PEP/PrEP
- PEP order set build in HealthLink for Emergency Departments and Urgent Care
- PEP policies and procedures drafted for PHD and EMS; trainings provided to police chiefs
- 13 trainings provided for 136 clinical providers on PEP & PrEP in FY2017-2018
- Addition of PEP & PrEP services to Lenzen STI clinic
- Addition of pharmacist-delivered PEP & PrEP to Lenzen STI clinic, other VMC pharmacists trained
- Universal screening for PrEP indications at VHHP and Re-entry
- Creation of PrEP/PEP Public Health Detailing Program
- Addition of >20 new PrEP clinical provider sites to [www.PleasePrEPMe.org](http://www.PleasePrEPMe.org)

# PrEP Social Marketing and Media Campaigns

- SiemPrE Por Ti Telenovela (653 views)
- Did you know? (17,000 impressions)
- Get Liberated (2.4 Million impressions)
- PrEP is for... (13 Million impressions)



"PrEP is For"  
13.3 MILLION IMPRESSIONS



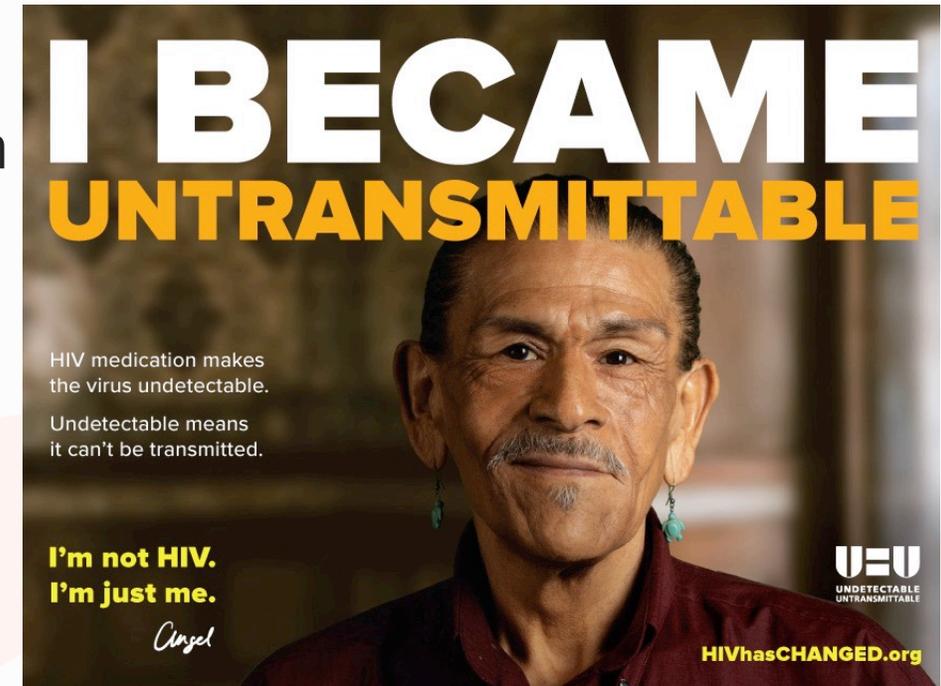
Roots PrEP/PEP campaign  
17,456 IMPRESSIONS

# STI/HIV Testing Expansion Through GTZ

- 54 trainings related to STI screening in FY2017-2018
- Training for ED providers in HIV and syphilis testing at three hospitals
- STI testing automated through PrEP and PEP order sets in HealthLink
- Addition of STI screening to needle exchange sites
- Addition of STI screening to outreach events
- Expanded hours for Lenzen STI clinics
- Pilot for addition of rapid syphilis testing in NEX and outreach settings
- Development of Public Health detailing campaign re: syphilis and STI screening
- Enhanced testing in jails through educational video and support for Gilead grant
- Mini-grant award pending for clinical “center of excellence”
- Forthcoming article in County Medical Association bulletin on rising STI rates

# Enhancement of HIV Linkage & Retention Through GTZ

- Survey and promotion of HIV medication refill reminder programs in pharmacies
- Collaboration with Ryan White HIV Commission to optimize grant spending
- Innovative data-to-care program to identify and re-link HIV+ out of care
- Additional outreach program for lapsed Ryan White clients
- Forthcoming Undetectable = Untransmittable campaign



# Stigma Reduction Activities Through GTZ

- AACI bus campaign
- Colectivo Ala YouTube telenovela: 653 views
- U=U
- Year 3 supplemental contracts with JSI to explore unmet needs in African/African Ancestry and Trans/Non-binary communities

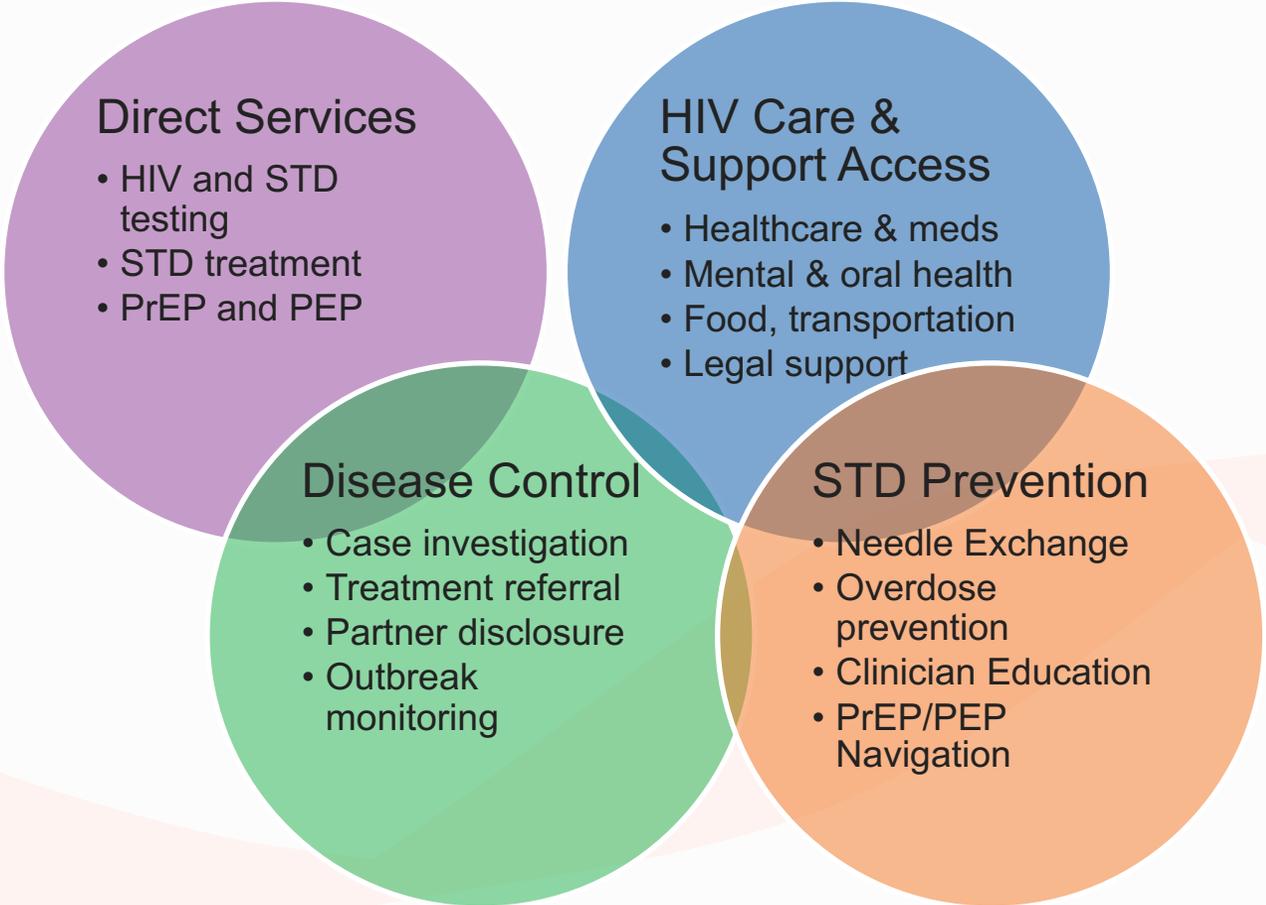


# CONCLUSIONS & RESOURCES

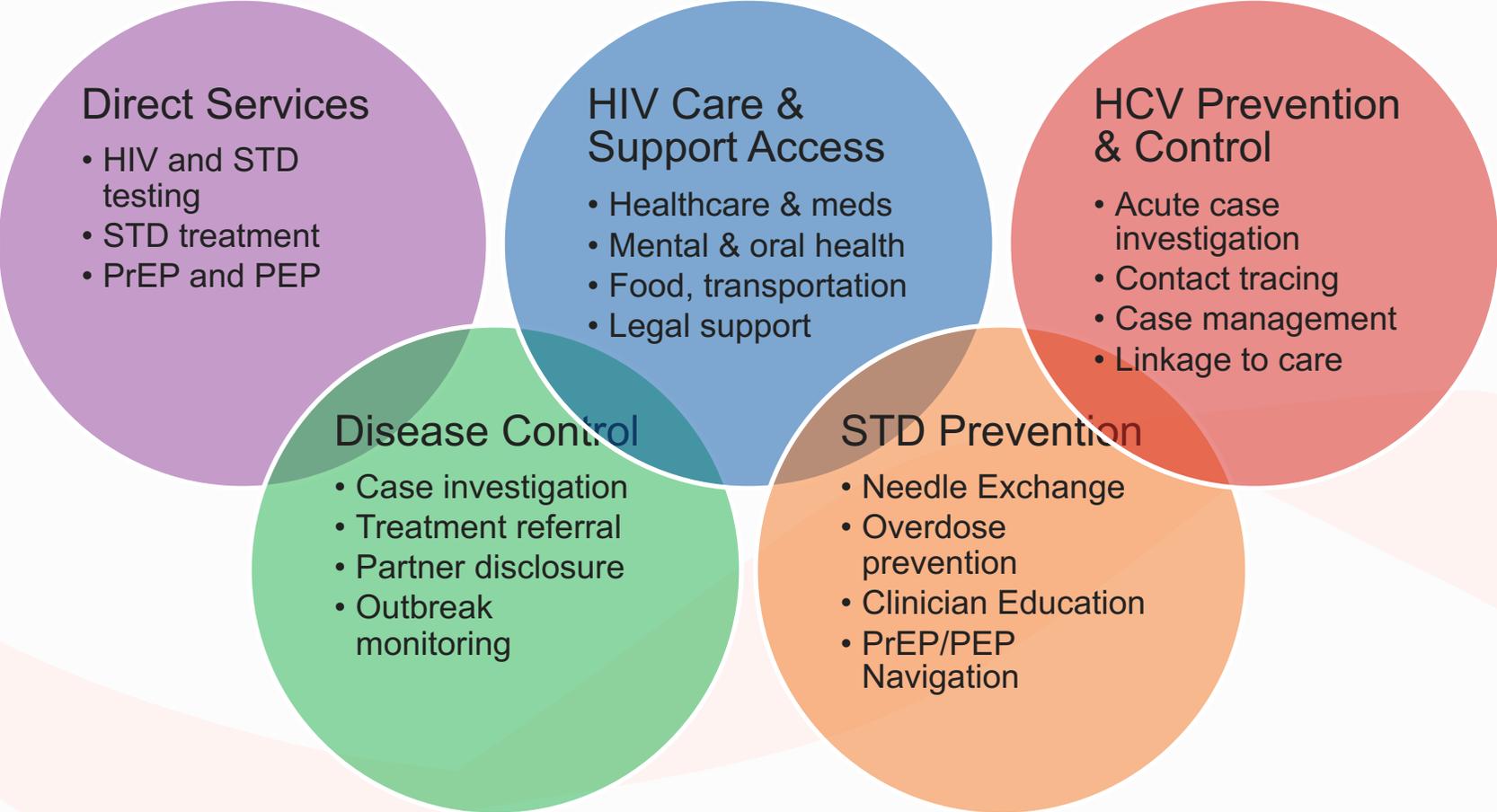
# Conclusions

- The future of STD and HIV care depends on barrier-free access to testing and biomedical interventions.
- Integration of primary care, STD care, and HIV prevention/treatment allow better patient experiences and overall health improvement.
- Automation of routine preventive services overcome stigma and missed opportunities for intervention but rely on basic risk assessments.
- The COVID-19 pandemic reinforces the need for community partnerships, integrated health infrastructure, and healthcare system responses to social determinants.

# Sexual Health Resources at Public Health



# Sexual Health Resources at Public Health



# Public Health Resources for STD and HIV Prevention and Care

**STD Care:** Crane Center and STI Clinic: 408-792-3720

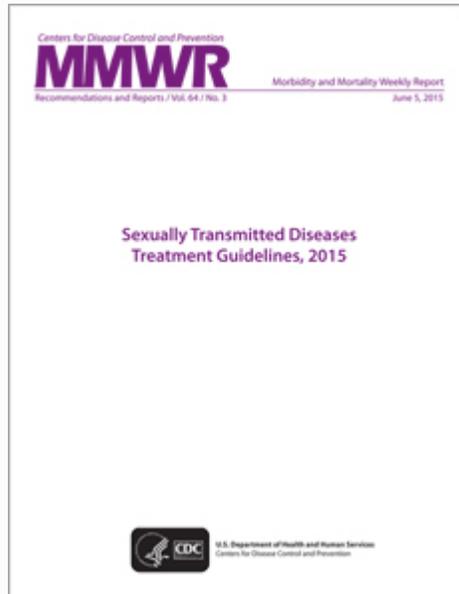
**Finding People:** Communicable Disease Investigation: 408-792-3739

**For People with HIV:** Positive Connections (HIV Linkage & Re-engagement):  
408-792-5080

**Preventing HIV:** PrEP/PEP Navigation (Linkage, financial & adherence support):  
408-792-3750

Sarah L. Rudman, MD MPH;  
STD/HIV Controller and Assistant Health Officer  
Desk: 408-792-5051  
Cell: 408-316-3123

# Clinical Guidelines and Consultation



**CDC's STD Treatment Guidelines**

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



**STD Clinical Consult Network** [www.stdccn.org](http://www.stdccn.org)



**Free CDC STD Treatment Guidelines App**  
Search for "STD TX"