

Surveillance for Emerging Threats to Mothers and Babies Network (SET-NET)



Overview

- Background of SET-NET
- SET-NET Impact
 - CDC efforts
 - State and local impact
- Looking Forward

Background

What is SET-NET?

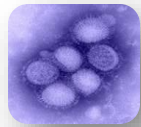
State, local, and territorial health departments work with CDC to **identify the impact of emerging health threats, like COVID-19, hepatitis C, syphilis, and cytomegalovirus (CMV) on pregnant people and their infants.**

Information collected on pregnant people and their children **through the first 3 years of life**



Used to inform **clinical and public health guidance**

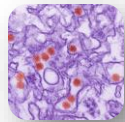
Public Health Emergencies & Maternal and Child Health



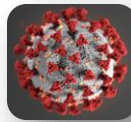
2009
H1N1
Influenza



2014
Ebola



2016
Zika



COVID-19



Next threat

What have we learned?



Discovered pregnant people and infants are disproportionately affected

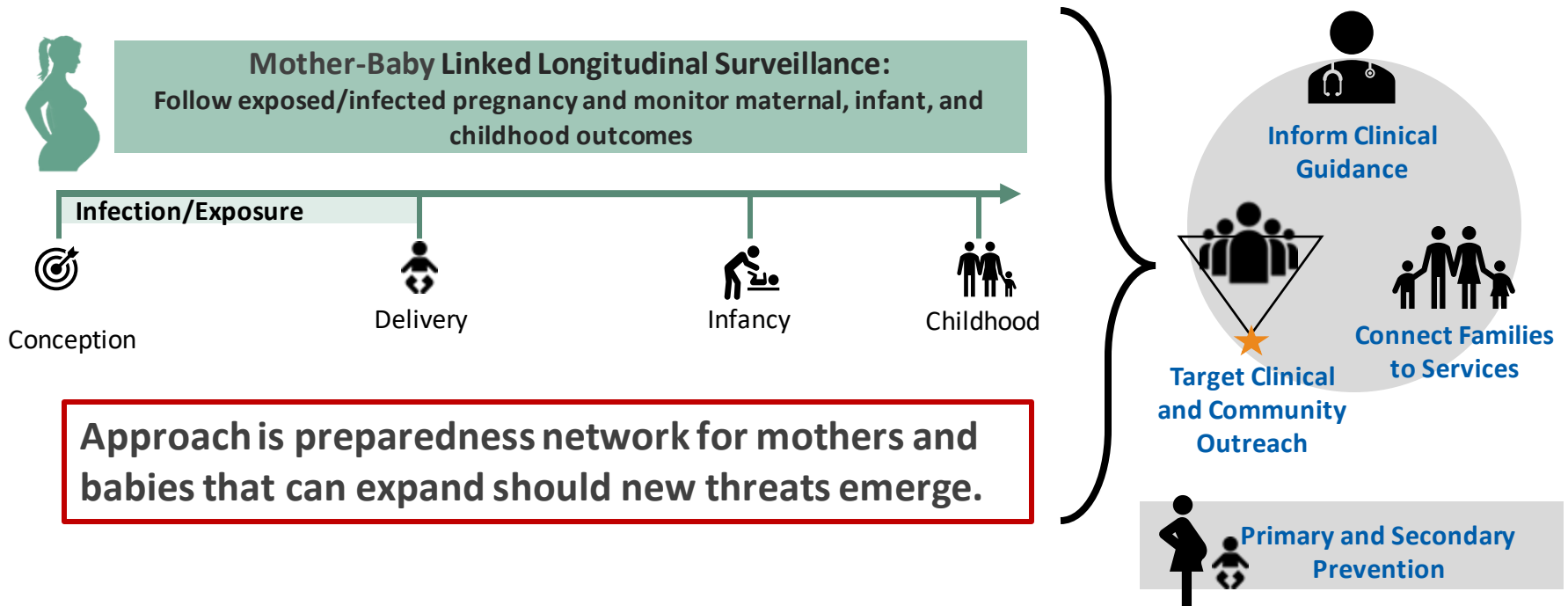


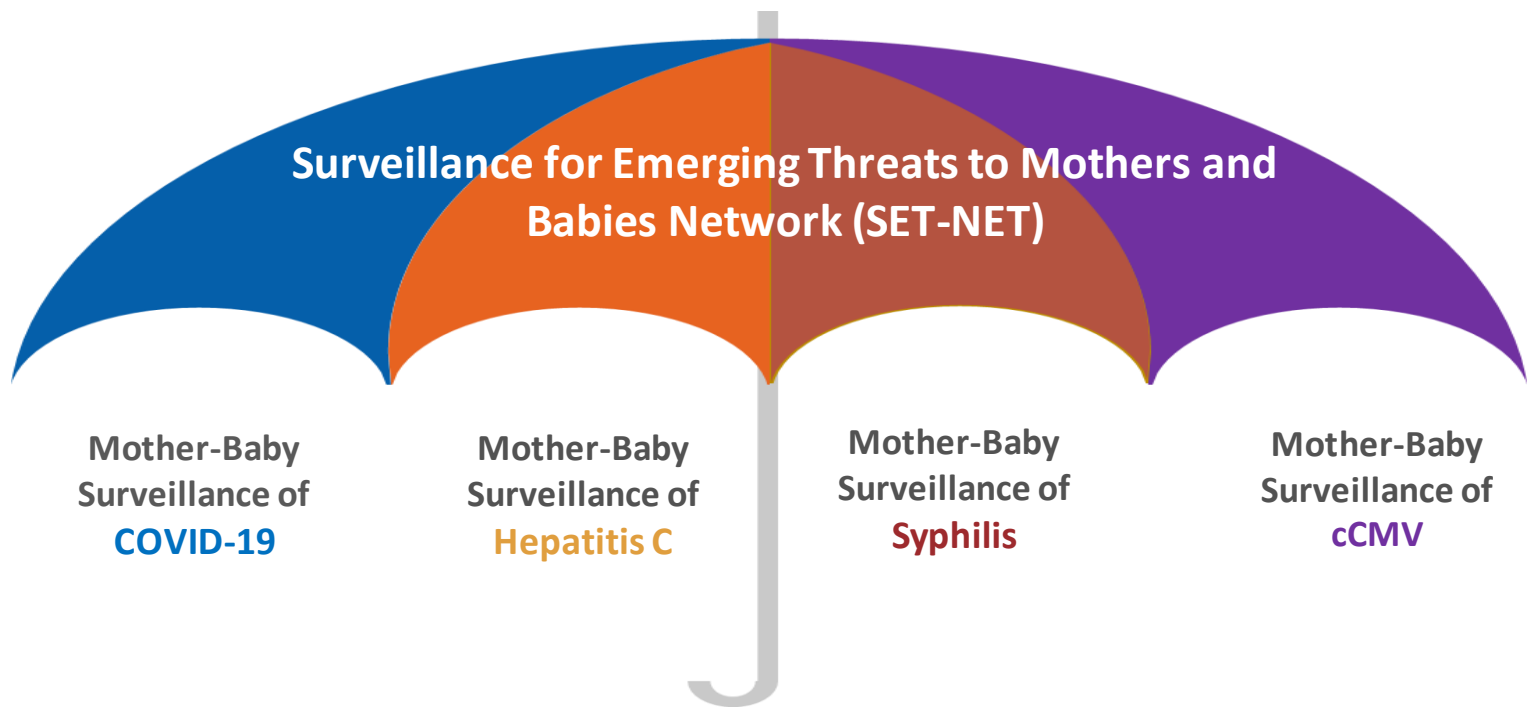
Needed to collect data rapidly to inform response efforts



Identified need to guide frontline healthcare providers in infection control or treatment

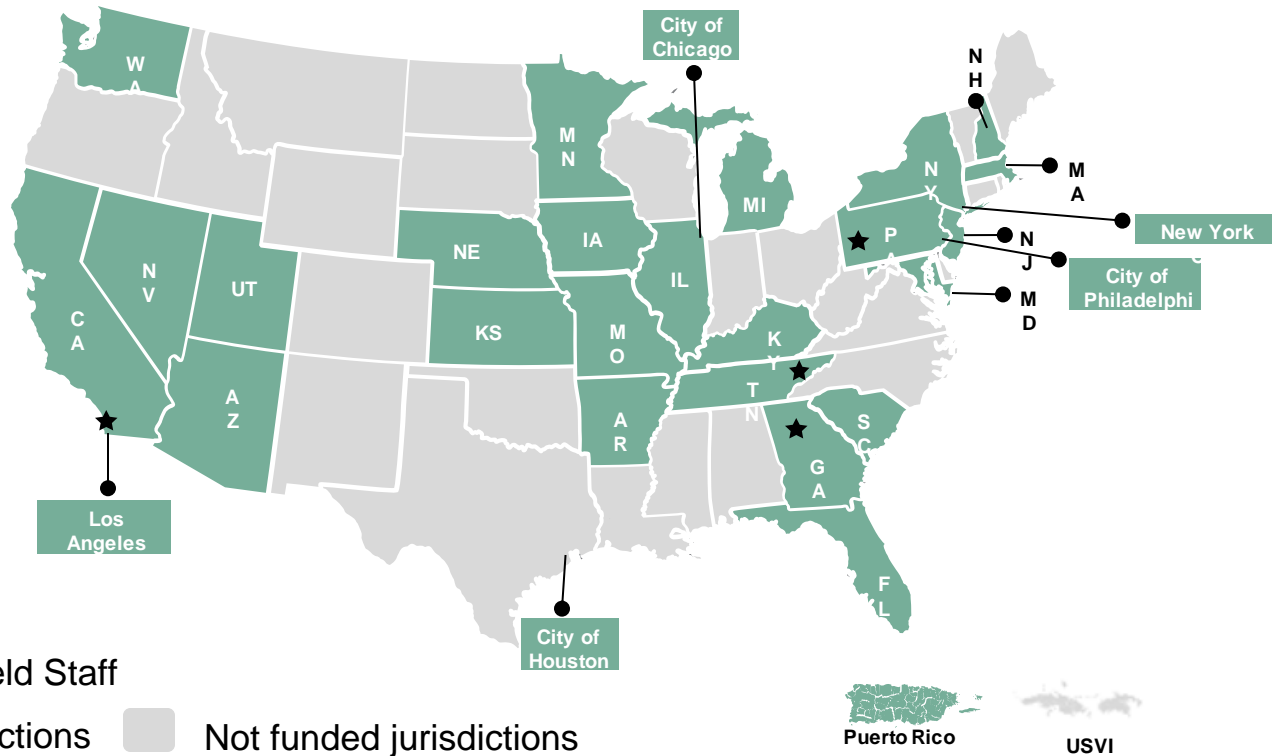
Surveillance for Action





Mother-Baby Linked Longitudinal Surveillance

Jurisdictions funded for Surveillance for Emerging Threats to Mothers and Babies Network (SET-NET)*



★ Contractual Field Staff

■ Funded Jurisdictions ■ Not funded jurisdictions

*Jurisdictions and partners are supported through either a cooperative agreement or contractual mechanism.

Jurisdictional cooperative agreements are funded through the [Epidemiology and Laboratory Capacity for Prevention and Control of Emerging Infectious Diseases \(ELC\)](#).



COVID-19 and pregnancy: Priority Questions



What is the frequency of severe illness/death among pregnant people with COVID-19? Does this differ by vaccination status or predominant variant in circulation (e.g., Delta)?



What is the clinical course of COVID-19 and does this differ by maternal vaccination status, reinfection, or predominant variant in circulation (e.g., Delta)?



What is the frequency of adverse pregnancy and birth outcomes (e.g., stillbirth, neonatal infection) among pregnant people with COVID-19? Do these differ by maternal vaccination status or predominant variant in circulation (e.g., Delta)?



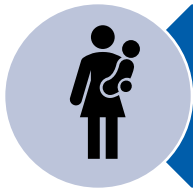
COVID-19 and Infant Outcomes: Priority Questions



What is the frequency of adverse outcomes among COVID-19-exposed babies? Do these differ by maternal vaccination status or predominant variant in circulation (e.g., Delta)?



What is the frequency of post-natal SARS-CoV-2 infection among COVID-19-exposed babies? Does this differ by maternal characteristics that may influence passive immunity?

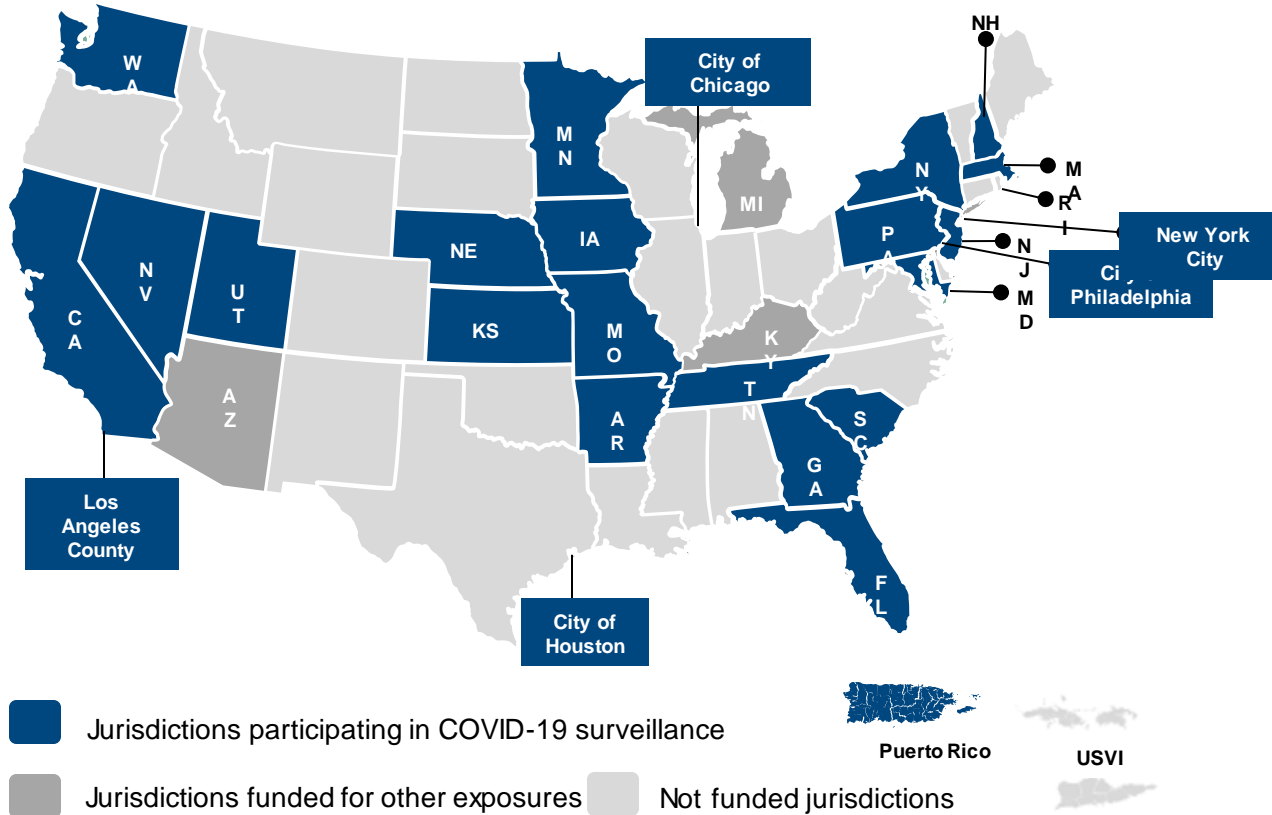


Does maternal infection status in the perinatal period impact outcomes for the infant (e.g., breastfeeding, in-person newborn visits)?



19

SET-NET jurisdictions funded for COVID-19 surveillance

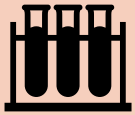


Funded for COVID-19 activities in BP4

- Arkansas
- California
- Chicago
- Florida
- Georgia
- Houston
- Iowa
- Kansas
- Los Angeles County
- Massachusetts
- Maryland
- Minnesota
- Missouri
- Nebraska
- New Hampshire
- New Jersey
- Nevada
- New York
- New York City
- Pennsylvania
- Philadelphia
- Puerto Rico
- South Carolina
- Tennessee
- Utah
- Washington



Hepatitis C: Priority Questions



What is the timing of hepatitis C case diagnosis based on HCV RNA positive result (pre-pregnancy vs. during pregnancy)?

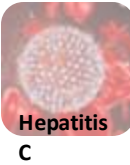


What is the full range of adverse fetal and birth outcomes among hepatitis C-exposed infants? Do outcomes differ by maternal characteristics?



What is the frequency and timing of hepatitis C screening of infants born to pregnant people with hepatitis C during pregnancy?

Hepatitis C



Centers for Disease Control and Prevention
MMWR Morbidity and Mortality Weekly Report
Recommendations and Reports / Vol. 69 / No. 2 April 10, 2020

CDC Recommendations for Hepatitis C Screening Among Adults — United States, 2020

Hepatitis C screening for all pregnant women during each pregnancy, except in settings where the prevalence of HCV infection (HCV RNA-positivity) is less than 0.1%*

ACOG | Clinical
The American College of Obstetricians and Gynecologists

Clinical Guidance Journals & Publications Patient Education Topics

Practice Advisory - Routine Hepatitis C Virus Screening in Pregnant Individuals

Routine Hepatitis C Virus Screening in Pregnant Individuals

Practice Advisory | May 2021

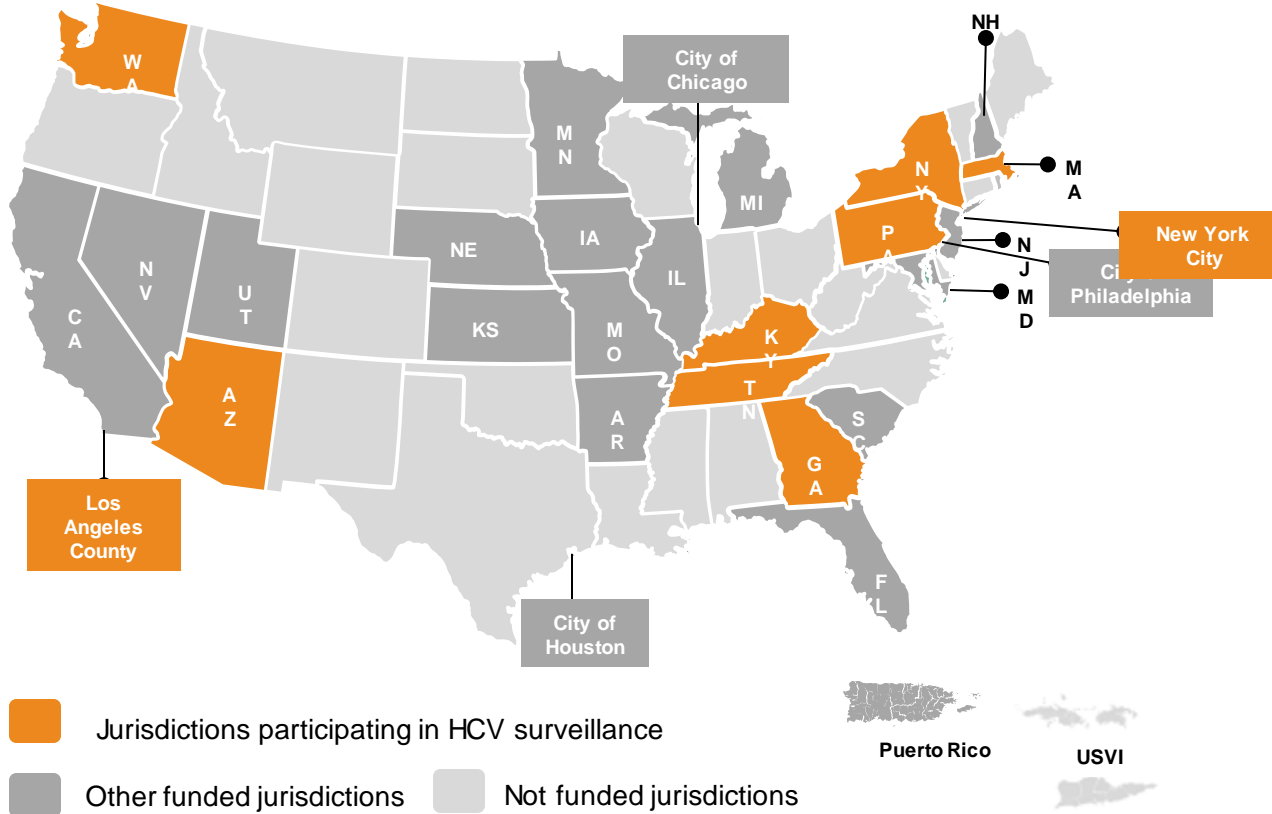
Hepatitis C screening during the first prenatal blood assessment for all pregnant women during each pregnancy



Hepatitis C

C

SET-NET jurisdictions funded for hepatitis C surveillance



Funded for HCV surveillance in BP4

- Arizona
- Georgia
- Kentucky
- Los Angeles County
- Massachusetts
- New York City
- New York State
- Pennsylvania (Allegheny County)
- Tennessee
- Washington

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Syphilis: Priority Questions



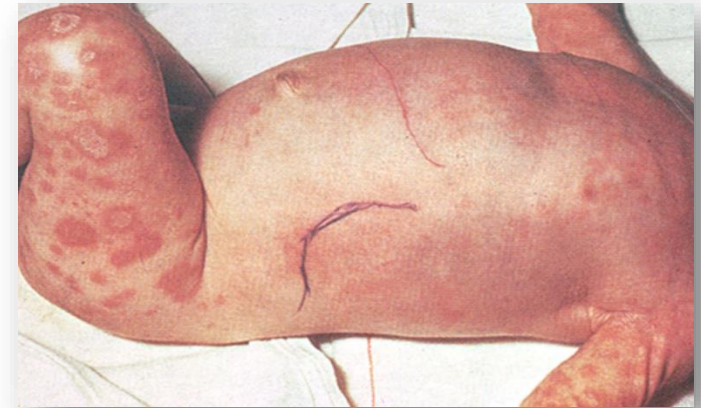
What characteristics are associated with missed or delayed testing or treatment during pregnancy?



Among mothers with syphilis, what characteristics are associated with delivering a baby with congenital syphilis?



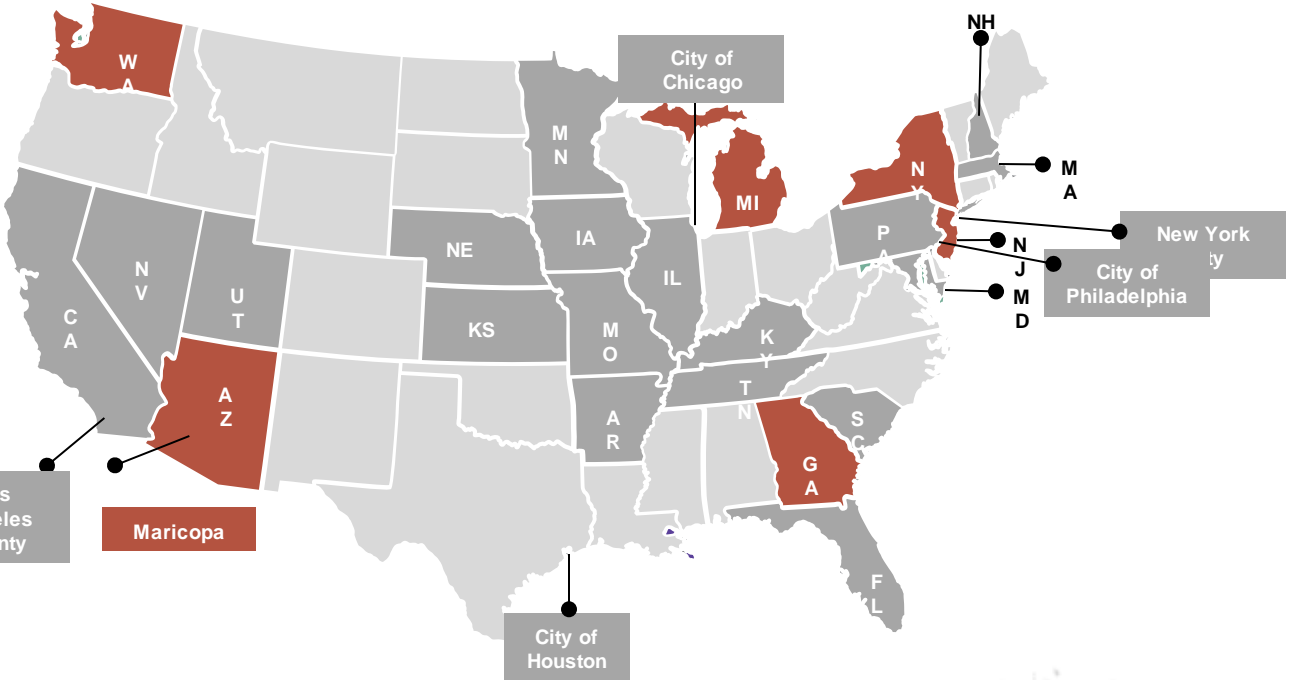
What are infant and early childhood outcomes among syphilis-exposed babies?



Newborn with congenital syphilis rash and enlarged liver and spleen (marked in black ink)



SET-NET jurisdictions funded for syphilis surveillance



Funded for syphilis surveillance in BP4

- Arizona (Maricopa County)
- Georgia
- Michigan
- New York State
- New Jersey
- Washington

Jurisdictions participating in syphilis surveillance
 Other funded jurisdictions
 Not funded jurisdictions

Puerto Rico USVI



Pilot Surveillance: Congenital Cytomegalovirus (cCMV)

Problems:

- **No national surveillance for cCMV; low public awareness of the disease burden**
- 20,000 infants born with cCMV in the U.S. each year; ~10% symptomatic at birth and 20% will go on to develop some sequelae, most commonly sensorineural hearing loss

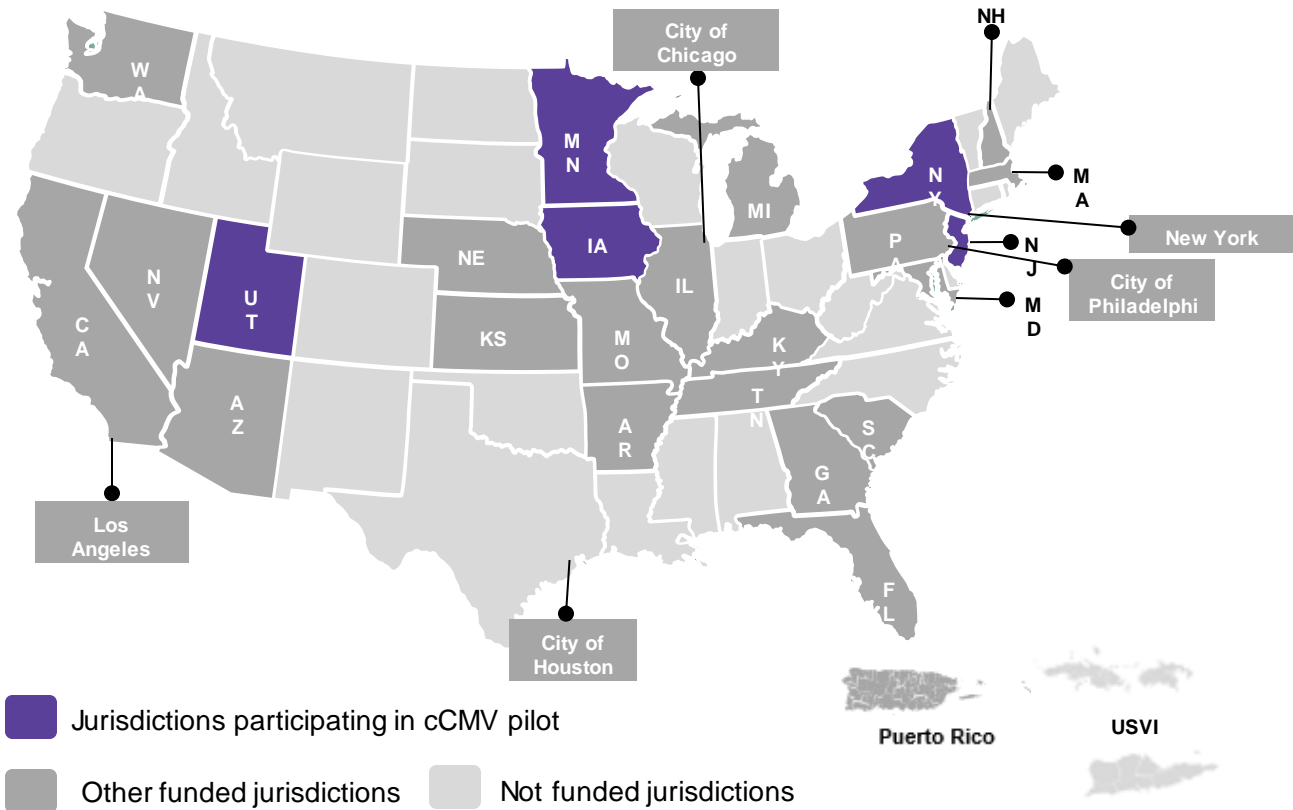
Objective: Identify and develop surveillance methods for cCMV

Activities:

- **Develop methods for case ascertainment, standardized case definitions, and case report form**
- **Assess feasibility of data collection (demographics, laboratory, clinical, treatment, outcomes) and data linkage from different sources**



SET-NET jurisdictions participating in cCMV pilot



Funded for cCMV pilot in BP4

- Iowa
- Minnesota
- New Jersey
- New York
- Utah

SET-NET Impact

Goals and Impact

- Monitor and improve the health of pregnant people and infants
- Link families to medical and social services to get recommended care
- Strengthen laboratory and clinical testing to find emerging health threats quickly
- Ensure public health is ready and prepared to meet the needs of pregnant people and infants during emergencies



COVID-19: What Have We Learned?



Pregnant people are at increased risk for **severe COVID-19** compared to non-pregnant people and increased risk for **preterm birth and stillbirth** compared to pregnant people without COVID-19

There was a **higher rate of preterm delivery** among people who were **infected during the third trimester** compared to people who were infected during their first or second trimester



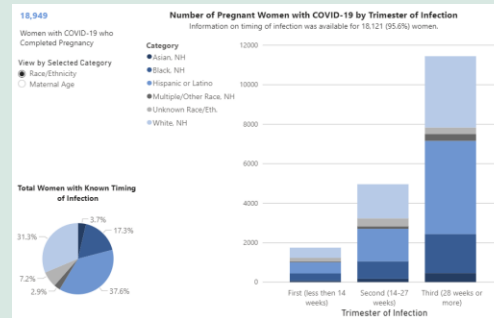
Infant infection and death were more common when the pregnant person had **COVID-19 within two weeks before delivery**

SARS-CoV-2 infections in neonates are **uncommon**. If neonates do become infected, the majority have either **asymptomatic infections or mild disease**



SET-NET data lead to public health action

Identify the effects of COVID-19 infection during pregnancy, including variants



Report pregnancy and birth outcomes to public

Considerations for Inpatient Obstetric Healthcare Settings

Updated Dec 1, 2020

Summary of Recent Changes

Updates as of May 20, 2020

As of May 20, 2020

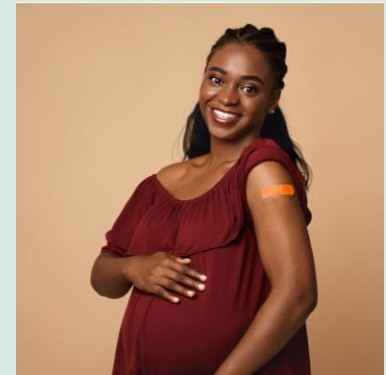
- Updated to reflect new updated Guidance on COVID-19

These infection prevention and control measures for facilities providing obstetric care confirmed coronavirus disease 2019 (COVID-19) settings including obstetrical triage, inpatient postpartum settings, and labor and delivery.

This information is intended to provide broader CDC interim guidance.

Inform clinical and public health guidance

Ensure prioritization of pregnant people for COVID-19 vaccination and treatment



State and Local Impact

- Using Data to Care for Pregnant People and Babies
 - Inform public health policy
 - Outreach to healthcare providers and facilities to share findings and target populations in need
- Bridging Silos & Working Together to Protect Pregnant People and Babies
 - Community partnerships
 - Internal and external department collaborations



State Success Stories

“

One outcome of the COVID pandemic has been that everybody realizes just how important it is to work together.

Nicole Longcore

Evaluation Specialist,
New York State Department of Health



“

This is just one example of how the SET-NET infrastructure can be adapted to respond to an emerging threat to mothers and babies.

Lindsey Sizemore

Viral Hepatitis Program Director,
Tennessee Health Department



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We are confident this is something that we can quickly deploy to address any rising threat to mothers and babies.

Debbie Mbotha

Senior Epidemiologist and Program
Manager, SET-NET Pregnancy Registry,
Washington State Department of Health



Looking Forward

Looking Forward

- Improve data collection and reporting, especially follow-up data for infants born to pregnant people with infections from exposures of interest
- Expand data on SET-NET exposures to inform surveillance questions
- Pilot surveillance for CMV to inform other potential additions to SET-NET
- Continue collaborations and involvement with state and local health departments

