

Congenital Syphilis Prevention in New York City

Bureau of Hepatitis, HIV, and Sexually Transmitted Infections

Envisioning a New York City without transmission or illness related to viral hepatitis, HIV, and sexually transmitted infections.

Congenital Syphilis (CS) Prevention in New York City

- New York City STI Data
- Highlights from the New York City Health Code
- Programs and Partnerships
 - **Congenital Syphilis Prevention Investigator (CPI) staffing model**
 - **Case study**



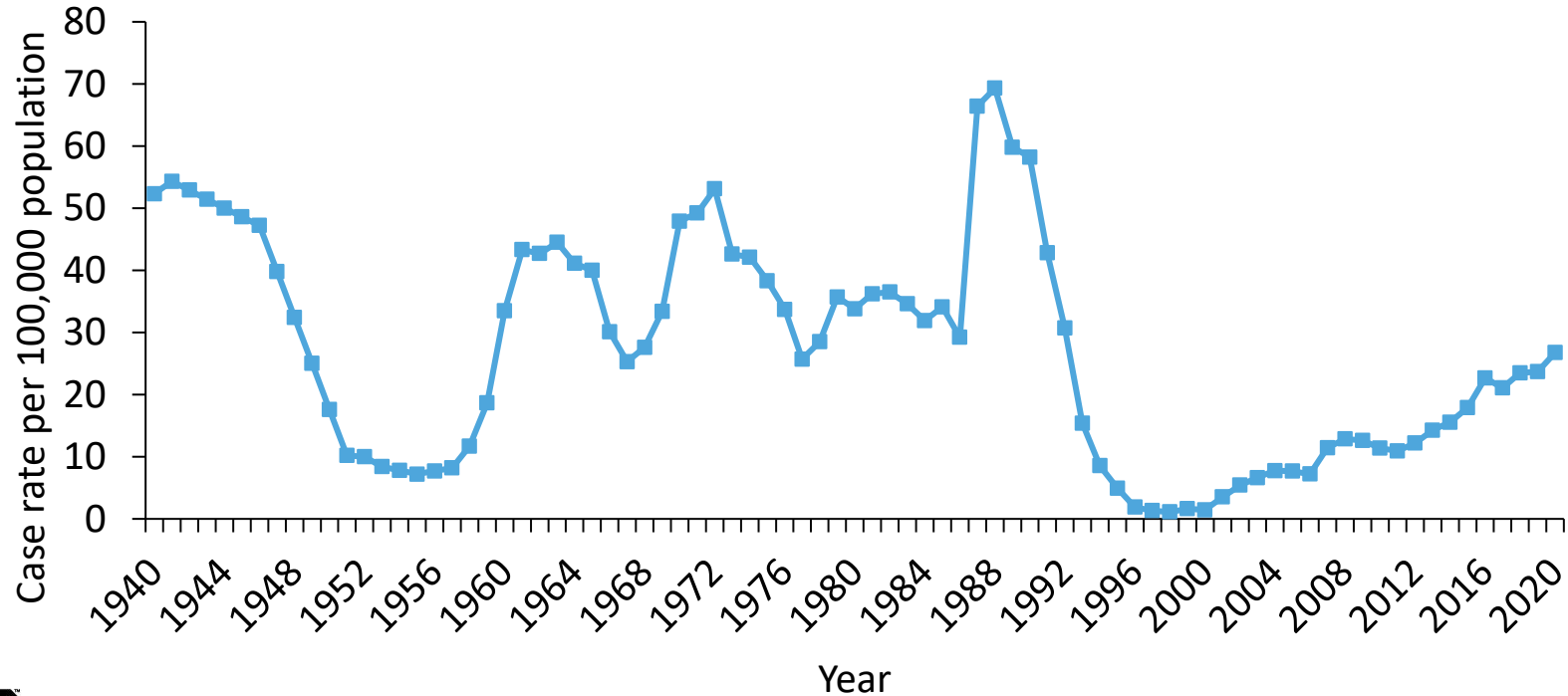
An aerial photograph of New York City, showing a dense urban landscape with numerous skyscrapers and buildings. The image is overlaid with a semi-transparent purple filter. In the background, the Hudson River and the New York City skyline are visible, including the Freedom Tower. The foreground shows a dense grid of city blocks.

NEW YORK STI CITY DATA

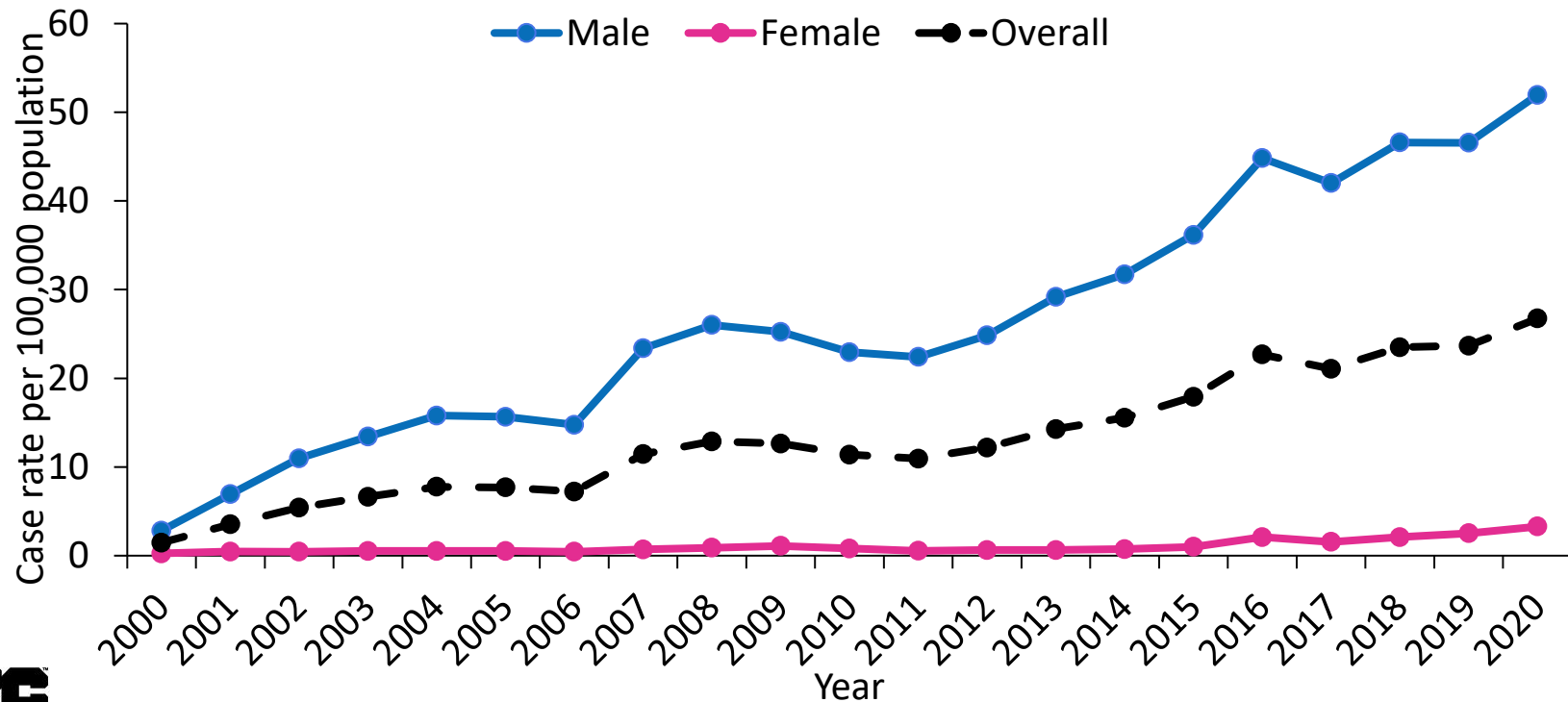
Sexually Transmitted Infections in New York City

Cases of STI reported to NYC Department of Health, 2019 vs. 2020			
STI	2019	2020	% Change (2019 vs. 2020)
Primary and Secondary Syphilis	1,987	2,231	↑ 12%
Latent Syphilis	6,353	6,346	0 %
Gonorrhea	28,973	25,027	↓ 14
Chlamydia	76,206	56,167	↓ 26%

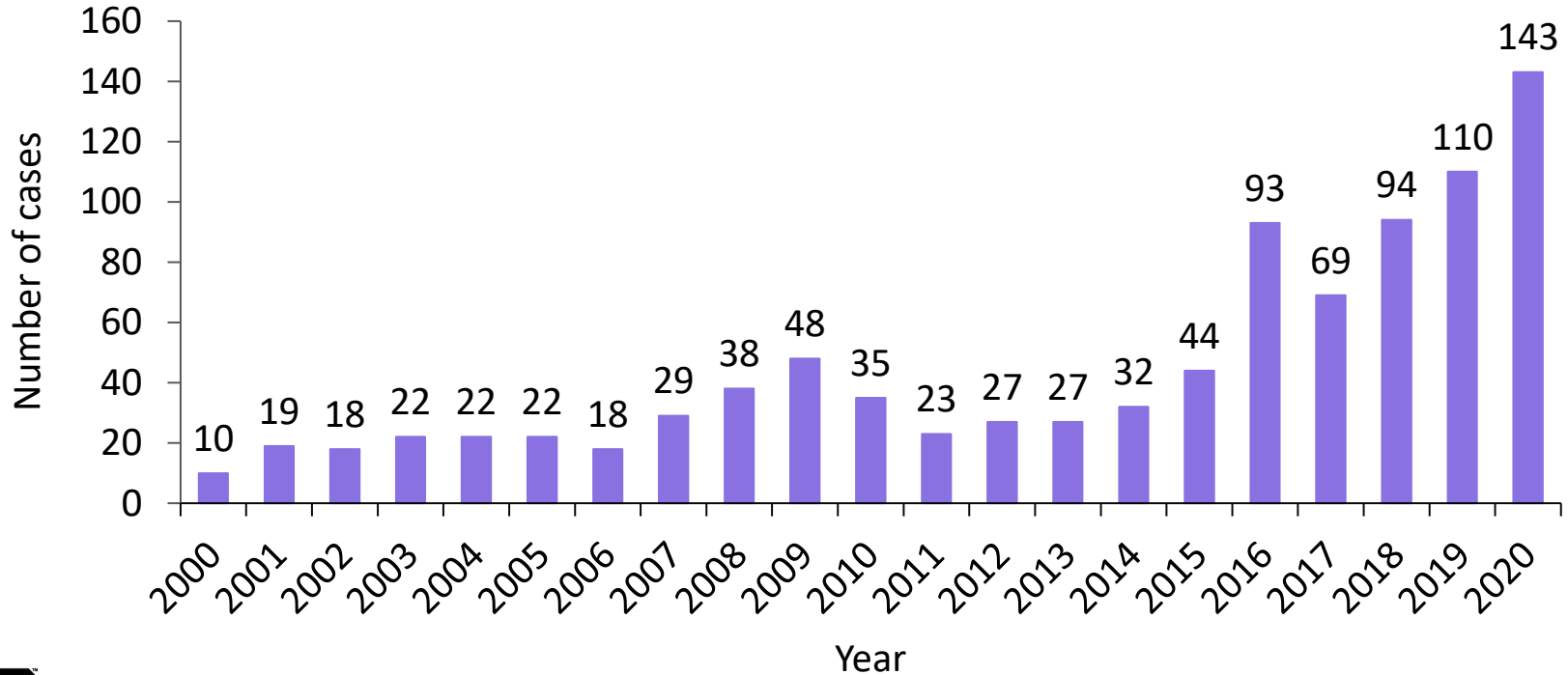
Primary and secondary syphilis case rates (per 100,000), New York City, 1940-2020



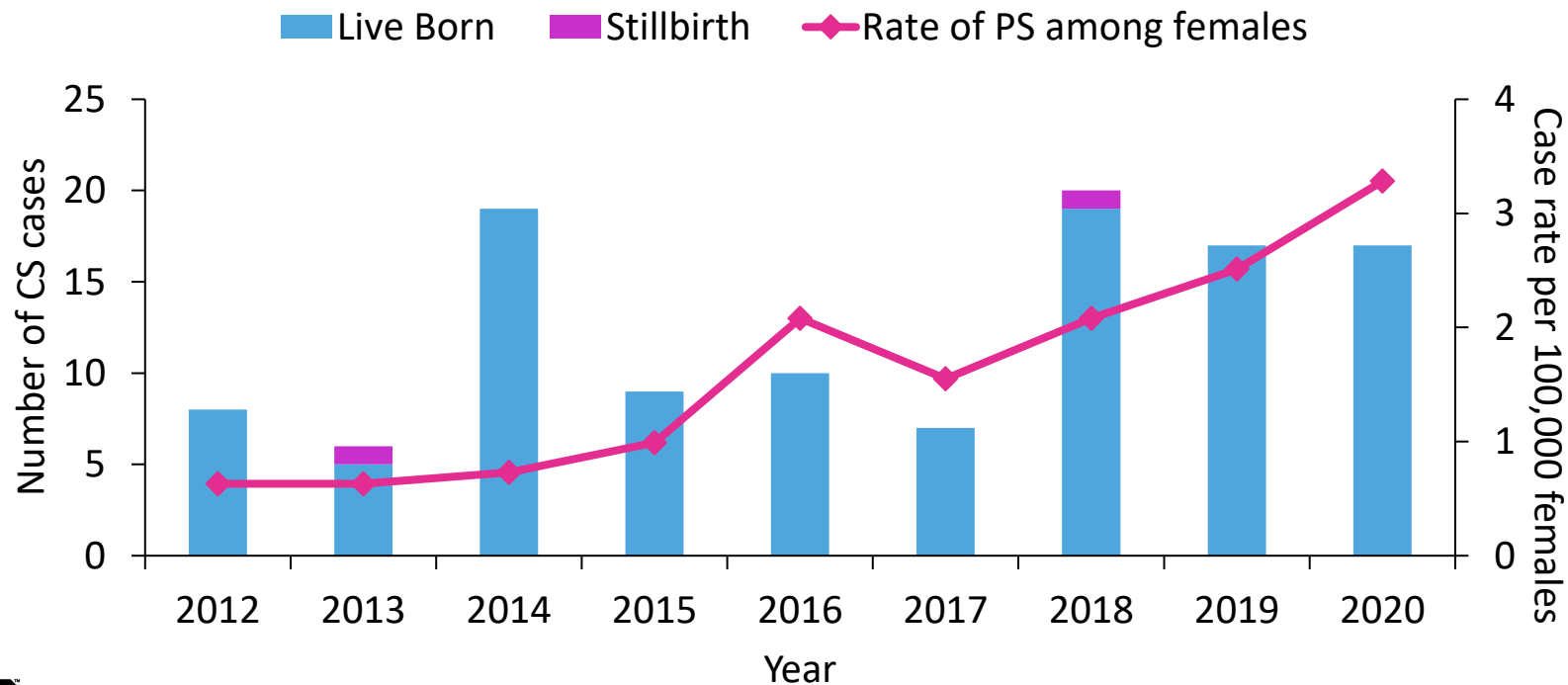
Reported primary and secondary syphilis case rates (per 100,000), by reported sex, New York City, 2000-2020



Reported female primary and secondary syphilis cases, New York City, 2000-2020



Reported congenital syphilis (CS) cases, by vital status, and female primary and secondary syphilis (P&S) rate (per 100,000), New York City, 2012-2020



An aerial photograph of New York City, showing a dense urban landscape with numerous skyscrapers and buildings. The image is overlaid with a semi-transparent purple filter. In the background, the Hudson River and the New York Harbor are visible, with the Manhattan skyline prominently featured. The text "HIGHLIGHTS FROM THE NEW YORK CITY HEALTH CODE" is centered in the lower half of the image.

HIGHLIGHTS FROM THE NEW YORK CITY HEALTH CODE

New York City Health Code Highlights

- Electronic laboratory reporting mandated, 2006 ([Article 13 \(nyc.gov\)](#))
 - Pregnancy status (if known), 2008
 - Pregnancy status (if known and/or probable), 2014

City Health Information

December 2019

New York City Department of Health and Mental Hygiene

Subject: Amendment to NYC Health Code—Additional Syphilis Screening in Pregnant Persons

Dear Colleague:

We are writing to notify you about a recent amendment to the New York City (NYC) Health Code (Health Code) that became effective on November 15, 2019. An up-to-date version of the Health Code can be found on the [New York City Rules webpage](#).

Article 11 of the Health Code has been amended to add a new Section 11.33, which requires NYC health care providers to test pregnant persons for syphilis at 28 weeks of pregnancy, or as soon thereafter as reasonably possible, but no later than at 32 weeks of pregnancy. The new rule also requires providers to document the test results and a treatment plan in the patient's medical record.

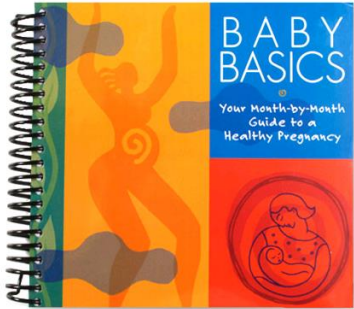
- Mandated syphilis screening for ALL pregnant people at 28 - 32 weeks, 2019 ([Article 11 \(nyc.gov\)](#))
 - In addition to [NYS Public Health Law § 2308](#) to screen for syphilis at the first prenatal visit and at delivery ([10 NYCRR § 69-2.2](#))
- Planning to designate syphilis in a pregnant person as an “immediate report” condition for providers

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PROGRAMS AND PARTNERSHIPS

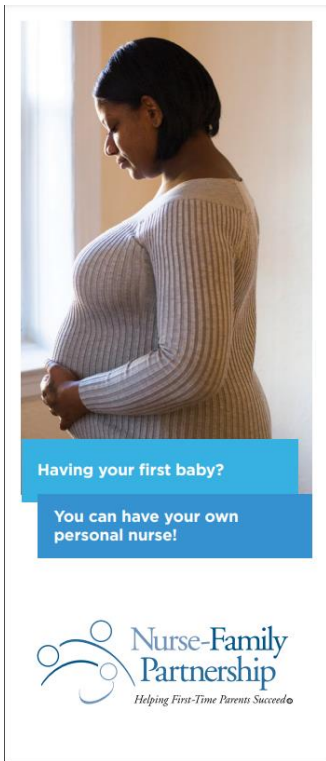
Programs and Partnerships

- **Congenital Syphilis Workgroup, 2013**
 - Internal group consisting of members from surveillance, epidemiology, partner services, clinical affairs, and program leadership
 - CS morbidity and mortality case review boards recommended by CDC



- **Social Work Intervention, 2017**
 - STI Program Social Workers attempt to connect with pregnant people diagnosed with syphilis
 - Referrals, Baby Basics book, social supports, sex partners, counseling
 - **Reminder to retest at 28 weeks**

Bureau of Maternal, Infant and Reproductive Health (BMIRH), 2018



- Nurse Family Partnership
- Cribs for Kids
- Newborn Home Visiting Program

Referrals

Bi-directional trainings



An aerial photograph of the New York City skyline, featuring numerous skyscrapers and dense urban development. The image is overlaid with a semi-transparent purple filter. A dark rectangular box is positioned in the lower half of the image, containing the title text in white.

CONGENITAL SYPHILIS PREVENTION INVESTIGATOR (CPI) MODEL

Congenital Syphilis Prevention Investigator (CPI) Staffing Model

- In Fall 2019, an Epidemic Intelligence Service (EIS) Officer evaluated our CS prevention system
- Identified a prioritization practice in one Case Investigation and Partners Services (CIPS) team and recommended broader implementation

All syphilis investigations among people reported as **female** (only 6%) were being streamlined to a single Disease Intervention Specialist (DIS)

Collaborative Program Planning

- [Congenital Syphilis Prevention Investigator](#) name was chosen by CIPS
- Short-term goals
 - Increased experience among CPIs in conducting and documenting investigations among females and infants
 - Greater and more timely referral of pregnant persons with syphilis to Social Work team
- Longer-term goals
 - Improved treatment timeliness and adequacy
 - More sex partner(s) identified and investigated
 - Increased third trimester syphilis screening rates among pregnant persons

More congenital syphilis cases averted

January 2020 All Staff Meeting

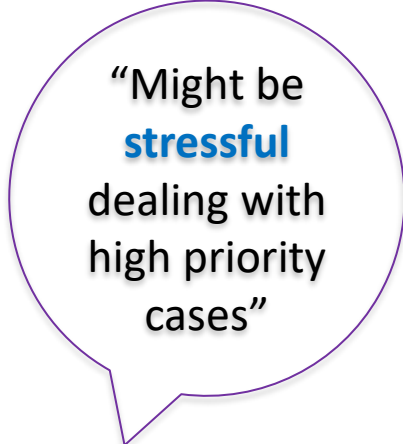
- Introduce the CPI Program, and elicit feedback for Program Planning
- Conducted staff survey:
 - **93%** Agreed/strongly agreed the CPI model is an important change
 - **88%** Agreed/strongly agreed the CPI model makes sense as a way to address congenital syphilis
 - **56%** Agreed/strongly agreed they would be interested in being a CPI
- Perceived barriers



“Remembering
how to do CS
investigations”




“Burn Out”



“Might be
stressful
dealing with
high priority
cases”

January 2020 All Staff Survey – Training Needs



Syphilis in pregnancy and CS	<ul style="list-style-type: none">•“More training on transmission”•“Congenital = staging, treatment”
CS interview protocol / chart review	<ul style="list-style-type: none">•“Need to know what information needed on the baby”
Pregnancy and prenatal care	<ul style="list-style-type: none">•“More education on pregnancy and prenatal visits”•“Medical definitions, medications that impact pregnancy or baby (fetus)”
Patient counseling skills	<ul style="list-style-type: none">•“...interviewing, as some mothers don’t take their pregnancies to term”•“Training on motivational interviewing”

CPI Implementation

Planning

- Leadership in Surveillance, CIPS and Social Work discussed how to operationalize
- Supervisors selected 3 CPIs per each of the 8 regions

Kick off meeting

- May 2020
- 24 CPI
- Supervisors
- Social Workers
- Conducted a **Pre-Implementation Survey:** Knowledge, Attitudes, Practices

Explained the model

- CPI to be assigned
 - Syphilis for people reported as female
 - Female partners to syphilis
 - Infants for follow up
- Go Live: June 2020

Social Worker Partnership

- Emphasized the partnership with Social Work Program
- To help review cases and strategize
- Provide mutual support

Training and Evaluation

- Reviewed planned trainings
- Explained that we would be requesting feedback for evaluation and program changes

CPI Trainings, May – December 2020

Congenital Syphilis Surveillance:
Infant Medical Chart Abstraction

CPIs and Social Workers: Teaming up to
Stop Congenital Syphilis

Adult Syphilis
Staging

Congenital Syphilis Surveillance:
From Evidence Gathering to
Case Reporting

Documenting
Syphilis and
Congenital
Syphilis
in Maven

More Training and Evaluation

- **Post-Implementation:** Knowledge, Attitudes, Practices Survey, March 2021
- **Midwife Life Consulting** (March 2021 – ongoing)
 - Focus groups, qualitative interviews, training development, and program assessment
 - “CS and Perinatal Care: Creative Conversations & Clinical Updates”
 - “Motivational Interviewing: Reimagining the Patient Centered Interview”
- **Elements of Prenatal Care and Syphilis Management in Pregnancy**, June 2021
 - Dr. Mary Ashmore (NYC DOHMH, STI, OB/GYN)

Continuous Program Updates

- Fall 2021: Based on feedback from CPIs
 - Rotated primary CPI
 - Implemented monthly regional CPI/SW meetings
 - Quarterly All Team Meetings
- Planning trainings so that CPIs can incorporate the following messages when working with pregnant people:
 - Postpartum warning signs of depression and hypertension
 - Hepatitis C screening

Test for Hepatitis C During Every Pregnancy

UPDATED RECOMMENDATION:

The Centers for Disease Control and Prevention (CDC), the American College of Obstetricians and Gynecologists, and the U.S. Preventive Services Task Force recommend that prenatal care providers test all pregnant patients for hepatitis C during each pregnancy.



An aerial photograph of New York City, showing a dense urban landscape with numerous skyscrapers and buildings. The image is overlaid with a semi-transparent purple rectangle that serves as a background for the title text. The overall color palette is dominated by the purple overlay and the grey/blue tones of the city buildings.

PRELIMINARY CPI OUTCOMES

Knowledge, Attitudes, Practices: Pre/Post Implementation

	May 2020 Agree / strongly agree	March 2021 Agree / strongly agree
Conducting chart review for CS	84%	87%
Case definitions for CS	76%	93%
Laws, requirements for syphilis screening in pregnancy	60%	60%
Conducting syphilis investigations among pregnant persons	80%	87%
Comfort conducting syphilis investigations for target population	88%	100%
Familiar with role of STI social work in preventing CS	74%	80%

Changes in investigation outcomes among syphilis cases in people reported as female and 15-44 years* (1)

Metric	Pre-CPI model (Jan to Dec 2019)		
	N	D	%
Completeness of estimated due date	75	109	68.8%
Completeness of first prenatal care visit date	9	15	60.0%
Completeness of substance use variables	350	663	52.8%
Completeness of sex behavior variables	318	663	48.0%

Changes in investigation outcomes among syphilis cases in people reported as female and 15-44 years* (1)

Metric	Pre-CPI model (Jan to Dec 2019)			Post-CPI model (Jun to Dec 2020)			Pre- vs. Post- Change in %
	N	D	%	N	D	%	
Completeness of estimated due date	75	109	68.8%	46	56	82.1%	↑ 13.3%
Completeness of first prenatal care visit date	9	15	60.0%	8	10	80.0%	↑ 20.0%
Completeness of substance use variables	350	663	52.8%	294	393	74.8%	↑ 22.0%
Completeness of sex behavior variables	318	663	48.0%	287	393	73.0%	↑ 25.0%

Changes in investigation outcomes among syphilis cases in people reported as female and 15-44 years* (2)

Metric	Pre-CPI model (Jan to Dec 2019)		
	N	D	%
Timeliness of syphilis investigations	437	663	65.9%
Timeliness of syphilis treatment	376	663	56.7%
Timeliness of partner services interviews	279	663	42.1%
Receipt of mandated third trimester syphilis screening	68	109	62.4%

Changes in investigation outcomes among syphilis cases in people reported as female and 15-44 years* (2)

Metric	Pre-CPI model (Jan to Dec 2019)			Post-CPI model (Jun to Dec 2020)			Pre- vs. Post- Change in %
	N	D	%	N	D	%	
Timeliness of syphilis investigations	437	663	65.9%	321	393	81.7%	↑ 15.8%
Timeliness of syphilis treatment	376	663	56.7%	241	393	61.3%	↑ 4.6%
Timeliness of partner services interviews	279	663	42.1%	242	393	61.6%	↑ 19.5%
Receipt of mandated third trimester syphilis screening	68	109	62.4%	56	56	100%	↑ 37.6%

Final thoughts

Successes

- Program idea came FROM the staff who were DOING the work!
- Engaged staff and invited feedback in a variety of ways
- Hired an outside evaluator
- Dedicated staff

Challenges

- Had planned off site retreats, in person team building exercises
 - COVID required that everything be done virtually
- DIS are still overworked and underpaid!
 - Too much burden to have higher level of responsibility?

Limitations

- Did supervisors choose ‘high performing’ DIS to be CPIs?
- Would this model be successful if CPIs were chosen at random?
- Data are preliminary, small sample, COVID?



CASE REVIEW

Samantha Malvasio

Congenital Syphilis Prevention Investigator

Introduction

- Case Investigation Partner Services (CIPS) team conducts over **12,000** syphilis (T1 - reactors) investigations per year
- Eight geographic regions
 - Central Harlem and the Bronx
- DIS for 5 years
- Attended all CPI program meetings and trainings as a back-up
- Became Primary CPI for her region in September 2021

Case Review - 1

- December 21, 2021 – **received investigation**
 - December 15, 2021
 - RPR 1:16, IgG+
 - 19-year-old, reported as an African American female
- December 22, 2021 – **contacted facility**
 - April 2021
 - RPR 1:32, FTA+ / no signs or symptoms / 2.4 BIC
 - August 2021
 - 1:8
 - Currently 23 weeks pregnant
 - HIV negative
 - Last STI screening in 2019, no previous syphilis testing



Not reported to the
NYC DOHMH!
Following up with
the laboratory.

Case Review - 2

- December 22, 2021 – **contacted the patient**
 - Patient was at work and very distracted
 - Learned that she was 24 weeks pregnant, receiving prenatal care, not experiencing any symptoms
 - She did not seem to understand what syphilis was, just that she received treatment in the past
 - Explained the seriousness of the situation and described the need for partner treatment and his information to link to case. She was hesitant to share information on her partner
 - Referred her to the NYC DOHMH Telemedicine Hotline and advised her to get treated at the Sexual Health Clinic (SHC) immediately
 - Advised I would be contacting her **daily** until treatment was obtained

Case Review - 3

- December 23, 2021
 - Patient did not call Telemedicine Hotline as advised, instead arrived at the SHC after they had stopped taking patients
- December 27, 2021
 - Patient visited a different provider
 - Retested (1:64), but did not receive treatment
- January 13, 2022
 - Patient visited yet another facility
 - Treated with 2.4 BIC
- Patient was also receiving prenatal care with an entirely different facility, they were aware of test results, but did not provide treatment?

Challenges

- April and August encounters not reported to the NYC DOHMH
- Patient did not drive, getting rides with boyfriend or taking public transportation (risky activity during a pandemic)
- Did not fully understand the importance of receiving treatment
- Other issues that prevented treatment from being highest priority
- Required over 20 patient interactions (calls, texts, home visits)
- Visited so many different facilities with no continuity of care

Successes

- She did receive treatment!
- Does understand that follow up is needed for her and her newborn
- FINALLY (as in yesterday) elicited contact information for the partner
- Referred to the [Social Work](#) program for additional support, referrals, and [free crib](#)
- COVID: all staff were issued city cell phones which made communication easier
- Built a relationship with the patient and was relentless with daily calls and texts until treated

Thoughts

- CPIs received a variety of trainings dedicated to working with pregnant patients
- **Midwife Life Consulting**
 - Discussed how socio-economic barriers can play a major role in someone's health journey
 - Living in high-poverty neighborhoods limits healthy options and makes it difficult to access quality health care and resources that promote health
 - Access to quality healthcare is critical to a mother's health before, during and after pregnancy
 - In this case, and many other it is obvious that these factors play a role in healthcare and in the lives of these women we serve
 - Representation matters
- CPIs and Social Workers are dedicated to eliminating some of these barriers and promoting better health outcomes for patients

Thanks

- NACCHO
- Midwife Life Consulting
- BMIRH
- Brian Toro, Sonji Jackson, Cheryl Hernandez, Okwudiri Nlemadim
 - Congenital Syphilis Prevention Investigator (CPI) Team
 - Case Investigation and Partner Services Team
- Caitlin Murphy, Annie Biddle and the Social Work Team
- STI
 - Mary Ashmore, Diana Sanchez, Jennifer Slutsker
 - Surveillance
- Dana Bushman (EIS Officer)



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