

Rapid Syphilis Testing

Results from a Demonstration Site Project with Four Local Health Departments

June 19, 2018

Webinar Logistics

- Participant lines will be muted.
- Chat with other participants and make comments via the chat box.
- Submit questions via the Q&A box. These questions will be addressed during the Q&A session at the end of the webinar.
- The webinar is being recorded and will be archived on www.naccho.org.



Agenda

- Introduction and Background on Syphilis and Rapid Testing
NACCHO
- Local Health Department Presentations
 - *Pima County Health Department, Arizona*
 - *San Joaquin County Public Health Services, California*
 - *Salt Lake County Health Department, Utah*
 - *Crater Health District, Virginia*
- Evaluation and Project Findings
Public Health Impact, LLC
- Q&A

Syphilis in the United States

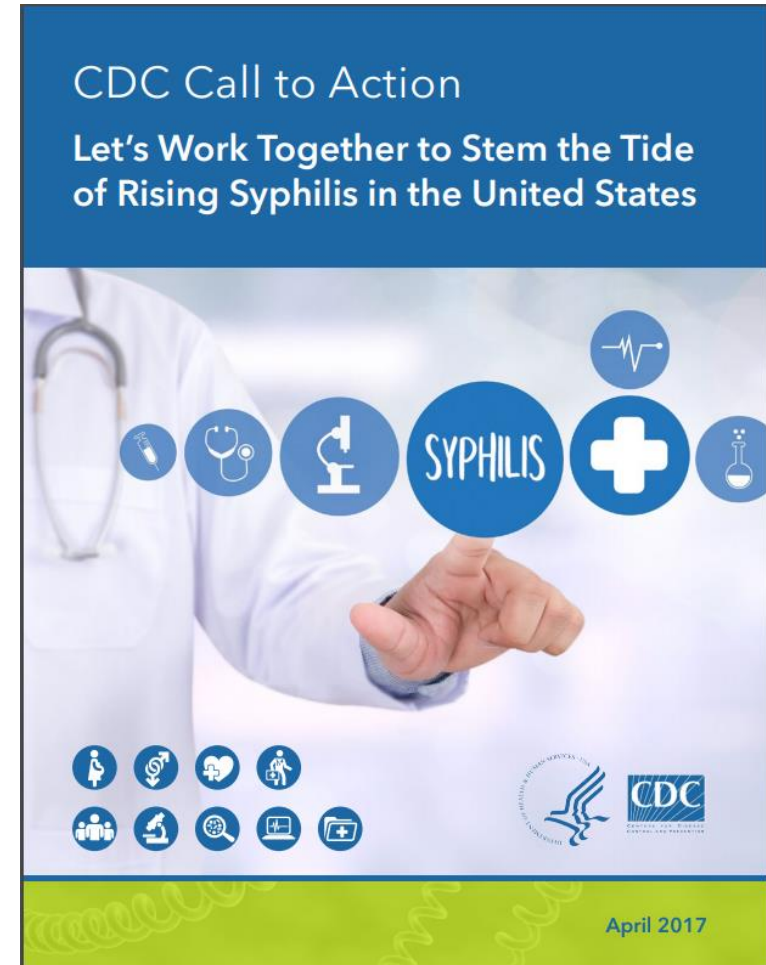
- Men account for most cases of syphilis, with the vast majority of cases occurring among men who have sex with men (MSM)
- However, during 2013-2016, the rate of syphilis increased among men **and** women
 - From 2015 to 2016, the rate increased by 14.7% for men and 35.7% for women
 - Increases of congenital syphilis follow increases among women— in 2016, congenital syphilis cases were the highest since 1998 (628)

Syphilis in the United States

- During 2015-2016, primary and syphilis rates increased in:
 - Every region of the county
 - Every age group among those aged 15 and older
 - Every race/ethnicity group
- Left untreated, syphilis can cause severe medical issues

CDC's Syphilis Call to Action

- Released in April 2017
- Calls for:
 - Creating new tools to detect and treat syphilis
 - Increasing testing for syphilis
 - Controlling further spread of syphilis
 - Improving electronic medical records in order to improve patient outcomes



The Rapid Syphilis Test

- What?
 - Only one test cleared by FDA for use in US, Syphilis Health Check™
 - Can detect antibodies to *T. pallidum* by fingerstick in approximately 10 minutes
 - As with other treponemal tests, a nonreactive test cannot rule out infection acquired within the preceding few months
 - Because it is an antibody test, reactive results require additional testing with a nontreponemal test
- Why?
 - New technology to detect syphilis cases
 - Ideal where:
 - Laboratory capability is limited
 - There is high risk of loss to follow-up



The Rapid Syphilis Test

- Data on use of rapid syphilis tests in the United States is limited
- Additional data on how, when, and where the rapid syphilis tests might be most useful is needed

Piloting RST

Key evaluation questions for the demonstration site project were:

- What are best practices for integrating RST into nonclinical STD program settings?
- How effective is RST at identifying new syphilis cases?
- What are the outcomes, barriers, and opportunities associated with using RST in various STD program settings?
- How do these factors vary across settings and local contexts?

Overview of Demonstration Sites

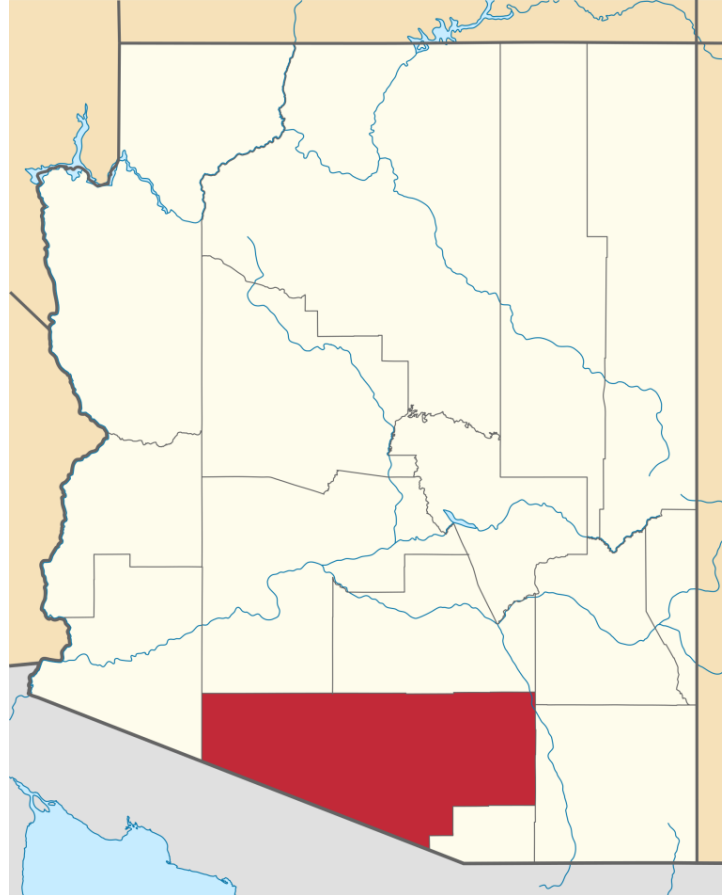
	Crater	Pima	Salt Lake	San Joaquin
Target Population	96 tests People in correctional facilities 18-24 yrs of age	194 tests MSM Hispanic <40 yrs of age	582 tests MSM	401 tests Homeless individuals
Settings	Virginia State University Riverside Regional Jail	Bars LGBTQ Festivals Family planning clinic (back-up site after mobile unit a/c broke down)	MSM Sex Parties Utah Pride Festival Utah AIDS Foundation Home Visit MSM Club Wednesday Night Sites	Shelter Stock Streets Rehab Center
County Syphilis Rate	0.03%	0.011%	0.007%	0.04%
RST Pilot Positivity	1.0%	1.7%	1.7%	5.0%

Pima County: Rapid Syphilis Testing Project

Miguel Soto, HIV Coordinator
Pima County Health Department

Pima County Information

- 9,200 square miles
- Home to the second largest Native American Reservation in the country, Tohono O'odham
- Tucson is the second largest city in Arizona
- Population of 980,000
- 74% white, 34% Hispanic
- African American, Asian and Native Americans @ 3% each
- Tucson is 60 miles north of the Mexican Border



HIV/STD Outreach

- Outreach testing to target populations have been branded as 'Testing After Dark.'
- Free HIV & STD testing are offered at local gay bars & other targeted spaces.



TESTING after
DARK
know your status!

The Pima County Health Department
will be offering free HIV & STD testing
Look for our mobile testing unit!
Brodie's Tavern, 2449 N. Stone

FRIDAY, DECEMBER 19TH
Brodie's Tavern
7:30 pm to 10:30 pm

PIMA COUNTY
HEALTH DEPARTMENT

A Healthy Pima County
Every one. Every where. Every day.

Call 724-7676 for more information

The poster is a vertical rectangular graphic with a dark blue background at the top that transitions to a lighter blue at the bottom. It features the text "TESTING after DARK" in large, bold, yellow and orange letters. Below this, it says "know your status!" in white. The main text is in white and yellow. At the bottom, there is a silhouette of a city skyline in dark blue with yellow windows. The Pima County Health Department logo is also present.

A Healthy Pima County
Every **one**. Every **where**. Every **day**.

Mobile Unit



Mobile Unit



Pima County RST Project Staff

HIV Prevention Staff

- Miguel Soto, HIV Prevention Program Coordinator
- Katherine Welchlin, Health Educator
- Noel Valle, Program Manager, Prevention Services



A Healthy Pima County
Every **one**. Every **where**. Every **day**.

RST Project Successes

- Easy integration of RST into existing Mobile Outreach services
- RST seamlessly linked into other Health Department programming including treatment and Partner Services
- Outreach events are held on a monthly basis at venues already established with Mobile Services

RST Project Successes (cont.)

- March 2017

- New collaboration for NAAAD (Native American AIDS Awareness Day) on March 20
- Conducted 9 RSTs in partnership with the Tohono O'odham Indian Health Services Department in Sells, Arizona

- April 2017

- New venue for testing (Kennedy Park) identified based on surveillance data
- Conducted 8 RSTs (1 positive) via a community outreach event

RST Project Successes (cont.)

- June 2017
 - New collaboration with Cochise County Health Department.
 - At the Bisbee Pride event, 12 people tested (2 positives)

194 RSTs were conducted from January 2017 to January 2018

Challenges

- Recent move of Surveillance to Theresa Lee Public Health Center. Communicable Disease Investigators to begin RST in the field, with respect to partner services.
- HIV Outreach Van- mechanical and serious A/C issues affected the amount of times outreach could be conducted. HIV Prevention Staff worked around this issue by conducting outreach indoors at bars and other venues

Rapid Syphilis Testing

San Joaquin County, California

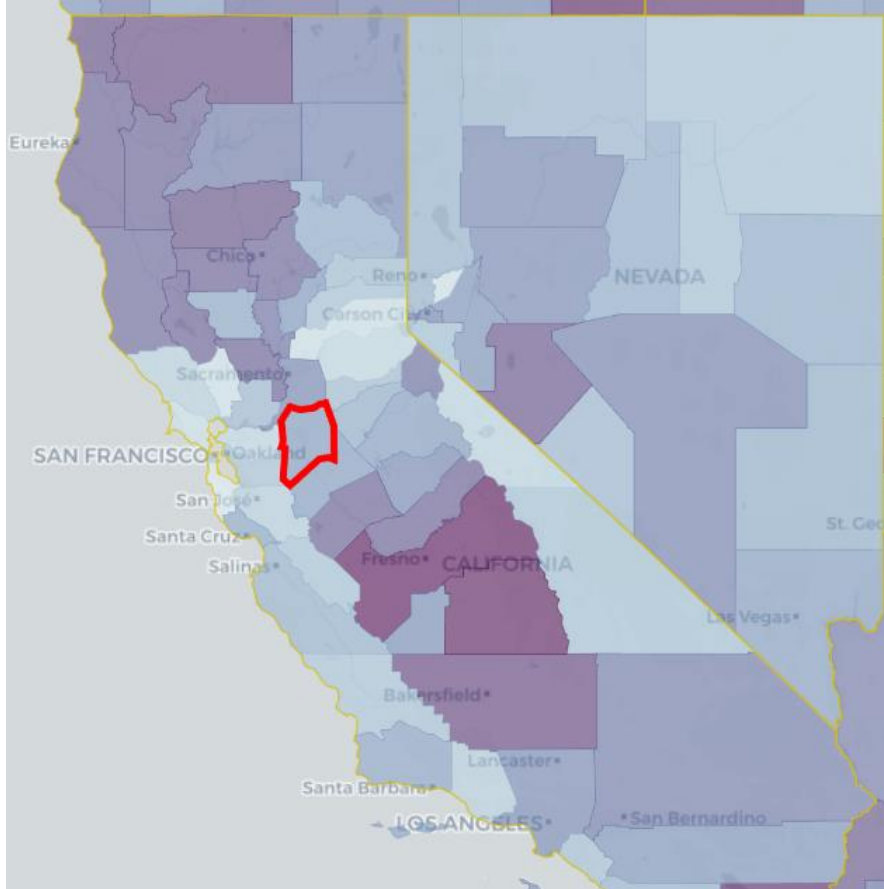
Presented by:

Kelly Rose, MPH
Supervising Epidemiologist

Hemal Parikh, MPH
Community Services Program Manager



San Joaquin County Information



- 🌿 Location: Central Valley or San Joaquin Valley in California
- 🌿 County population: 714,860¹
- 🌿 Largest City: Stockton (301,443)¹
- 🌿 Overall Health Status: performs worse than CA and US in most health indicators²

Sources:

1. American Fact Finder. ACS Demographic and Housing Estimates, 2012-2016 (5-Year Estimates).

2. Robert Wood Johnson Foundation (RWJF). Building a Culture of Health – Stockton, CA.

<https://www.rwjf.org/en/cultureofhealth/what-were-learning/sentinel-communities/stockton-california.html>

Population and Settings

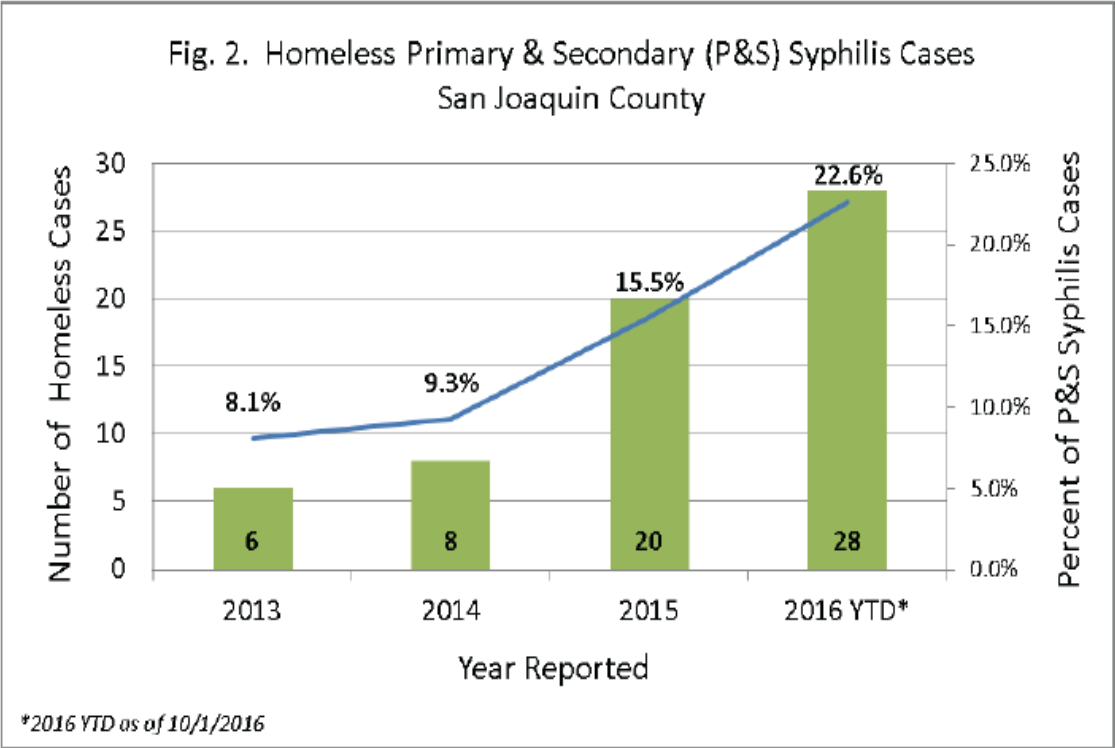
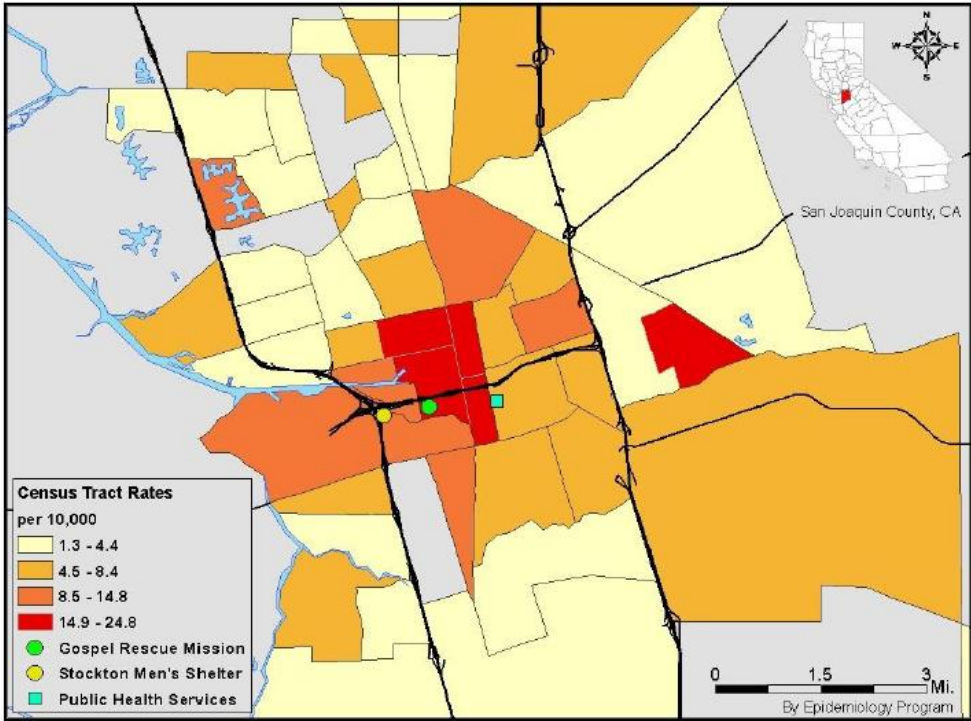


Fig.3. Primary & Secondary Syphilis Rates by Census Tract, City of Stockton, CA 2015 - July 1, 2016



Source: San Joaquin County Public Health Services, *Epidemiology*, 11/23/2016

Successes

A test that aims to help the homeless



MOST POPULAR

- 1 Jun 14 at 6:23 PM
- 2 Jun 13 at 5:24 PM
- 3 Jun 16 at 7:00 PM
- 4 Jun 13 at 3:39 PM



BUY PHOTO

HIDE CAPTION

San Joaquin County Health nurse Jenny Malone, left, takes blood samples from Hydyiah, 41, for testing for syphilis near the entrance to the St. Mary's Dining Room last week. [CALIXTRO ROMIAS/THE RECORD]



- 🌿 20 new cases
- 🌿 Client satisfaction
- 🌿 Visibility within community
- 🌿 Cross-programmatic work

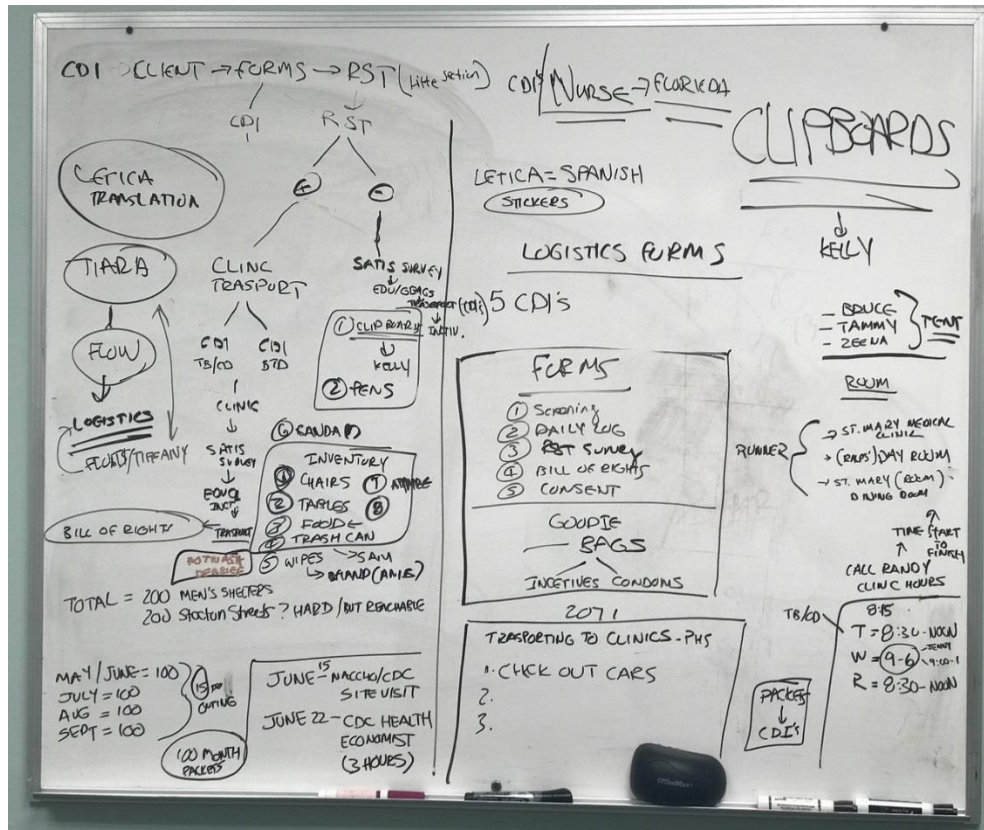
Source: Stockton Record. "A test that aims to help the homeless", 10/3/2017
<http://www.recordnet.com/news/20171003/test-that-aims-to-help-homeless>

Challenges



- 🌿 Weather
- 🌿 Resources
- 🌿 Department infrastructure
- 🌿 City enforcement

Lessons Learned



- 🌿 Incentives
- 🌿 Continuous Quality Improvement (CQI)
- 🌿 Blood draw and treatment on site
- 🌿 More partners
- 🌿 Language barriers

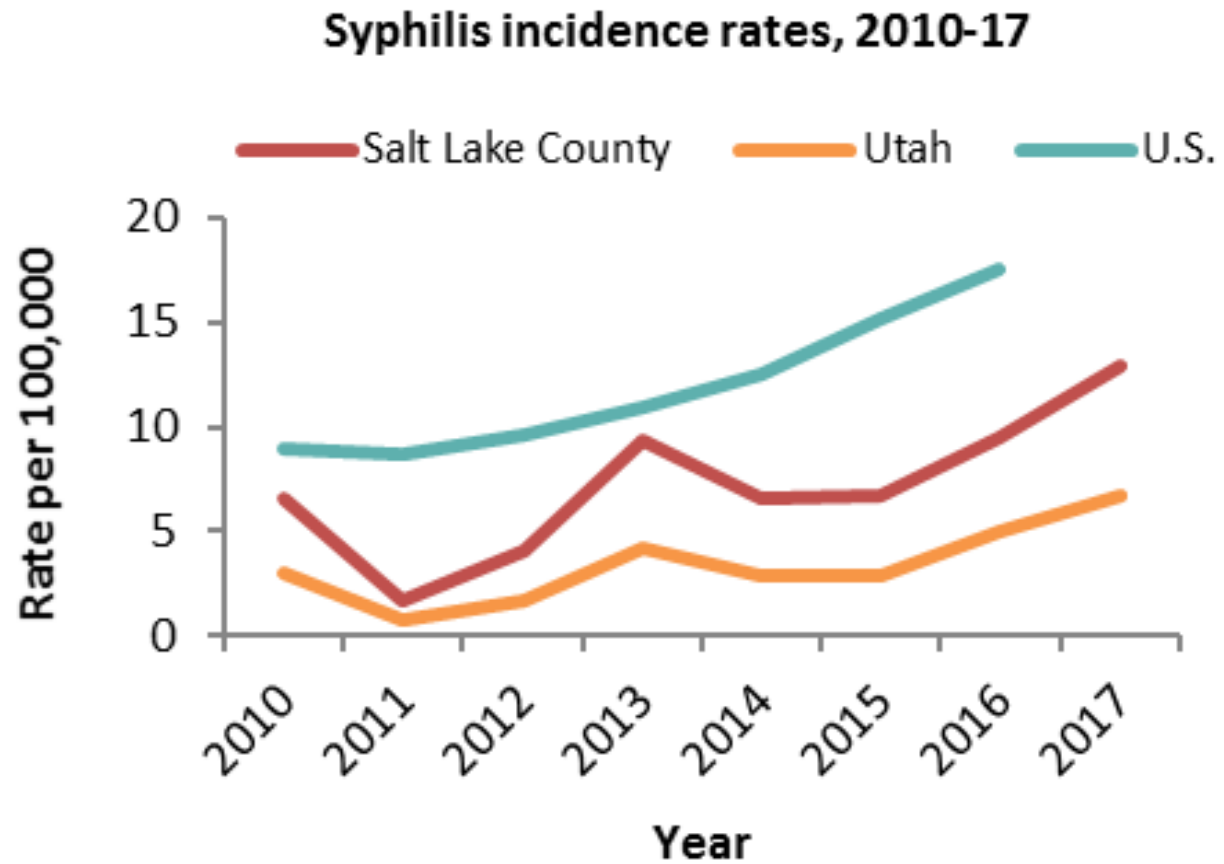
2017 RAPID SYPHILIS TESTING PROJECT

SLCoHD STD
Prevention and
Epidemiology
Program

RST PROJECT: PROGRAM STAFFING

- 7 HIV/STD Health Investigators/Educators
- 1 Community Health Education Coordinator
- 1 Epidemiology Supervisor/Program Manager
- 2 Data Support Technicians

RST PROJECT: EARLY STAGE RATES



RST PROJECT: EARLY STAGE SYPHILIS

Salt Lake County Health Department	2017 Early Syphilis Cases by Risk Data
Male	99.3%
MSM	93%
HIV Positive	35%
IDU	14%
Previously Diagnosed	27%
Ocular Involvement	4 cases
Treated within 30 days	94%
Total Cases	144

RST PROJECT: OBJECTIVES

- Provide outreach testing to 100-150 individuals, primarily MSM:
 - Wednesday evening testing at SLCoHD – 2 times per month
 - MSM sex parties
 - 2 times per week testing at the Utah AIDS Foundation during March – partnership with their HIV test site
 - Utah Pride Festival
 - MSM nightclubs
 - Home visits – partners identified through DIS

RST PROJECT: SOCIAL MEDIA ADVERTISING



Know your status

Free walk-in syphilis & HIV testing

- Rapid on-site results
- 1st & 3rd Wednesday of every month
- 4:30pm–7pm

660 South 200 East
Side entrance
Look for the **RED RIBBON!**
385-468-4222

 **SALT LAKE COUNTY**
HEALTH DEPARTMENT
saltlakehealth.org/std

RST PROJECT: TESTING BY SITE

Salt Lake County Health Department	RST Tests by Site
Utah AIDS Foundation	305 Tests
Utah Pride Festival	160 Tests
Wednesday Night Testing	81 Tests
MSM Night Clubs	26 Tests
MSM Sex Parties	9 Tests
Home Visits	1 Test
Total Tests	582

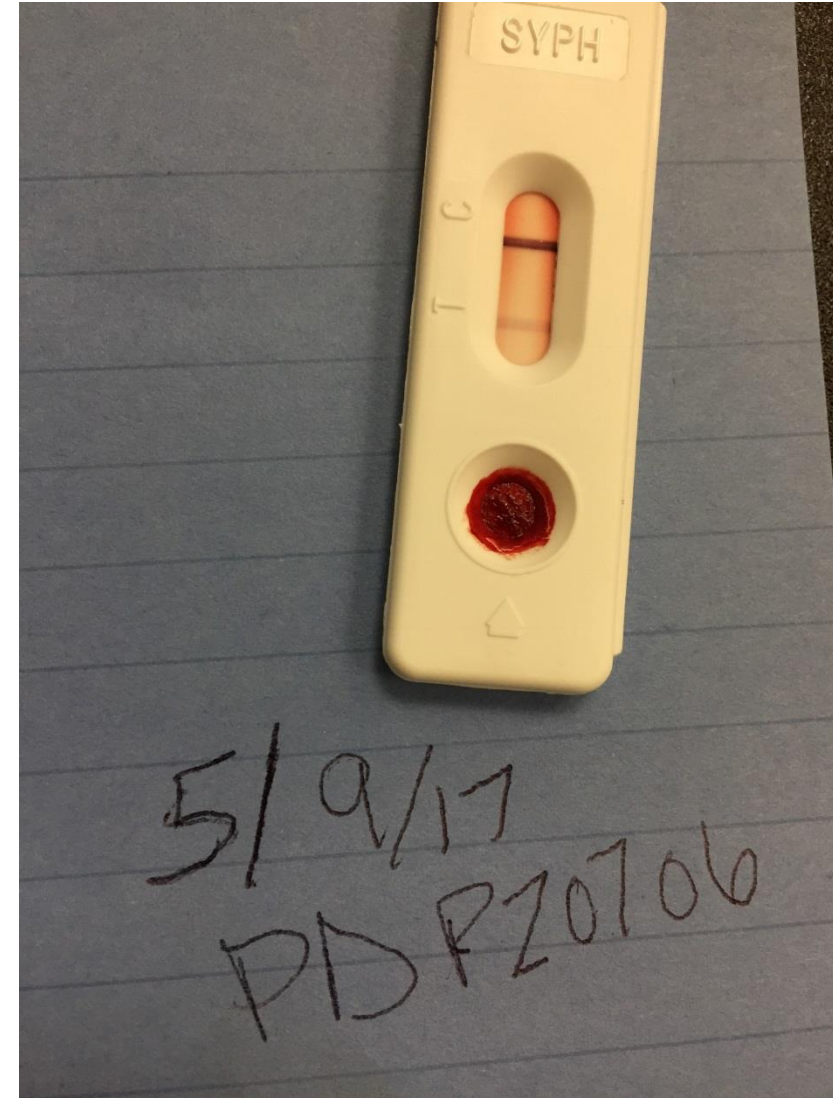
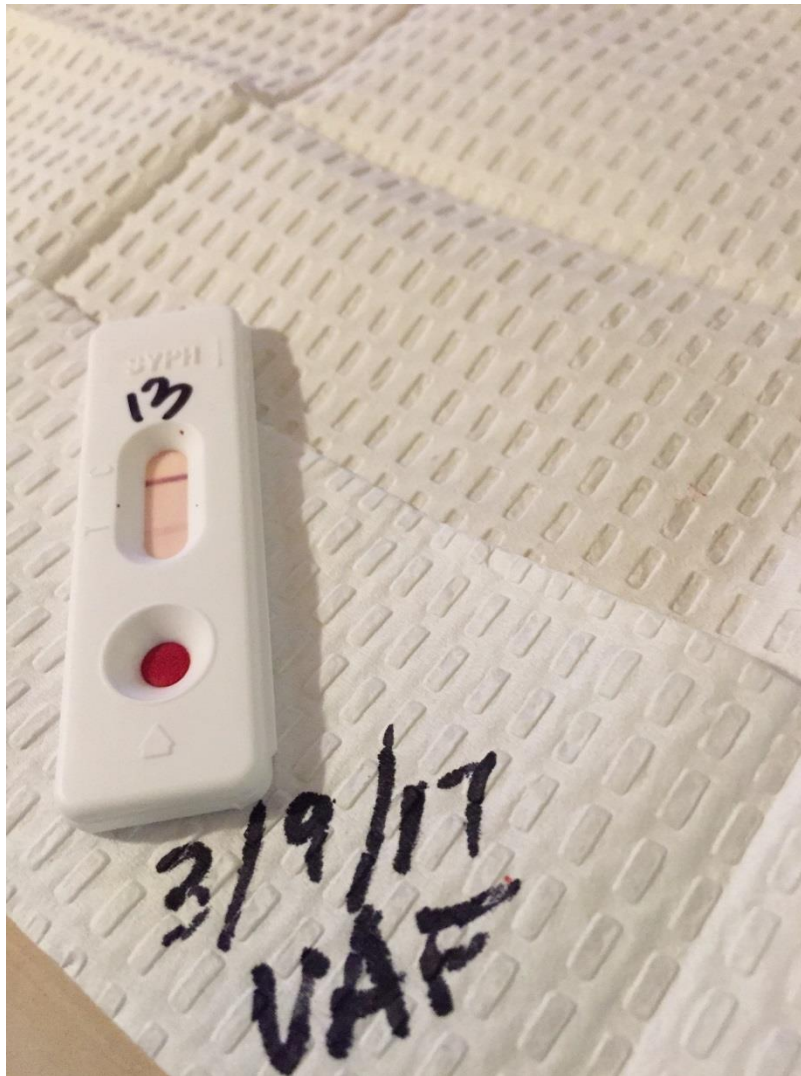
RST PROJECT: DATA BY NUMBERS

Salt Lake County Health Department	2017 RST Project
582	Number of Tests Administered
19	Reactive Tests
10	Confirmed positives
10	Treated Cases
19	Partners Identified
16	Partners Treated
2 Days	Median time from RST to Confirmatory Test
0 Days	Median time between confirmatory test and treatment

RST PROJECT: FALSE POSITIVES



RST PROJECT: CONFIRMED POSITIVES



RST PROJECT: SUCCESSES AND LESSONS LEARNED

- Successes
 - Patients were extremely appreciative
 - We identified and treated 10 positives
 - Improved our visibility and trust with a high risk population
- Lessons learned
 - Plan
 - Ask every patient at blood station if ever diagnosed
 - Have staff practice blood stations
 - Particularly when partnering with HIV rapid testing
 - Have standard protocols
 - Treat if rapid positive and symptomatic
 - Treat if rapid positive and epidemiologically linked to a case
 - Wait for confirmatory results if asymptomatic
 - Follow up testing on discordant results

Virginia's Perspective

Aleisha Manson, Crater Health District
Juan Pierce, Minority Health Consortium



Crater Health District

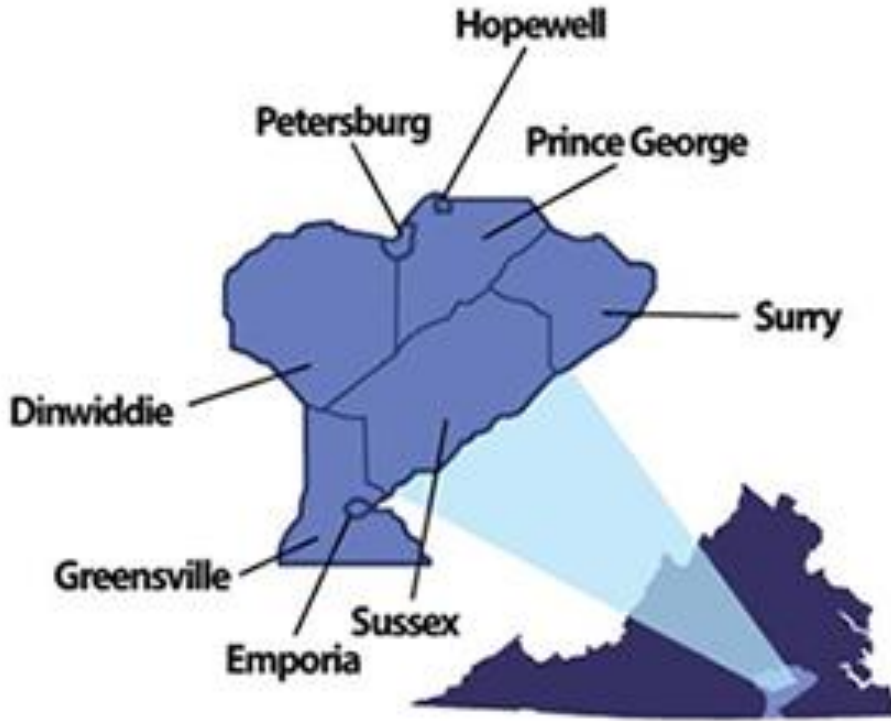
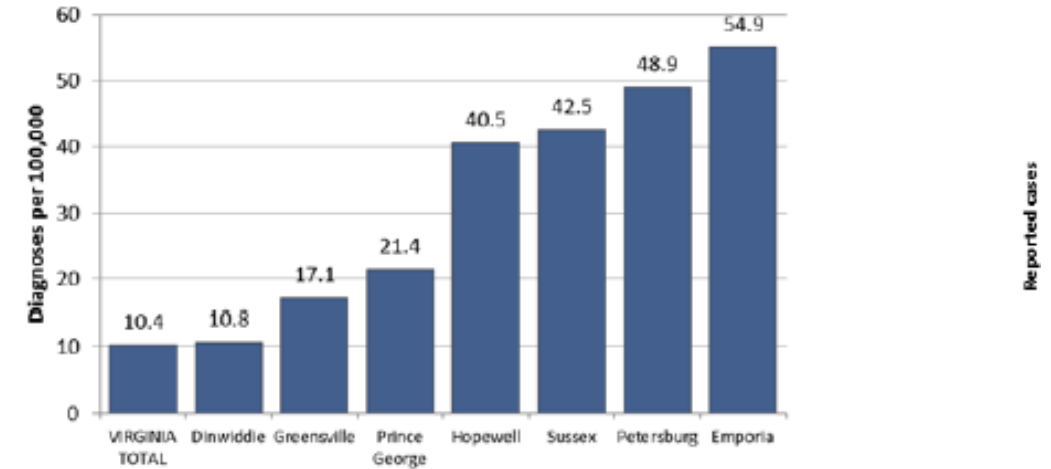
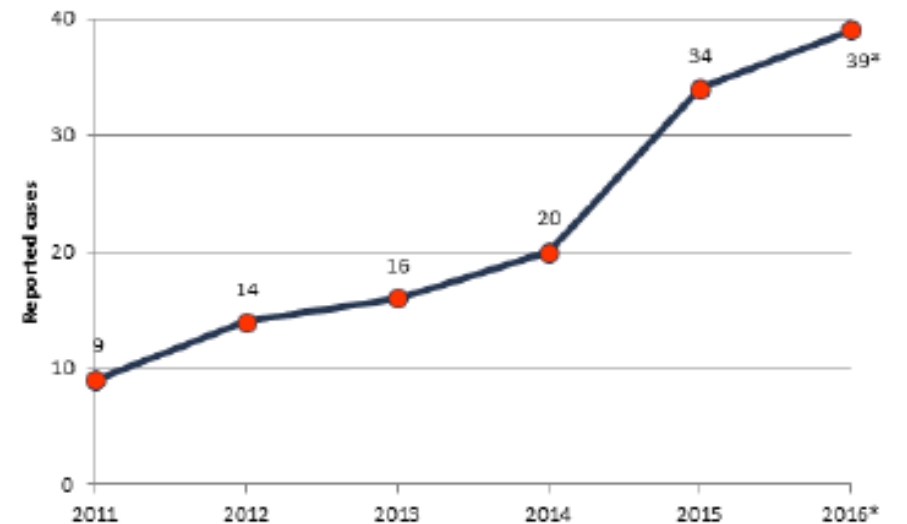


Figure 2: TES diagnoses per 100,000 (2015)



*2016 data is incomplete and only reflects cases reported through September 2016

Figure 3: TES in Crater Health District, 2011-September 2016



Population	Syphilis rate
RST Pilot in Crater Health District	1 in 96
Virginia (2016) ¹	1 in 11,900
United States (2016) ¹	1 in 3,650

Roles and Partners

- CDC
- NACCHO
- Virginia Department of Health
- Crater Health District
- Minority Health Consortium
- Riverside Regional Jail
- Virginia State University

Virginia State University

- Historically black public land-grant university located in Ettrick, across the Appomattox River from Petersburg.
- Undergraduate enrollment is over 5,000 students
- Student demographics: most are black or African American (85%), female (60%), and under age 25 (90%)
- Minority Health Consortium (MHC) has a long term working relationship providing testing to students



Riverside Regional Jail

- Located in Crater Health District's Prince George County, Riverside Regional Jail is the correctional institution used by seven surrounding localities with a capacity of nearly 1,250 inmates.
- MHC has a long term working relationship providing testing to inmates.



Client Snapshot

- 96 tests conducted during project period, 8 tested rapid positive
 - Average age: 29
 - Gender: 68% male
 - Race/ethnicity: 81% black, non-Hispanic
- Setting:
 - Virginia State University: 42%
 - Riverside Regional Jail: 58%
- 56% self-reported symptoms

Lessons Learned

Successes

- MHC and Crater's long-standing reputation among the community
- Existing relationship at testing sites
- 94% of clients were satisfied with the testing process and would recommend testing to a friend
- Able to reach people at high risk for syphilis infection, especially young adults; more than half of the people tested were under 25

Challenges

- Staff vacancies and turnover
- Project start-up delays
- Testing, confirmatory testing, follow-up, treatment, and data management were not performed by a single organization
- Some processes were not explicitly written down or communicated
- Necessity of frequent communication between the partners

Practical Considerations

Pros

- Rapid test provides helpful alternative for non-clinic settings and people afraid of needles
- Reduce time burden and need for phlebotomy staff at outreach events

Cons

- Expensive (\$13/rapid test vs. \$3.88/blood test)
- Clients often do not reliably self-report previous syphilis infections
- Low positive predictive value of the test
 - RST positive does not promote the same rush to complete confirmatory testing as HIV
- Patients at the chosen RST testing sites were slightly more difficult to track after they left the facility

Demonstration Project Results

Evaluation conducted by Public Health Impact, LLC on behalf of NACCHO

Evaluation Methods

- Quantitative data collection and analysis
 - Client intake forms (self-report)
 - Test logs
 - Treatment records
- Qualitative data collection and analysis
 - Interviews with program staff
- Report production
 - Individual site-reports
 - Cross-site report
- Limitations
 - Self-reported data
 - Timeline
 - Analysis
 - Generalizability

Key Lessons Learned

- Need support from leadership
- Examine current program infrastructure
- Weigh costs and benefits of the test
- Plan and practice for administering tests

Lessons Learned: Need Support from Leadership

- **Support for RST needed from:**
 - Local health director
 - Medical officer
 - Laboratory director
 - Clinic director
 - STD program staff
 - State health department
 - Community partners (e.g., test sites)
- **Factors that may affect leadership support:**
 - Magnitude and severity of syphilis infections in the local population
 - Prior experience with rapid testing (e.g., HIV)
 - Perceptions of accuracy of RST

Lessons Learned: Examine Current Program Infrastructure Within Health Department

- RST works best when there is:
 - Existing STD outreach programs into which RST can be integrated
 - Adequate staffing, including a point-person to oversee process from client outreach through treatment
 - Existing linkage-to-care protocol for syphilis
 - Existing protocol(s) to rapidly assess prior infection of reactive RST clients
 - Additional funding to leverage

Lessons Learned: Weigh costs and benefits.

- **Sensitivity and Specificity¹**
- **Limitations of Test**
 - Potential for incomplete client histories, false positives, discordant results
 - Test will be positive for people with previous, treated syphilis and new infection
 - Clients must return for confirmatory testing
 - Must maintain proper environmental and temperature control
 - High amount of resources required to use RST as a standalone test

(1) Agency for Healthcare Research and Quality https://www.ncbi.nlm.nih.gov/books/NBK368467/pdf/Bookshelf_NBK368467.pdf

Lessons Learned: Weigh costs and benefits.

	Crater	Pima	Salt Lake	San Joaquin
% RST+ clients with previous syphilis infection (per self report)	13% (n=8)	29% (n=7)	<i>Did not ask¹</i>	40% (n=57)
% RST+ clients who returned for confirmatory testing	75% (n=8)	75% (n=8)	100% (n=19)	59% (n=58)
% RST+ clients who were not confirmed to have a current syphilis infection (per lab results)	83% (n=6)	50% (n=6)	53% (n=19)	41% (n=34)
Other testing that was bundled with RST	None	HIV, chlamydia, gonorrhea	HIV	Glucose

- Despite the RST's limitations, it can still help get more people screened and treated.
- It is up to the local health department to decide if the benefits outweigh the costs!


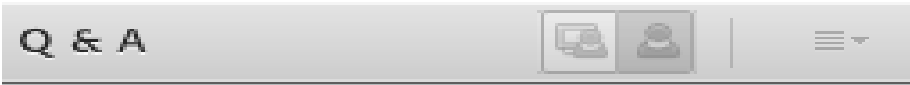
1. Question is not part of Salt Lake's standard intake process.

Lessons Learned: Plan and Practice for Administering Tests

- **Filling the pipets:**
 - Practice, practice, practice! Especially if new to rapid testing and if RST will be conducted alongside rapid HIV testing.
- **Preparing the testing site (especially for high-volume sites):**
 - Set up a mock testing event before going live
 - Have additional staff for crowd control
 - Have mechanisms in place to maintain confidentiality
 - Determine whether it's appropriate to provide results the same day or the next day

Questions?

Submit questions via the Q&A box.

A horizontal input field with a light gray border and a light gray background. To the right of the input field is a square button with a light gray background and a dark gray border, containing a speech bubble icon.

If you have any additional questions or thoughts, contact
Rebekah Horowitz at NACCHO (rhhorowitz@naccho.org).