

PESTICIDE EXPOSURE AND ENVIRONMENTAL HEALTH OF AGRICULTURAL WORKERS WEBINAR

December 11, 2025

Health
Outreach
Partners

FACILITATORS



Cynthia Selmi
Executive Director



Aayushi Sett
Program Manager

GUEST SPEAKERS



Carly Hyland, MS, PhD

Asst. Prof. of Cooperative Extension,
UC Agriculture and Natural
Resources; UC Berkeley
Environmental Health Sciences



Kathleen Steel

Medical student
UC Berkeley-UCSF Joint
Medical Program

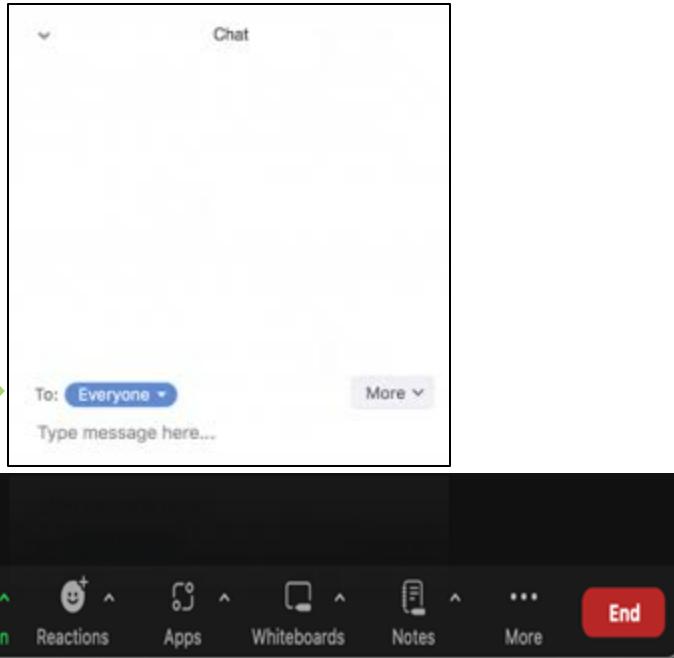
Health Outreach Partners is a nonprofit organization that supports health outreach programs by providing training, resources, consultation, workshops, and webinars.

What we do Health Outreach Partners responds to community needs by equipping health partners with relevant, strategic knowledge and tools to transform communities from the ground up, resulting in a healthy society and improved access to care.

We serve Community Health Centers, Primary Care Associations, and Safety-net Health Organizations.

outreach-partners.org

ZOOM HOUSEKEEPING



At anytime during the webinar, you can ask questions. Please use the chat feature to send your questions to the presenter. At the end of the webinar, we will answer all questions.

Any questions that cannot be addressed during the webinar, will be responded to the participants directly via email.

IMPORTANT REMINDERS

- The webinar will last 75 minutes.
- For technical issues, please send a chat to Aayushi
- A copy of the slides will be available within 3 weeks from the live event
- You will receive an email shortly after this session/webinar asking for your evaluation of this training session. Your feedback is greatly appreciated!



ICE BREAKER

What is something that grows locally in your area, that you love seeing?

(Could be a crop, flower, or tree)

Add your comment in the chat



AGENDA

01

Learning
objectives

02

Exposure Pathways
+
Health Impacts

03

Barriers to Protection
and Support

04

Facilitators to
Protection and
Support

05

Protections

06

Resources

LEARNING OBJECTIVES

- Participants will understand how pregnant Migratory Seasonal Agricultural Workers (MSAW's) and their children are affected by pesticide exposure by identifying common exposure pathways (workplace, household, and environmental) that place them at risk.
- Participants will recognize the health impacts of pesticide exposure on mothers and children by learning about key outcomes.
- Participants will identify practical strategies to support pregnant MSAWs by sharing simple prevention practices and connect patients to workplace accommodations and resources.

BACKGROUND - PESTICIDES

- Substances used to kill, repel, or control agricultural pests
- Common pesticides = insecticides, herbicides, fungicides
- U.S. uses over 1 billion pounds of pesticides each year
- California, Washington, Florida = some of the biggest pesticide users
 - High use of glyphosate in Midwest (Iowa, Illinois, Indiana, Nebraska)

<https://www.usgs.gov/centers/ohio-kentucky-indiana-water-science-center/science/pesticides>
<https://water.usgs.gov/nawqa/pnsp/usage/maps/county-level/>

SOURCES OF PESTICIDE EXPOSURE

General Population:

- Diet (food and water)
- Residential use (pest control, lawns/gardens)



Agricultural Populations:

- Documented higher levels of exposure
- Direct work related exposure (handling pesticides, working in pesticide-treated crops)
- Take-home pathway
- Pesticide drift
- Contaminated surface and drinking water

HEALTH IMPACTS OF PESTICIDE EXPOSURE

- Consistent links between pesticides and adverse health outcomes in populations around the world¹
- Acute toxicity, cancer, reproductive harm, neurodevelopmental and neurologic effects, endocrine disruption, respiratory function, kidney function
- Particularly concerned about prenatal exposure – important periods of neurodevelopment

HEALTH IMPACTS ON PREGNANCY

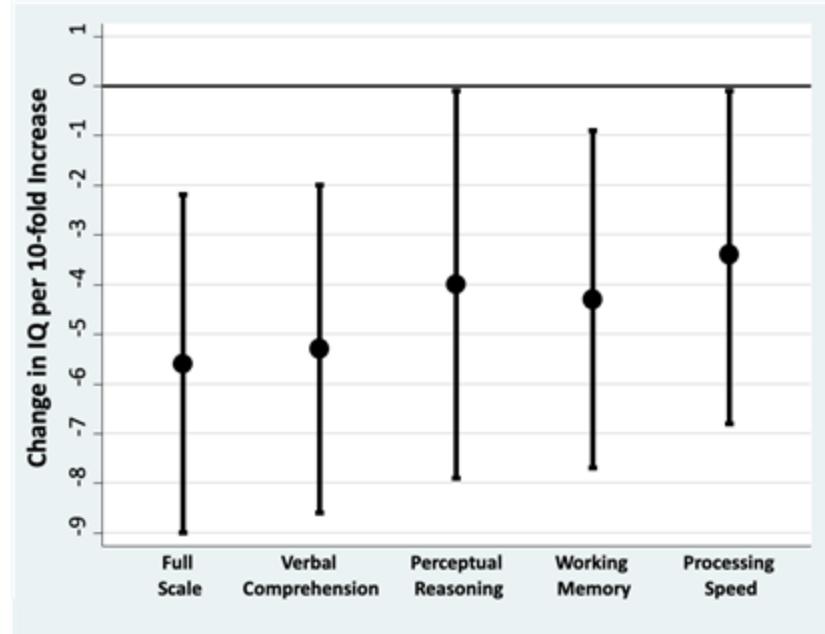
- Pesticide exposure is associated with:
 - Miscarriages
 - Low birth weight
 - Birth defects
- Glyphosate & birth outcomes:
 - Low birth weight²
 - Shorter gestational length^{3,4}
 - Preterm birth & spontaneous preterm birth⁵

(CDC, About Pesticides and Reproductive Health)

HEALTH IMPACTS ON FUTURE CHILD

On the future child

- Cancer: lymphoma and leukemia^{6,7,8}
- Neurobehavioral changes
 - ~600 participants enrolled during pregnancy in Salinas Valley, CA (1999-present)
 - ADHD
 - IQ differences
 - 10-fold increase in prenatal urinary markers of organophosphate pesticides associated with lower IQ at age 7



From Bouchard et al., 2011

- 6. Ferriera et al. 2012;
- 7. Park et al. 2020;
- 8. Bailey et al. 2014

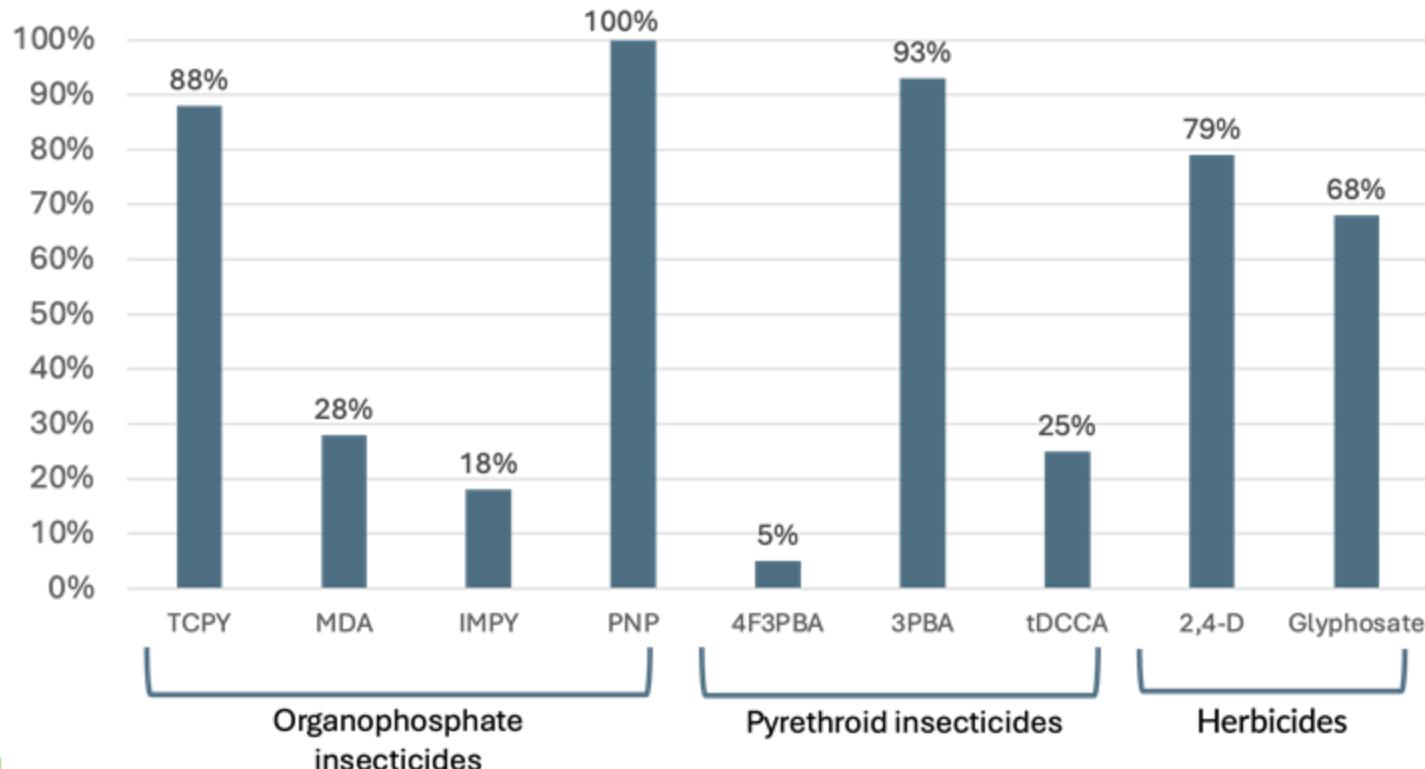
SUMMARY

- Pesticide exposure can be dangerous, particularly during pregnancy.
- MSAWs have higher levels of pesticide exposure than other populations.
- Consistent links between pesticides and adverse health outcomes in populations around the world.¹

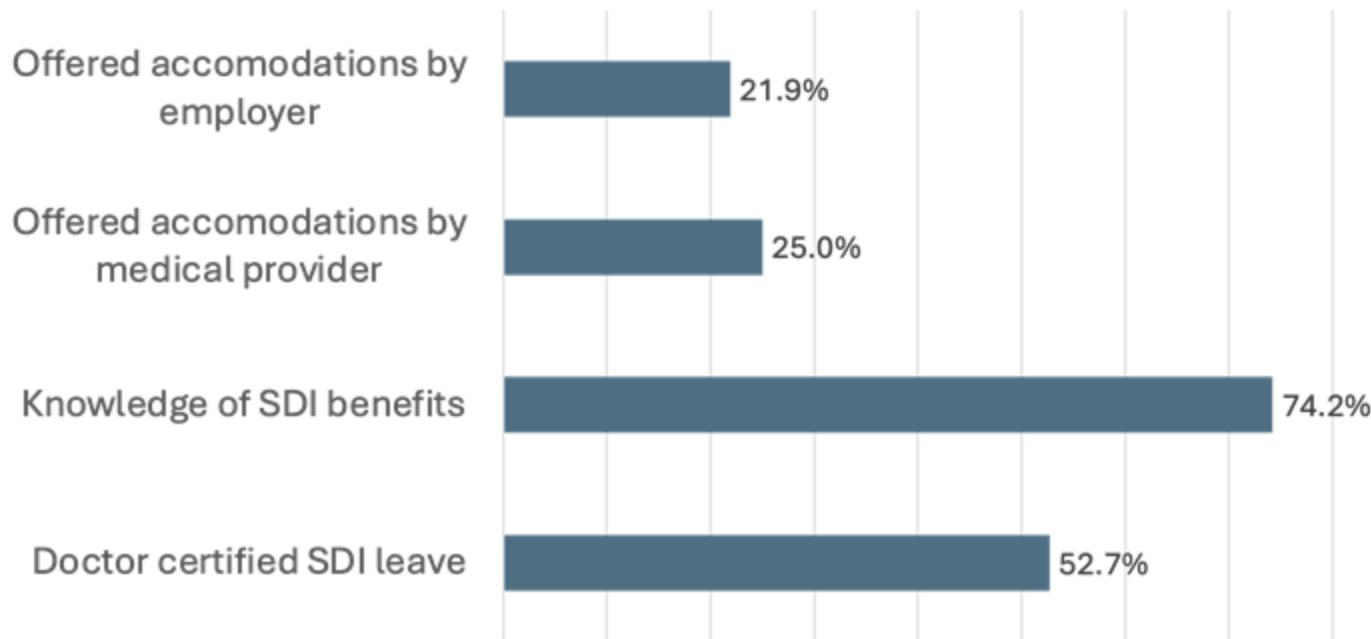
EXPERIENCES OF AGRICULTURAL WORKERS

- Recruited agricultural workers from Salinas Valley and Central Valley (May-August 2024)
- Evaluation- examined experiences working during pregnancy (n=128)
- Pesticide analysis - CDC analyzed urinary pesticide concentrations (n=57)

PESTICIDE DETECTION



EXPERIENCE WITH PRENATAL ACCOMMODATIONS

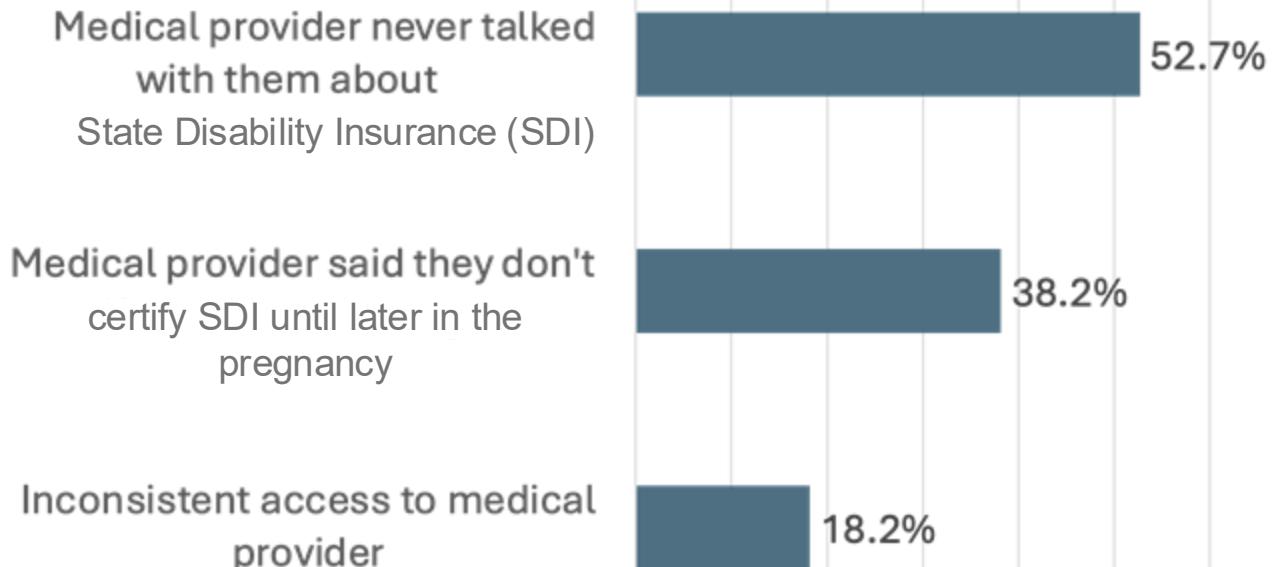


Average gestational age at certification = 22 weeks (range = 8-36 weeks)

CHALLENGES ACCESSING SDI

“It depends on each pregnancy, if it is risky or not, but I think that it also depends on each clinic, because I have heard that many clinics give them sooner, in others they take longer”

“All of the doctors I have had speak English”



FACILITATORS AND CHALLENGES

Facilitators	Challenges
Clinics with Comprehensive Perinatal Services Programs (CPSP), Women Infants and Children (WIC), and other programs	Lack of transportation
Advice from family and coworkers	Navigating complex medical systems
Translation services	Differences in clinics, providers unaware of benefits
Comfort working with community organizations	Long wait times, lack of follow-up, inconsistent claim approvals
Insurance during pregnancy	Financial constraints

PROVIDER ROLE

- Screen for pesticide exposure in pregnant patients
- Counseling about risk of prenatal pesticide exposure
- Connect patients with resources to mitigate their pesticide exposure
 - Individual counseling about ways to reduce exposure (PPE, washing hands, changing clothes)
 - Work accommodation notes
 - Disability leave at earliest opportunity (state-dependent)

Provider and Patient Challenges and Facilitators to Reducing Pesticide Exposure in California

We conducted focus groups and interviews (July 2024-March 2025) with pregnancy providers and state agency staff in California to examine providers' knowledge, attitudes, and practices related to screening and counseling pregnant MSAWs about work-related pesticide exposure.

CHALLENGES

Patient level

- Lack of access to care
- Financial burden

Provider level

- Lack of knowledge and training on pesticides and patient options for reducing exposure
- Inconsistent practices

Systems level

- Language barriers/lack of interpreters (especially Indigenous languages)
- Time constraints in clinics
- Problems with the disability certification office, and long wait times to get claims approved

FACILITATORS

Patient level

- Access to early prenatal care

Provider level

- Knowledgeable providers

Systems level

- Hospital systems that educate providers
 - Work-related exposure education
- Clinic workflows that incorporate screening
- Staff support (MAs, CPSP workers)
- Language concordance, access to interpreters
- Community engagement

“to be honest, it is really hard to have the conversation sometimes with patients about when they are working in the fields, because they have so little control...and then you don't want to make them feel bad if they do decide to work ... it's kind of a balance...These are the options that you have, but doing it in a way that doesn't make them feel guilty, like have that mom guilt, you know, but also empowering them with the information”

“...you're literally scheduled for just a few minutes to get heart tones and an ultrasound. It's not set up in a way that really leads to a lot of that anticipatory guidance, and [pesticide screening and counseling], always ends up falling lower down in the priority list because they're having some bleeding or they're nauseous, you know, first trimester, there's so many other things to address”

OB-GYN physician, Ventura County, CA

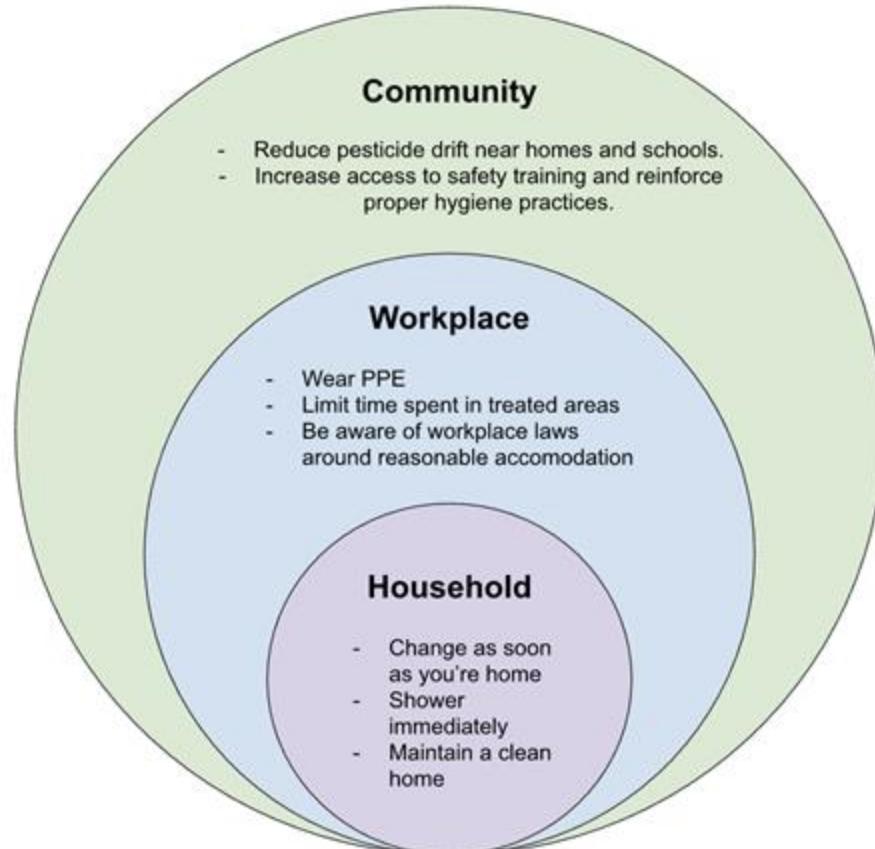
KEY CONSIDERATIONS AND RECOMMENDATIONS

- Considerations when offering work accommodation notes and disability leave
 - Job security, financial considerations
 - Shared decision-making
- Physicians to write work accommodation notes or certify disability claims as early as the first positive pregnancy test (depending on state laws)
- Medical assistants and community health workers play a crucial role

PREVENTION

Household Measures

- Change out of work clothes before entering the home.
- Shower immediately after work and wash contaminated clothing separately.
- Maintain clean home environments to reduce lingering pesticide residues.



Workplace Measures

- Use personal protective equipment (PPE) and proper safety protocols.
- Limit time spent in treated areas and follow established guidelines for pesticide application.
- Employers are legally required to provide reasonable accommodations for pregnant employees, such as modifying job duties to decrease exposure.

Community Measures

- Actions to reduce pesticide drift near homes and schools.
- Increase access to safety training and reinforce proper hygiene practices.

PROTECTIONS

Protections:

- The Pregnant Workers Fairness Act (PWFA) requires employers to provide reasonable accommodations for pregnancy-related limitations unless it poses an undue hardship. It works alongside federal and state anti-discrimination laws.
- More than 30 states have additional laws mandating accommodations for pregnant workers.

PROTECTIONS

California:

- Pregnant MSAWs may access job-protected time off and wage replacement, beginning as early as a positive pregnancy test and continuing after childbirth, contingent on risk assessment by providers.
- State Disability Insurance (SDI) can provide up to 70% wage replacement during preventive leave, with increased benefits for low-wage workers.
- After birth, mothers can access eight weeks of paid family leave at 70% wage replacement to support bonding.

Resources



Below are resources and clinical guidelines that are available for providers to become better educated on these topics.

- Essential Information for Healthcare Providers: Pregnant Agricultural Workers and Pesticides:
<https://oehha.ca.gov/sites/default/files/media/downloads/pesticides/general-info/pregnancypesticidesinfosheet.pdf>
- Dar a Luz: Legal Rights for Agricultural workers in Pregnancy and Postpartum: <https://worklifelaw.org/dar-a-luz/>
- Guidance for Medical Care Providers: Supporting Agricultural workers during Pregnancy and Postpartum:
<https://pregnantatwork.org/guidance-medical-provider-agriculture/>
- California State Disability Insurance for Agricultural workers During Pregnancy: <https://pregnantatwork.org/wp-content/uploads/SDI-For-Farmworkers-During-Pregnancy.pdf>

WRAP UP & Q/A

- Thank you all for a wonderful webinar!
- Feedback link



UPCOMING EVENTS

January 14

Health Center Emergency Preparedness and Response Forum



January 14

Navigating Care: Enhancing Patient Support Services Community of Practice



Join HOP and AAPCHO for a four session Community of Practice series

Navigating Care: Enhancing Patient Support Services

Turn strategy into practice in a small group cohort designed to advance supporting services at your organization!

Over 4 successive sessions, you will learn how to:

- ✓ Build the Case for Patient Support Services
- ✓ Apply the Full Breadth of Patient Support Services
- ✓ Hire, Train, and Sustain CHWs
- ✓ Integrate Best Practices for Impact



Dates: Jan 14, 21, 28, Feb 4, 2026

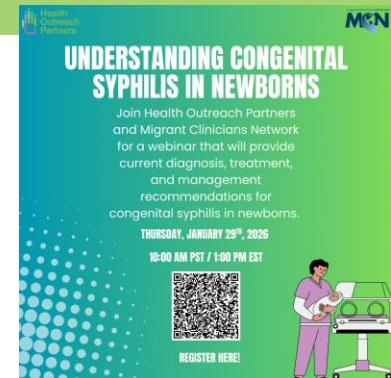
Time: 1 pm PST / 2 pm MST / 3 pm CST / 4pm EST



REGISTER NOW!
BIT.LY/4BM10GJ

January 29

Understanding Congenital Syphilis in newborns



THANK YOU

Contact Information:

aayushi@outreach-partners.org
cynthia@outreach-partners.org



Health Outreach Partners



@healthoutreachpartners



Health Outreach Partners