CDC'S Response to Zika

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Faculty/Presenter Disclosure

- **Delight Satter** has no relevant financial relationships with the manufacturer(s) of commercial services discussed in this CME activity.
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Outline

• Zika 101
• Tribal Zika Response
  • Background
  • Partnering and collaboration
  • Education materials, tools, and resources
  • Conclusion
INTRODUCTION
What is Zika?

- Zika virus is spread to people primarily through the bite of an infected *Aedes* species mosquito (*Ae. aegypti* and *Ae. albopictus*).
- Many people infected with Zika virus won’t have symptoms or will only have mild symptoms.
- Zika virus infection during pregnancy can cause microcephaly and other severe brain defects.
Where has Zika been found?

- Before 2015, Zika outbreaks occurred in Africa, Southeast Asia, and the Pacific Islands.
- Currently outbreaks are occurring in many countries and territories.

SPREAD AND SYMPTOMS
How is Zika spread?

• Zika can be spread through
  » Mosquito bites
  » From a pregnant woman to her fetus
  » Sex with an infected person
  » Laboratory exposure

• Zika may be spread through blood transfusion.

• No reports of infants getting Zika through breastfeeding.
How does Zika affect people?

- Many people with Zika will not have symptoms or will only have mild symptoms.
- Symptoms last several days to a week.
- People usually don’t get sick enough to go to the hospital.
- People rarely die of Zika.
What are the symptoms?

- For people with symptoms, the most common symptoms of Zika are
  » Fever
  » Rash
  » Joint pain
  » Conjunctivitis (red eyes)
- Other symptoms include
  » Muscle pain
  » Headache
ZIKA AND PREGNANCY
How can Zika affect pregnancies?

- Zika virus can pass from a pregnant woman to her fetus during pregnancy or around the time of birth.
- It is not known how often this happens.
How can Zika affect pregnancies?

- Infection during pregnancy can cause microcephaly and other severe brain defects.
- Linked to other problems, such as miscarriage, stillbirth, and birth defects.
- No evidence that past infection will affect future pregnancies once the virus has cleared the body.
How can Zika affect pregnancies?

- **Congenital Zika syndrome**
  - Distinct pattern of birth defects in fetuses and infants of women infected during pregnancy
  - Associated with 5 types of birth defects not seen or rarely seen with other infections during pregnancy
    - Severe microcephaly (small head size) resulting in a partially collapsed skull
    - Decreased brain tissue with brain damage
    - Damage to the back of the eye with a specific pattern of scarring and increased pigment
    - Limited range of joint motion, such as clubfoot
    - Too much muscle tone restricting body movement soon after birth
Assessing pregnant women for possible Zika exposure

- At each prenatal care visit, all pregnant women should be asked if they
  - Traveled to or live in an area with Zika.
  - Had sex without a condom with a partner who lives in or traveled to an area with Zika.
GUILLAIN- BARRÉ SYNDROME
Does Zika cause Guillain-Barré syndrome (GBS)?

- GBS is an uncommon sickness of the nervous system in which a person’s own immune system damages the nerve cells, causing muscle weakness, and sometimes, paralysis.
- GBS is strongly associated with Zika but only a small proportion of people with recent Zika infection get GBS.
- CDC is continuing to investigate the link between GBS and Zika to learn more.
TESTING
How is Zika diagnosed?

- A doctor or other healthcare provider may order tests to look for similar types of infections.
- A blood or urine test can confirm a Zika infection if specimens are collected early in a person’s infection.
Who should be tested for Zika?

• Anyone who has or recently had Zika symptoms
  » And lives in or recently traveled to areas at risk for Zika, or
  » Had unprotected sex with a partner who lived in or traveled to areas at risk for Zika

• All pregnant women who
  » Live in or recently traveled to areas at risk for Zika, or
  » Had sex without a condom with a partner who lives in or recently traveled to areas at risk for Zika, whether or not they have Zika symptoms.
Testing babies for Zika

CDC recommends laboratory testing for

• All infants born to mothers with laboratory evidence of Zika virus infection during pregnancy.

• Infants who have abnormal clinical or neuroimaging findings suggestive of congenital Zika syndrome and a mother with a possible exposure to Zika virus, regardless of maternal Zika virus testing results.
Infants with Possible Postnatal Zika Virus Infection

- **Guidance for testing and clinical management** of infants and children with postnatal Zika virus infection is in line with testing and clinical management recommendations for adults.

- **Symptomatic treatment and supportive care** are appropriate and usually sufficient to treat Zika. Special considerations to treat children with Zika include
  - Aspirin should never be used to treat children with symptoms of acute viral illness because of the risk of Reye’s syndrome.
  - All non-steroidal anti-inflammatory drugs (NSAIDs) should be avoided in children <6 months.
WHAT TO DO IF YOU GET INFECTED
How is Zika treated?

- There is no specific medicine or vaccine for Zika virus infection.
- Treat the symptoms
  - Rest
  - Drink fluids to prevent dehydration
  - Do not take aspirin or other non-steroidal anti-inflammatory drugs (NSAIDS)
  - Take acetaminophen (Tylenol®) to reduce fever and pain
What to do if you have Zika

- Protect yourself from mosquito bites. During the first week of illness, Zika virus can be found in blood.
- The virus can be passed from an infected person to a mosquito through bites.
- An infected mosquito can spread the virus to other people.
SURVEILLANCE
Reporting of Zika in the United States

- Healthcare providers should report cases to their local, state, or territorial health department.
- State and territorial health departments are encouraged to report confirmed cases to CDC through ArboNET, the national surveillance system for arboviral diseases.
- Pregnant women with any lab evidence of possible Zika virus infection should be reported to the US Zika Pregnancy Registry.

For the most recent case counts, visit https://www.cdc.gov/zika/geo/united-states.html.
Zika Pregnancy Registries

US Zika Pregnancy Registry

Zika Active Pregnancy Surveillance System (Puerto Rico)

Proyecto Vigilancia de Embarazadas con Zika (Colombia)
US Zika Pregnancy Registry

• CDC established the US Zika Pregnancy Registry to collect information and learn more about pregnant women in the US with Zika and their infants.
• Data will be used to
  » Update recommendations for clinical care
  » Plan for services for pregnant women and families affected by Zika
  » Improve prevention of Zika infection during pregnancy
• Zika Active Pregnancy Surveillance System is used in Puerto Rico.

PREVENTION

Protect from mosquito bites
some of these prevention from mosquito bites slides are repetitive. Consider consolidating.
Pappas-DeLuca, Katina A. (CDC/CGH/DGHA), 3/13/2017
Zika is primarily spread through the bite of an infected *Aedes aegypti* or *Aedes albopictus* mosquito. Take steps to protect yourself and others.
Control mosquitoes outside

• Here’s what you can do to help control mosquitoes outside your home
  » Once a week, empty and scrub, turn over, cover, or throw out items that hold water.
  » Tightly cover water storage containers.
  » Use larvicides to kill larvae in containers of water that cannot be emptied and will not be used for drinking.
  » If you have a septic tank, repair cracks, or gaps.
Control mosquitoes inside

• Here’s what you can do to help control mosquitoes inside your home:
  » Use window and door screens.
  » Use air conditioning when possible.
  » Once a week, empty, scrub, turn over, or throw out items that hold water.
  » If you have mosquitoes inside your home, use an indoor insect fogger or indoor insect spray.
    • When using insecticides, always follow label directions.
Wear insect repellent

• Use Environmental Protection Agency (EPA)-registered insect repellents.
  » Use a repellent with DEET, picaridin, IR3535, oil of lemon eucalyptus, para-
    menthane-diol, or 2-undecanone.
• Always follow the product label instructions.
• Do not spray repellent on the skin under clothing.
• If also using sunscreen, apply sunscreen before applying insect repellent.
Create a barrier between you and mosquitoes

- Cover up exposed skin!
  - Wear long-sleeved shirts and long pants

- Treat clothing and gear
  - Use permethrin* to treat clothing and gear or buy pre-treated items.
  - See product information to learn how long the protection will last.
  - Do not use permethrin products directly on skin.

* Permethrin is not effective in Puerto Rico.
Zika and Breastfeeding

- Transmission of Zika virus through breast milk has not been documented

- Benefits of breastfeeding outweigh theoretical risk of Zika virus transmission through breast milk

- CDC and the World Health Organization recommend that infants born to women with suspected, probable, or confirmed Zika virus infection, or who live in or have traveled to areas of Zika, should be fed according to usual infant feeding guidelines
Protect your family

- For babies and children
  » Dress your child in clothing that covers arms and legs.
  » For children older than 2 months, use insect repellent on exposed skin.
  » Cover crib, stroller, and baby carrier with mosquito netting.
Protect your family

- Applying insect repellent for babies and children
  » Do not apply repellent onto hands, eyes, mouth, and cut or irritated skin.
  » Adults: Spray onto your hands and then apply to a child’s face.
  » Do not use insect repellent on babies younger than 2 months old.
  » Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
PREVENTION

Preventing sexual transmission
About sexual transmission

- Zika can be passed through sex from a person who has Zika to his or her sex partners.
  - Sex includes vaginal, anal, and oral sex and the sharing of sex toys.
  - Zika can be passed through sex before symptoms start, during, and after symptoms end.
  - It can be passed even if the infected person does not have symptoms at the time or never develops symptoms.
- Zika virus can stay in semen longer than in vaginal fluids, urine, and blood.
Protect your partner

- Not having sex eliminates the risk of getting Zika from sex.
- Condoms can reduce the chance of getting Zika from sex.
  » Includes male and female condoms.
  » Condoms should be used from start to finish, every time during vaginal, anal, and oral sex and the sharing of sex toys.

http://www.cdc.gov/mmwr/volumes/65/wr/pdfs/mm6529e2.pdf
Protect your partner

- People with a partner who traveled to an area at risk for Zika can use condoms or not have sex.
  - If the traveler is female: For at least 8 weeks after return, or after start of symptoms or diagnosis
  - If the traveler is male: For at least 6 months after return, or after start of symptoms or diagnosis
- People living in areas at risk for Zika can use condoms or not have sex for as long as Zika is in the area.
Protect your partner: During pregnancy

- Pregnant couples in which one or both partners live in or traveled to an area with Zika risk should
  - Use condoms every time you have sex or do not have sex during the pregnancy.
  - Do not share sex toys during the pregnancy.
**Protect your partner: If you’re thinking of having a baby**

Possible exposure via recent travel or sex without a condom with a partner infected with Zika

<table>
<thead>
<tr>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wait at least 8 weeks after symptoms start or last possible exposure before trying to get pregnant.</td>
<td>Wait at least 6 months after symptoms start or last possible exposure before trying to conceive with your partner.</td>
</tr>
</tbody>
</table>
Protect your partner: If you’re thinking of having a baby

<table>
<thead>
<tr>
<th>People living in or frequently traveling to an area with Zika risk</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Positive Zika test</strong></td>
<td>Wait at least 8 weeks after symptoms start before trying to get pregnant.</td>
<td>Wait at least 6 months after symptoms start before trying to conceive with your partner.</td>
</tr>
<tr>
<td><strong>No testing performed or negative test</strong></td>
<td>Talk with doctor or healthcare provider</td>
<td>Talk with doctor or healthcare provider</td>
</tr>
</tbody>
</table>
PREVENTION

Traveling
Travel guidance for pregnant women

- If you are pregnant, do not travel to areas with Zika risk.
- If you must travel, talk to your doctor or other healthcare provider before your trip.
Protect yourself while traveling

- If you travel to an area with Zika risk
  » Strictly follow steps to prevent mosquito bites.
  » Use condoms or do not have sex during the trip.
Protect yourself while traveling

• Stay in places with air conditioning and with window and door screens.
• Use a bed net if air conditioned or screened rooms are not available or if sleeping outdoors.
Protect yourself and others after travel

- Even if you don’t feel sick, take steps to prevent mosquito bites for 3 weeks after travel so you don’t spread Zika to uninfected mosquitoes.
Do your homework before traveling

See the latest travel notices at:

wwwnc.cdc.gov/travel/page/zika-travel-information
this slide should have the information from WHO and CDC on new classifications of Zika risk areas

Pappas-DeLuca, Katina A. (CDC/CGH/DGHA), 3/13/2017
WHAT CDC IS DOING
What is CDC doing?

- Activated Emergency Operations Center (EOC) to level 1
- Providing on-the-ground support in areas with Zika
- Educating healthcare providers and the public about Zika
- Providing travel guidance
- Developing lab tests and providing labs with diagnostic tests
- Conducting a study to evaluate the persistence of Zika virus in blood, semen, vaginal fluids, and urine
CDC is working with partners to

- Monitor and report cases.
- Conduct studies to learn more about the potential link between Zika and Guillain-Barré syndrome.
- Create action plans for state and local health officials to improve Zika preparedness.
- Publish and disseminate guidelines to inform testing and treatment of people with suspected or confirmed Zika.
- Better understand the risk and spectrum of birth defects from Zika infection during pregnancy and risks for sexual transmission
Zika in the United States

- Local mosquito-borne spread of Zika virus was reported in Miami-Dade County, Florida, and Brownsville, Texas.
- Pregnant women should consider postponing travel to these areas.
Tribal Zika Response
Background

- Tribal communities have heightened concern
  - Historic experience with infectious disease
  - Higher burden of risk, health consequences, access to care barriers
- Available resources
  - Tribes have limited resources
  - Complex state – tribal relationships
  - Tribes have not been able to directly access opportunities such as Public Health Emergency Preparedness (PHEP) cooperative agreement
Government-to-Government Relationship

- CDC/ATSDR recognizes its special commitment and unique relationship with Indian tribes and is committed to fulfilling their critical role in promoting the health and safety of Indian tribes.
- CDC will
  - Honor the sovereignty of Indian tribal governments
  - Respect the inherent rights of Indian tribal self-governance
  - Continue to work on a government-to-government basis
- Government-to-government consultation will be conducted with elected Indian Tribal Leaders or their designated representatives, to the extent practicable and permitted by law, before any action is taken that will significantly affect Indian tribe(s).

*Reference: Revised CDC/ATSDR Tribal Consultation Policy (rev. 2013)
Indian Tribes and Estimated Range of *Aedes aegypti* in the United States, 2016

The estimated range of *Aedes aegypti* on this map represents:
- CDC’s best estimate of the potential range of *Aedes aegypti* in the United States.
- Areas where *Aedes aegypti* mosquitoes are or have been previously found.

*The estimated range map has been updated from a variety of sources. This map represents CDC’s best estimate of the potential range of *Aedes aegypti* in the United States. This map is not meant to represent risk for spread of disease.*

For more information about CDC’s 2016 maps of estimated ranges of *Aedes aegypti* and *Aedes albopictus* in the United States, please visit http://www.cdc.gov/aka/vector/index.html.

**DATA SOURCES:**
- Estimated range of *Aedes aegypti* and *Aedes albopictus* in the United States 2016.GeoTIFF.
- CDC’s National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Vector-Borne Diseases (DIVB), April 4, 2016.
- Revised: April 2016.
- Revised: May 2022.
- National Institute of Health (NIH).
- U.S. Department of Health and Human Services.

**ACKNOWLEDGMENTS:**
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- National Institute of Environmental Health Sciences.
- National Institutes of Health.
- U.S. Department of Health and Human Services.
Partnering and Collaboration

- Across Zika response, CDC, HHS
  - Established Tribal Liaison role in State Coordination Task Force
  - Task force engagement and efforts
  - Extensive collaboration and co-planning with IHS
  - Technical Assistance for HHS Regional Offices, Secretary
  - Multiple national and regional Zika calls, presentations, webinars
  - Briefings - Dr. Friedens’ meeting with Rep. Tom Cole regarding Zika tribal specific activities, etc.

Partnering and Collaboration

- External
  - Tribal Advisory Committee (TAC) members and representatives from NIHB and AAIP attended the Zika Action Plan (ZAP) Summit
  - Cooperative Agreement with the National Indian Health Board (NIHB)
  - Technical assistance for tribes
  - States encouraged to work w/ tribes to coordinate Zika planning and response through PHEP
  - Listening sessions
  - Academic partners
  - Others
Partnering & Collaboration: Targeted Communication

CDC’s Response to Zika
US Zika Pregnancy Registry

Tribal Healthcare Providers: How to Contribute

Zika virus infection during pregnancy has been linked to adverse outcomes, including pregnancy loss and microcephaly, absent or poorly developed brain structures, defects of the eye, and impaired growth in fetuses and infants. Despite these observations, very little is known about the risk of Zika virus infection during pregnancy and its effects. Information about the timing, absolute risk, and spectrum of outcomes associated with Zika virus infection during pregnancy and among infants is needed to inform public health action related to Zika virus and guide the timing, evaluation and management of pregnant women and infants exposed to Zika virus.

US Zika Pregnancy Registry

To understand more about Zika virus infection, CDC established the US Zika Pregnancy Registry and is collaborating with state, tribal, local, and territorial health departments to collect information about pregnancy and infant outcomes among pregnant women with laboratory evidence of Zika virus infection and their infants. The data collected through this Registry will provide additional, more comprehensive information to complement notifiable disease case reporting and will be used to update recommendations for clinical care, to plan for services for pregnant women, children, and families affected by Zika virus and to improved prevention of Zika virus infection during pregnancy.

How to Participate

CDC and state, tribal, local, and territorial health department requests that healthcare providers participate in the Registry by:

1. Reporting information about pregnant women with laboratory evidence of Zika virus infection and identifying and reporting suspect pregnant women with Zika virus infection as early as possible. Pregnant women should be monitored closely throughout pregnancy and for 8 weeks postpartum.
2. Collecting pertinent clinical information about pregnant women with laboratory evidence of Zika virus infection and their infants on the Pregnancy and Zika Registry forms, including delivery and infant disposition.
3. Providing the information to state, tribal, local, or territorial health department directly to CDC Registry staff if asked to do so by local health officials.
4. Notifying state, tribal, local, or territorial health department staff or CDC Registry staff of adverse outcomes and/or decisions regarding infection status (e.g., ongoing infection, transmission of pregnancy, and patient and birth outcomes).

Who is included in the Registry?

Pregnant women and infants meeting the following criteria are eligible for the US Zika Pregnancy Registry:
1) pregnant woman in the United States with laboratory evidence of Zika virus infection (positive or equivocal test results, regardless of whether they have symptoms) and 2) periconceptionally, prenatally, or perinatally exposed infants born to these women, including infants with any laboratory evidence of congenital Zika virus infection (e.g., detection of Zika virus or Zika virus nucleic acid in a placental, fetal, or neonatal specimen, or serologic evidence of Zika virus in serum or cerebrospinal fluid).

Some infants who meet the above criteria will have been identified prenatally and reported to the health department in accordance with applicable state, tribal, local, and territorial laws supporting notifiable disease surveillance. However, pediatric healthcare providers may also identify prenatally unexposed infants with congenital Zika virus infection or with prenatal or perinatal exposure. Information about these infants should be reported to the state, tribal, local, or territorial health department and are eligible to be included in the US Zika Pregnancy Registry. The US Zika Pregnancy Registry will collect supplemental surveillance information from routine medical care of women through pregnancy and infants through the first year of life.
Efforts in Progress

- Tribal pre-CDC Emergency Response Team deployment
- Tribal Zika summits (AZ, FL)
- Webinars and trainings
- CDC Public Health Law Program News
- Inclusion of tribal expertise in future
- IHS and Tribal Epi-Center trainings and activities
- And more…. 

Seminole tribal technician checking a mosquito light trap.
Traditional Worldview: What is the natural role for mosquitoes in the environment?
Finding CDC Zika Educational Materials, Tools, and Resources

- Navigating the page
- Communication resources
  - Digital resources
- Resources for Zika and pregnancy

CDC Zika Educational Materials, Tools, and Resources

http://www.cdc.gov/zika

Click on Communication Resources
Print Resources

**Zika: The Basics of the Virus and How to Protect Against It**

**About Zika**
Zika virus spreads to people primarily through the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus). Zika can also be passed through sex from a person who has Zika to his or her sex partners and it can be spread from a pregnant woman to her fetus. People can protect themselves from mosquito bites and getting Zika through sex. This fact sheet explains who’s most affected and why, symptoms and treatment, and how to protect against Zika.

**How Zika Spreads**
Protect yourself and family from mosquito bites all day and night, whether you are inside or outside. A mosquito becomes infected when it bites a person already infected with Zika. That mosquito can then spread the virus by biting more people.

Zika virus can also spread:
- During sex with a person who has Zika to his or her sex partners.
- From a pregnant woman to her fetus during pregnancy or around the time of birth.
- Through blood transfusion (likely but not confirmed).

**Zika Outbreak**
Zika outbreaks are currently happening in many countries and territories. The mosquitoes that can become infected with and spread Zika live in many parts of the world, including parts of the United States.

**Zika Symptoms**
Many people infected with Zika won’t have symptoms or will only have mild symptoms. The most common symptoms are fever, rash, joint pain, or red eyes. Other common symptoms include muscle pain and headache. Symptoms can last for several days to a week. People usually don’t get sick enough to go to the hospital, and they very rarely die of Zika. Once a person has been infected with Zika, they are likely to be protected from future infections.

**Current Zika**

**What You Need to Know About Zika**

**Mosquitoes can give you Zika when they bite:**
- Zika can harm your pregnancy.
- Zika symptoms are fever, rash, joint pain and red eyes.

**Protect yourself from mosquito bites outside:**
- Use insect repellent
- Wear long-sleeved shirts and long pants

**Get rid of mosquitoes at home:**
- Dump water inside and outside
- Use screens on windows and doors
- Cover trashcans and rain barrels

**Has your partner been to an area with Zika?**
If yes, use condoms every time you have sex.
- Women: Use condoms for at least 8 weeks.
- Men: Use condoms for at least 6 months.

[Source: www.cdc.gov/zika]
What is local transmission?
CDC Zika Digital Resources and Syndication


Digital Resources

Widget
- Zika Widget – Add the Zika Widget to your web site!

Blogs
- Public Health Matters – A collective blog about the exciting public health work of preventing and controlling infectious diseases that result from the interaction of people, animals, and the environment.
- NIOSH Science Blog – A scientific look at workplace safety and health issues from the National Institute for Occupational Safety and Health.

Social Media

Facebook
- CDC
- CDC Travelers Health
- CDC Emergency
- CDC MMWR
- CDC en Español

Twitter
- CDC
- CDC Travelers Health
- CDC Emergency
- CDC MMWR
- CDC en Español

Zika Virus Microsite

- Easily embeddable collection of Zika info for partner websites
- Supplements partner sites with up-to-date, evidence-based content
- Automatically updated on partner sites in real time as CDC updates its Zika webpages
Assessing for Zika during Pregnancy

- All pregnant women should be assessed for possible Zika exposure, signs, and symptoms at each prenatal care visit. They should be asked if they
  - Traveled to or live in an area with Zika risk
  - Had sex without a condom with a partner with potential exposure to Zika

Developing Tools for Healthcare Providers

CDC's Response to Zika

Doctor's Visit Checklist: For Pregnant Women Who Traveled to an Area with Zika

If you are pregnant and traveled to an area with Zika, you should talk to your doctor or other healthcare provider, even if you don't feel sick.

Bring this checklist to your visit to make sure you don't forget to discuss anything important.

Here are some topics and questions you may want to discuss with your doctor or other healthcare provider:

- Where did you travel from an area with Zika?
- Did you have any symptoms of Zika during your trip or within 2 weeks of returning?
- Your most common symptoms of Zika are fever, rash, joint pain, and headache.
- Should you be tested for Zika virus?
- If you have symptoms of Zika, testing for Zika should be done within 7 days of when the symptoms began.
- In some cases, if you do not have symptoms of Zika, testing for Zika can be offered.
- Do you need an antiviral?
- Do you need to be referred to a maternal fetal medicine specialist?
- How can we prevent sexual transmission of Zika virus?

www.cdc.gov/Zika

*Free materials available in English, Spanish and other languages*
Pretest Counseling Materials & Scripts

Pediatric Evaluation and Follow-up Tools

Initial Evaluation and Outpatient Management During the First 12 Months of Life for Infants with Possible Congenital Zika Virus Infection

Download at:
Registry Reporting for Tribal Healthcare Providers

Materials for Families Affected by Zika

Other federal resources

- DHHS Disaster Information Management Research Center
  » Link: https://disasterinfo.nlm.nih.gov/dimrc/zikavirus
- SAMHSA
  » https://www.samhsa.gov/dtac/zika
Non-federal resources

- International resources
- State resources
- CDC funded partners
  - NIHB resources
  - Academic resources
- Tribal resources
International resources (example)

- World Health Organization
  - Psychosocial support for pregnant women and for families with microcephaly and other neurological complications in the context of Zika virus: Interim guidance for health-care providers
State and local resources (examples)

- Arizona Department of Health Services
  - Fight the Bite Toolkit, etc.
  - Link: http://azdhs.gov
CDC Partners

- ASTHO- Association of State and Territorial Health Officials
- NACCHO- National Association of County and City Health Officials
  - [http://essentialelements.naccho.org/archives/2267](http://essentialelements.naccho.org/archives/2267)
- NEHA- National Environmental Health Association
- APHL- Association of Public Health Laboratories
  - [https://www.aphl.org/programs/preparedness/Crisis-Management/Pages/Zika.aspx](https://www.aphl.org/programs/preparedness/Crisis-Management/Pages/Zika.aspx)
- March of Dimes
CDC Partners

- NIHB- National Indian Health Board
**Academic resources (examples)**

- [The American Academy of Pediatrics](https://www.aap.org) Zika page
  » Resources for pediatricians
- [Mountain West Preparedness and Emergency Response Learning Center](http://www.mwpere.org)  
  » Various resources
Tribal resources - discussion
Recognition

- SCTF Staff
  - Dedicated, caring, committed
  - Experts in partnering (internal and external)
  - Experts in operations
  - Veterans in SCTF/EOC
    - Reduce stress with humor
Conclusion

• Thank you for sharing tribal views
  » On Zika health issues and challenges
  » Share examples of partnering and collaboration
  » Tribal resources and gaps

• CDC, tribes, and partners are actively collaborating in Zika response
• Further improvements can be made with new, effective, and culturally responsive ways based on information gathered at this summit

• Masi – Thank-you!
• Contact information: dsatter@cdc.gov
CDC’S Response to Zika

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Stop here. Remaining are surplus slides.
Linear Worldview
Medical/Empirical Research Model

Social History → Presenting Problem → Assessment → Treatment → Outcome

Underlying Question is “Why?” to determine the “underlying cause”
Relational Worldview

*Individual and Family Level (Balance)*

- Social History
- Economics
- Work/School
- Family/Peers
- Community
- Culture
- Innate Positive
- Learned Positive
- Innate Negative
- Learned Negative

- Knowledge/Judgment
- Thinking Process
- Self Esteem
- Memories
- Emotions
- Bio-Chemistry
- Genetics
- Health Status
- Sleep/Rest State
- Substance Use/Abuse

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