# Georgia Board of Public Health

Dec. 10, 2019

GEORGIA DEPARTMENT OF PUBLIC HEALTH

# Agenda

- Call to order
- Roll Call
- Approval/Adoption of Minutes
- Commissioner's Update

James Curran, M.D., Board Chair Mitch Rodriguez, M.D., Secretary Mitch Rodriguez, M.D., Secretary Kathleen E. Toomey, M.D., M.P.H., Commissioner

### Epidemiology Update: Measles

Board of Public Health / Cherie L. Drenzek, DVM, MS / State Epidemiologist / Dec. 10, 2019

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# Overview

- Measles Background/Landscape
- Epidemiology of Measles (Global, National, and Georgia)
- Measles Outbreaks
- Recent Measles Outbreak in Georgia
- Take Home Messages/Prevention

# Measles Landscape

- Measles is viral illness characterized by fever, rash, and the 3 Cs (cough, coryza, and conjunctivitis)
- Unique among infectious diseases in that it is considered one of the most **highly contagious** of all.
  - Spreads when an infected person coughs or sneezes
  - Contagious 4 days <u>before</u> through 4 days <u>after</u> rash develops
  - Remains in the air or on surfaces for up to 2 hours
  - Attack rate **90%** among susceptible contacts
- However, is also highly preventable with MMR vaccine
- Eliminated from the United States in 2000



# Measles Landscape (cont'd)

- However, this may not be the case for long...
- The epidemiology of measles is changing drastically, both globally and in the U.S.
- Measles cases are greatly increasing, in fact, surging, worldwide
- Recent WHO and CDC data show measles cases are up 30% from 2017 (to 9.7 million cases globally), including 140,000 deaths (mostly in children <5 years old)</li>
- Increases driven by **very large outbreaks** (examples like New York, Samoa) and under-vaccination.

# Measles in the United States

#### Number of Measles Cases Reported by Year

2010-2019\*\*(as of December 5, 2019)



- From January 1 to Dec. 5, 2019, 1,276 cases of measles were reported from 31 states, by far the highest number since 1994
- The vast majority of these cases were **unvaccinated**.
- 75% related to New York outbreaks (threatened U.S. elimination status)
- <u>Epi pattern</u>: Most cases and outbreaks were related originally to international travel/travelers, followed by further spread in the U.S. among pockets of unvaccinated people.

### Measles in Georgia, 2010-2019 (as of Dec. 5, 2019)



# Georgia Measles Outbreaks – 2019

- Three measles outbreaks were documented in Georgia during 2019
- January outbreak had 3 cases, April outbreak had 3 cases, and the recent November outbreak had 11 cases.
- <u>Pattern among all 3 outbreaks</u>:
  - Involved **unvaccinated** individuals within **families**
  - Originated from travel (followed by spread among susceptibles)
  - Involved wild-type measles virus
  - No secondary cases were documented in all 3!



# Measles Outbreak, Georgia, Nov. 2019

- Largest ever in Georgia!
- <u>Outbreak Detection</u>: The Georgia Public Health Laboratory (GPHL) confirmed measles infection in an unvaccinated resident of Cobb County on November 8, 2019.
- Measles cases are public health emergencies warranting immediate investigation.
- Goals of the investigation include, broadly, to stop spread, to determine the source of the infection, to find additional cases (and stop their spread) and to educate healthcare providers and the public.



# Measles Outbreak, Georgia, Nov. 2019

#### Our investigation steps to stop spread

- Identified all exposed contacts, particularly those who may be <u>susceptible</u> to measles (such as infants, immunocompromised, or unvaccinated persons) and:
  - 1. offered prophylaxis (MMR or IG) as appropriate,
  - 2. educated them about symptoms, incubation, and infectious periods;
  - 3. actively monitored for development of symptoms through incubation period
  - 4. recommended exclusion from venues where spread may occur, such as schools or daycare.



# Measles Outbreak, Georgia, Nov. 2019

- On November 15, we identified 3 additional cases of measles among unvaccinated members of another Cobb County family.
- Could these 3 be related to the measles case from Nov. 8?
- On November 16, two more measles infections were documented among unvaccinated family members of the Nov. 8 case, for a total of 6 cases now.
- The investigation steps to stop spread were now initiated for all 6 cases (along with investigation into case connections and possible source of the infections).



# Measles Investigation, Georgia, Nov. 2019

- We identified >2,500 people exposed to the 6 cases in places/venues where spread could occur (like schools, healthcare facilities, etc.)
- All were contacted via email or letter to notify them of the exposure and ask that they monitor for symptoms for 21 days (low risk)
- About 50 susceptible individuals were identified who needed active monitoring throughout the incubation period (so that we could identify symptoms early, isolate, and stop spread)
- Rapidly modified our electronic Active Monitoring platform in SendSS that was used during Ebola response.
- No secondary cases were documented!

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# Measles Outbreak, Georgia, November 2019

#### Source of the Measles Infections?

- On November 18, strong "shoe leather" epidemiology work identified 5 measles cases that occurred in October—all 5 were among unvaccinated members of another Cobb County family.
- These cases, unfortunately, had not been reported to DPH, and were linked to travel.
- Measures to stop spread (identifying susceptible contacts, active monitoring, etc.) were not needed for these cases since the 21-day incubation period had passed.
- Epi investigation documented that the 5 October cases were the index cases, resulting in direct or indirect spread to the 6 others.



# **DPH Communications**



Georgia Department of Public Health Search within this site We Protect Lives About DPH Contact DPH I Want To.. Blog PH Insider Programs Home » Measles in Georgia Stay **Measles in Georgia** Connected The Georgia Department of Public Health (DPH) has confirmed measles in an unvaccinated Cobb County resident. The individual may have exposed others between Oct. 31- Nov. 6. DPH is notifying individuals who may have been exposed to the virus and may be at increased risk for developing measles. DPH urges health care providers to maintain heightened awareness for patients with measles Measles spreads quickly from person to person through coughing and sneezing. Symptoms start with fever, runny nose, cough, red eyes and sore throat. Then a rash spreads over the body. Complications are more common in children under 5 and adults over 20, and they include ear infections, diarrhea, pneumonia, encephalitis (brain swelling) and death. Vaccination is paramount to good health, especially when it comes to highly contagious viral infections, like measles. Measles was considered eliminated from the U.S. in 2000 because an effective vaccination program was developed. Children should receive two doses of MMR (measles, mumps and rubella) vaccine at one year of age and four to six years of age. Adults who have not received the vaccine should become immunized. Vaccination prevents illness, complications and sometimes even death.

If you or a loved one become infected with measles, avoid to public places until about four days after the onset of the rash. Call your doctor before visiting their clinic, so they may take precautions for others who may be susceptible to measles. Measles will last about a week if there are no complications.

	PUBLIC HEALTH	2 Peachtree Street, NW, 15th Flo Atlanta, Georgia 30303-31
Nov 19 20	019	dph.ga.g
Dear Colle	aques.	
The Georg the past 10 to 18 so fa	ia Department of ) days. That bring r this year - more	f Public Health (DPH) has confirmed 11 cases of measles in gs the total number of confirmed measles cases in Georgia e than in the previous decade combined.
As physicia presenting suspect m (during bus	ans and health ca with febrile rash neasles in a pati siness hours), or	are providers, we must be ever vigilant for patients illness and clinically compatible measles symptoms. If you ient, notify Public Health immediately at 404-657-2588 1-866-PUB-HLTH after hours or weekends.
Please follo	ow the guidance	below in assessing patients for measles.
<ul> <li>Hea</li> <li>of p</li> <li>hists</li> <li>trave</li> <li>of</li> <li>of</li> <li>of</li> <li>soft</li> <li>spretex</li> <li>spre</li></ul>	ithcare providers atients presentim yry of recent inte elers, or exposur Generalized mac Cough, rumy nos depersons with ilable). Patients s aad in the health ing <u>https://www.c df.</u> ord suspect case ith Office or Geo <b>PUB-HLTH</b> afte re reporting. ain appropriate c confirmation. This letilnes are availa ure, and blood fo felines are availa ure patients are i	s should consider measles in the initial differential diagnosis g with the following symptoms, particularly those who have mational or domestic travel, exposure to international re to a possible measles case: .3.°C AND ulopapular rash lasting > three days AND se or conjunctivitis suspect measles immediately (negative pressure room, if should be managed in a manner that prevents disease care 
The numbe	er of measles cas b, the country was	ses in the U.S. continues to increase almost daily. Just a fee s very close to losing its measles elimination status – a very

# Measles Outbreak: Take Home Messages

- Most measles cases and outbreaks are related to international travel/travelers, followed by further spread in the U.S./GA among pockets of unvaccinated people.
- Because of the changing epidemiology of measles, we will continue to be at risk for measles importations and outbreaks.
- Healthcare providers should consider measles in the differential for febrile rash illnesses and should notify/report to DPH immediately at 1-866-PUB-HLTH.
- Measles case and outbreak investigations are <u>extremely</u> resourceintensive, time-sensitive, "all hands on deck" responses affecting MANY stakeholders
- <u>Cost Considerations</u>: A recent study in *Vaccine* and by the state of Arkansas showed that the cost of responding to a <u>single</u> measles case was at least \$50,000!

**Mitigation/Prevention Strategy:** 



# Questions

For more information, please contact:

Cherie Drenzek, DVM, MS State Epidemiologist & Chief Science Officer Georgia Department of Public Health (404) 657-2609 cherie.drenzek@dph.ga.gov

### Georgia Newborn Screening

Board of Public Health / Arthur Hagar, PhD, HCLD & Judith Kerr, MPH / Dec. 10, 2019

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### What is Newborn Screening (NBS)?

- Preventative, population-based, public health program
- Conditions likely to cause severe intellectual disability, or death, prior to the onset of clinical symptoms
- Testing for a panel of conditions to include:
  - Metabolic, endocrine, hematologic, immunologic disorders
  - $\circ$  Cystic fibrosis
  - Congenital hearing loss
  - Critical congenital heart disease (CCHD)

# **Goal of Newborn Screening**

The goal of the NBS Program is to test all babies born in Georgia for conditions that can cause major illness, serious intellectual disability, or even death if not identified and treated early.

# **NBS Screening Panel**

#### Endocrine

- Congenital Hypothyroidism
- Congenital Adrenal Hyperplasia

#### Hemoglobinopathy

- Sickle Cell Disease
- Sickle Cell/C Disease
- Sickle Cell/β-Thalassemia

Severe Combined Immunodeficiency (SCID)

Spinal Muscular Atrophy (SMA)

#### **Cystic Fibrosis**

#### Metabolic

- Galactosemia (Classical)
- Biotinidase Deficiency
- Amino Acidopathies (6)
- Organic Acidemias (9)
- Fatty Acid β-Oxidation Defects (5)

Point of Care

- Hearing
- Critical Congenital Heart Disease

# **NBS Laboratory Summary**

- Specimens Received (2018) 147,971
- Laboratory Staff

• Manager, 3 Supervisors, 10 Technologists, 2 Administrative Assistants

• Turnaround Time

• Average = 2.3 days; 98% in 3 days

- Positive Screens Reported to Follow-up Contractor

   Emory Dept. of Human Genetics, CHOA, Augusta University
- Fee: \$63/specimen

 $\odot$  No charge for repeats due to a positive initial screen

 $\odot$  NICU infants get two repeat screens at no cost

# Addition of New Disorders

- Recommended Uniform Screening Panel (RUSP)
  - Health and Human Services (HHS) advisory committee accepts nominations from medical professionals and general public
    - Reviews data on incidence, test availability, treatment options
    - Can approve, reject, request further information
- HHS Secretary can accept or reject recommendation for addition to RUSP

# **NIH Pilot Studies**

Pompe Disease

- 59,332 specimens tested
- 1 infantile onset; 2 late onset

Mucopolysaccharidosis, Type 1 (MPS1)

- 59,332 specimens tested
- 0 confirmed cases

X-linked adrenoleukodystrophy (X-ALD)

- 51,081 specimens tested
- 1 X-ALD; 2 Zellweger Syndrome

Spinal Muscular Atrophy (SMA)

- 83,138 specimens tested
- 5 confirmed cases

# **New Disorders**

- Pompe Disease
- Mucopolysaccharidosis, Type 1 (MPS1)
- X-linked adrenoleukodystrophy (X-ALD)
- Spinal Muscular Atrophy (SMA)

Fiscal Year 2020 - Fee increase from \$63.00 to \$80.40

# New Conditions Implementation

SMA

- National Institutes of Health (NIH) funded pilot started February 6
- Using multiplex assay for SCID & SMA

X-ALD

- Tandem mass spectrometry (MSMS) assay updated to Neobase 2

   Live on October 7
- Will add markers for X-ALD in January 2020

# **New Conditions Implementation**

Pompe and MPS 1

- Will use NeoLSD assay from Perkin Elmer
- Requires installation of 3 new MSMS
  - $\,\circ\,$  Relocation of GSP instruments
  - $\,\circ\,$  Scheduled for February 2020
- Instrument installation and optimization
- Method validation
- Plan to go live in April 2020

# **NBS Program Summary**

- Education and outreach
- Technical assistance and training to hospitals
- Coordinate system of follow-up and support through contracted services
  - Short-term follow-up: Emory University, Children's
     Healthcare of Atlanta, Augusta University
  - Ongoing support: Emory Medical Foods, Sickle Cell
     Foundation of Georgia, Grady Hospital
- Coordinate Newborn Screening Advisory Committee

# New Conditions – Education and Outreach

May 2019	Webinar via Georgia Chapter of the American Academy of Pediatrics			
May and June 2019	Update Rules and Regulations Two periods for public comment			
July 2019	<ul> <li>Blast communication to providers</li> <li>Georgia Chapter of the American Academy of Pediatrics</li> <li>Georgia Academy of Family Physicians</li> <li>Georgia Obstetrical and Gynecological Society</li> <li>Georgia Hospital Association</li> <li>District Health Directors</li> </ul>			
July 2019	Letter to all submitters' billing departments			
October 2019	Inclusion on newborn screening brochure			
Winter 2019	Update physician desk guide to include new conditions			
Summer 2020	Update to providers following implementation of all conditions			

### Newborn Screening Technical Assistance and Training

- Project period
  - Six months: December 2019 May 2020
- Specimen Quality
  - Unevenly Saturated
  - Quantity Not Sufficient
  - $\circ$  Oversaturated
- Metro Atlanta facilities
  - $\circ$  13 birthing facilities
  - o 40 participants

### Georgia Newborn Screening Advisory Committee

- Advise DPH on standards, protocols, and guidelines
- Champion the NBS healthcare system
- Ongoing contribution of expertise specific to the NBS system
- Provide advice and recommendations for strategic planning and evaluation of the NBS system
- Advise and guide the Commissioner when determining which disorders should be added or removed from the NBS panel

### **Disorder Nomination Process**

# Nomination of a disorder

### Presentation to NBSAC

### Establishment of a workgroup

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### **Disorder Nomination Process**

Workgroup review; presentation to NBSAC NBSAC votes to recommend for inclusion on or exclusion from panel

Recommendation letter to DPH Commissioner

Integration into the NBS system

### **Condition Review - Congenital Cytomegalovirus**

- Congenital CMV (cCMV) nominated for inclusion on the Georgia NBS Panel November 26, 2018
  - A thorough evidence review was conducted using universal newborn screening review criteria
- Delay the recommendation to add or not add cCMV screening to the Georgia NBS panel pending the conclusion of a long-term prospective study on blood spot testing with results available in 2021
- In the interim, the workgroup recommends:
  - Quarterly workgroup meetings through the duration of the prospective study
  - Annual workgroup updates to Georgia NBSAC on new developments with cCMV screening and treatment

# Newborn Screening- Quality Improvement

- Two quality improvement projects funded through the Association of Public Health Laboratories (APHL)
- Lab project will focus on increasing the reliability of the algorithm for new conditions by utilizing the Collaborative Laboratory Integrated Reports (CLIR) tool
- Program project will focus on increasing satisfactory specimen collection and the timeliness of repeat screens for infants that require a repeat screen

### Questions

For more information, please contact:

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# The next Board of Public Health meeting is scheduled for Tuesday, Jan. 14, 2020 @1 p.m.