Agenda

• Call to order
  James Curran, M.D., Board Chair
• Roll Call
  Mitch Rodriguez, M.D., Secretary
• Approval/Adoption of Minutes
  Mitch Rodriguez, M.D., Secretary
• Commissioner’s Update
  Kathleen E. Toomey, M.D., M.P.H., Commissioner
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 a 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 before through 4 days after 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)

• Increases driven by very large outbreaks (examples like New York, Samoa) and under-vaccination.
Measles in the United States

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).

Epi pattern: 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)

17 of 18 cases were outbreak-related
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.
- **Pattern among all 3 outbreaks:**
  - 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!

• Outbreak Detection: 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 **susceptible** 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.
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!**
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.
GEORGIA DEPARTMENT OF PUBLIC HEALTH

DPH Communications

November 9, 2019

Dear Healthcare Provider:

Health Alert: Measles (Rubella) - Georgia Department of Public Health Requests Reports of Suspect Measles Cases

Summary

The Georgia Department of Public Health (DPH) has confirmed a measles case in a multi-Atlantic region. While infections in the case are linked to local healthcare providers, DPH urges healthcare providers to notify Public Health immediately if you suspect measles in a patient from now until November 29. DPH urges heightened awareness for patients with measles.

Guidance for Healthcare Providers:

- Healthcare providers should consider measles in the initial differential diagnosis of patients presenting with the following symptoms, particularly those who have a history of recent international or domestic travel, exposure to international travelers, or exposure to a possible measles case:
  - Fever or chills
  - Cough
  - Reddish-brown spots or rash

For patients who present with suggestive symptoms and have a recent travel history and a possible measles exposure, contact DPH immediately to discuss the case and potentially triage the patient.

Georgia Department of Public Health

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Georgia Department of Public Health
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 extremely resource-intensive, time-sensitive, “all hands on deck” responses affecting MANY stakeholders
• Cost Considerations: A recent study in Vaccine and by the state of Arkansas showed that the cost of responding to a single measles case was at least $50,000!

Mitigation/Prevention Strategy:
Questions

For more information, please contact:

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State Epidemiologist & Chief Science Officer
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Georgia Newborn Screening

Board of Public Health / Arthur Hagar, PhD, HCLD & Judith Kerr, MPH / Dec. 10, 2019
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:
  o Metabolic, endocrine, hematologic, immunologic disorders
  o Cystic fibrosis
  o Congenital hearing loss
  o 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 Immuno-deficiency (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

• SpecimensReceived (2018) – 147,971

• Laboratory Staff
  o Manager, 3 Supervisors, 10 Technologists, 2 Administrative Assistants

• Turnaround Time
  o Average = 2.3 days; 98% in 3 days

• Positive Screens Reported to Follow-up Contractor
  o Emory Dept. of Human Genetics, CHOA, Augusta University

• Fee: $63/specimen
  o No charge for repeats due to a positive initial screen
  o 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
  o 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
  o Relocation of GSP instruments
  o 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
  o Short-term follow-up: Emory University, Children’s Healthcare of Atlanta, Augusta University
  o Ongoing support: Emory Medical Foods, Sickle Cell Foundation of Georgia, Grady Hospital
• Coordinate Newborn Screening Advisory Committee
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<th>Date</th>
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<tr>
<td>May 2019</td>
<td>Webinar via Georgia Chapter of the American Academy of Pediatrics</td>
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<td>May and June</td>
<td>Update Rules and Regulations</td>
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<td>Two periods for public comment</td>
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<td>Blast communication to providers</td>
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<td>• Georgia Chapter of the American Academy of Pediatrics</td>
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<td>• Georgia Academy of Family Physicians</td>
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<td>July 2019</td>
<td>• Georgia Obstetrical and Gynecological Society</td>
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<td>• Georgia Hospital Association</td>
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<td>• District Health Directors</td>
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<td>July 2019</td>
<td>Letter to all submitters’ billing departments</td>
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<tr>
<td>October 2019</td>
<td>Inclusion on newborn screening brochure</td>
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<tr>
<td>Winter 2019</td>
<td>Update physician desk guide to include new conditions</td>
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<tr>
<td>Summer 2020</td>
<td>Update to providers following implementation of all conditions</td>
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Newborn Screening Technical Assistance and Training

• Project period
  o Six months: December 2019 – May 2020

• Specimen Quality
  o Unevenly Saturated
  o Quantity Not Sufficient
  o Oversaturated

• Metro Atlanta facilities
  o 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

1. Nomination of a disorder
2. Presentation to NBSAC
3. Establishment of a workgroup
Disorder Nomination Process

1. Workgroup review; presentation to NBSAC
2. NBSAC votes to recommend for inclusion on or exclusion from panel
3. Recommendation letter to DPH Commissioner
4. 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.