Module Two
History and Incidence
HOUSEKEEPING

• For educational and quality improvement purposes, this TeleECHO Clinic will be recorded.
• By participating in this clinic, you are consenting to be recorded – we appreciate and value your participation.
• To protect patient privacy, please do not provide information any PHI.
HOUSEKEEPING

• Mute microphone when not speaking
  – Computer: the microphone is located on the lower left of your screen
  – Telephone: press *6 to mute and unmute

• Communicate clearly during clinic:
  – Speak clearly
  – Use chat function to send everyone messages (For IT help, chat AAP Admin)
  – If you have questions or concerns, please email ashah@aap.org
TODAY’S LECTURERS

Perry Sheffield, MD, FAAP
Assistant Professor, Icahn School of Medicine at Mount Sinai, New York, NY

Abigail Kroening, MD, FAAP
Assistant Professor, Division of Developmental and Behavioral Pediatrics, University of Rochester Medical Center Rochester, NY
1952:
The first human cases of Zika are detected in Uganda and the United Republic of Tanzania.

Source: http://www.who.int/emergencies/zika-virus/history/en/
1960’s-1980’s:

- Human cases are confirmed through blood tests. No deaths or hospitalizations are reported, but studies consistently show widespread human exposure to the virus.

- The disease is mapped as it moves from Uganda to western Africa and Asia in the first half of the 20th century.
2007:
First large Zika outbreak in humans in the Pacific Island of Yap in the Federated States of Micronesia.
2008:
A US scientist conducting field work in Senegal falls ill with Zika infection. On his return home to Colorado he infects his wife in what is the first documented case of sexual transmission of a disease usually transmitted by insects.
2014:

- French Polynesia, 2 infants' infected appear to have been acquired by transplacental transmission or during delivery.
- 1,505 asymptomatic blood donors are reported to be positive for Zika.
OUTBREAK IN BRAZIL DETECTED

2015:

• May/June: Brazil's National Reference Laboratory confirms Zika virus is circulating in the country.

• July: Brazil reports neurological disorders associated with a history of infection, primarily from the north-eastern state of Bahia.
ZIKA DETECTED WORLDWIDE

2015:


- Brazil declares a national public health emergency as cases of suspected microcephaly continue to increase.
CONNECTIONS MADE TO MICROCEPHALY

2016:
January: In collaboration with health officials in Brazil, the CDC releases laboratory findings of 4 microcephaly cases in Brazil

Morbidity and Mortality Weekly Report (MMWR)

Possible Association Between Zika Virus Infection and Microcephaly — Brazil, 2015

On January 22, 2016, this report was posted online as an MMWR Early Release.

Lavinia Schuler-Faccini, PhD; Erlane M. Ribeiro, PhD; Ian M.L. Feitosa, MD; Dafne D.G. Horovitz, PhD; Denise P. Cavalcanti, PhD, MD; André Pessoa; Maria Juliana R. Doriqui, MD; Joao Ivanildo Neri, MD; Joao Monteiro de Pina Neto, PhD; Hector Y.C. Wanderley, MD; Mirlene Cermach, PhD; Antonette S. El-Husny, PhD; Marcos V.S. Pone, PhD; Cassio L.C. Serra, MD; Maria Teresa V. Sanseverino, PhD. Brazilian Medical Genetics Society—Zika Embryopathy Task Force (View author affiliations)

View suggested citation
2016:
August: CDC releases its Update: Interim Guidance for the Evaluation and Management of Infants with Possible Congenital Zika Virus Infection — United States, August 2016 based on recommendations from the July 2016 meeting.
RESEARCHERS LEARN MORE ABOUT ZIKA VIRUS SYNDROME

2016:

November: JAMA Pediatrics releases Characterizing the Pattern of Anomalies in Congenital Zika Syndrome for Pediatric Clinicians
RESEARCHERS CONTINUE TO LEARN MORE...

Morbidity and Mortality Weekly Report

Baseline Prevalence of Birth Defects Associated with Congenital Zika Virus Infection — Massachusetts, North Carolina, and Atlanta, Georgia, 2013–2014

Janet D. Cragan, MD1; Cara T. Mai, DrPH1; Emily E. Petersen, MD2; Rebecca F. Liberman, MPH3; Nina E. Forestieri, MPH4; Alissa C. Stevens, MPH5; Augustina Delaney PhD1; April L. Dawson, MPH1; Sascha R. Ellington, MSPH2; Carrie K. Shapiro-Mendoza, PhD2; Julie E. Dunn, PhD3; Cathleen A. Higgins3; Robert E. Meyer, PhD4; Tonya Williams, PhD5; Kara N.D. Polen, MPH1; Kim Newsome, MPH1; Megan Reynolds, MPH1; Jennifer Isenburg, MSPH1; Suzanne M. Gilboa, PhD1; Dana M. Meaney-Delman, MD6; Cynthia A. Moore, MD, PhD1; Coleen A. Boyle, PhD7; Margaret A. Honein, PhD3

Zika virus infection during pregnancy can cause serious brain abnormalities, but the full range of adverse outcomes is unknown (1). To better understand the impact of birth defects related to Zika virus infection, CDC will continue to monitor birth defects surveillance programs in Massachusetts and North Carolina for 2013 and from a surveillance program in three counties in metropolitan Atlanta, Georgia, for 2014.
ZIKA IN PUERTO RICO UPDATE

Fernando Ysern, MD, FAAP
President, AAP Puerto Rico Chapter
Advisory Committee, AAP Project ECHO Zika
Zika in the U.S: Incidence
Zika Virus Cases Reported in the United States, as of March 1, 2017

## Incidence in the U.S. Territories (as of March 1, 2017)

<table>
<thead>
<tr>
<th>Territories</th>
<th>Symptomatic Disease Cases</th>
<th>Viremic Blood Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>120</td>
<td>0</td>
</tr>
<tr>
<td>Puerto Rico</td>
<td>37,197</td>
<td>318</td>
</tr>
<tr>
<td>US Virgin Islands</td>
<td>989</td>
<td>0</td>
</tr>
</tbody>
</table>

Pregnant Women in the U.S. with Any Laboratory Evidence of Possible Zika Virus Infection (as of March 1, 2017)

<table>
<thead>
<tr>
<th>US States and the District of Columbia*</th>
<th>US Territories**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,534</td>
<td>3,225</td>
</tr>
</tbody>
</table>

*Includes aggregated data reported to the US Zika Pregnancy Registry as of February 7, 2017

**Includes aggregated data from the US territories reported to the US Zika Pregnancy Registry and data from Puerto Rico reported to the Zika Active Pregnancy Surveillance System(https://www.cdc.gov/zika/public-health-partners/zapss.html) as of February 7, 2017

Outcomes of Pregnancies with Laboratory Evidence of Possible Zika Virus Infection in the United States, 2016

<table>
<thead>
<tr>
<th>Completed Pregnancies with or without birth defects</th>
<th>1,143</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liveborn infants with birth defects*</td>
<td>47</td>
</tr>
<tr>
<td>Pregnancy losses with birth defects**</td>
<td>5</td>
</tr>
</tbody>
</table>

* Includes microcephaly, calcium deposits in the brain indicating possible brain damage, excess fluid in the brain cavities and surrounding the brain, absent or poorly formed brain structures, abnormal eye development, or other problems resulting from damage to the brain that affects nerves, muscles and bones, such as clubfoot or inflexible joints, and confirmed hearing loss.

**Includes miscarriage, stillbirths, and terminations with evidence of the birth defects mentioned above.

CASE PRESENTATION 001

Steve Caddle, MD, MPH
Assistant Professor of Pediatrics at CUMC
Division of Child and Adolescent Health
New York-Presbyterian Hospital/Columbia University Medical Center
CASE PRESENTATION 002

Maria Teresa Curet-Salim, MD, RPh, FAAP
Pediatrician
Puerto Rico
EVALUATION

https://www.surveymonkey.com/r/6SQN6WV
Monday, March 20\textsuperscript{th}, 7:00 PM AST
Module Three: About Zika Virus, Modes of Transmission & What We Don't Know