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KENTUCKY MEASLES UPDATE
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What Kentucky Public Health and Healthcare Providers Need to Know

Key Points:

- **National Picture:** CDC reports 764 cases of measles in the United States between January 1st and May 3rd of 2019.
  - This is the greatest number of cases reported in the United State since 1994 and since measles was declared eliminated in the U.S. in 2000.
  - Most cases are associated with New York, but several other states (Washington, California, Michigan, Oregon, Texas) have had large numbers of cases each (>10), and 23 total states have had cases.

- **Kentucky Current Situation:** Has only had **2** cases of measles in 2019
  - Unvaccinated siblings who travelled to a measles-endemic country
  - No in-state transmission has been documented in Kentucky
  - The risk of measles in KY is through travel from other states or countries where measles is present

- **When measles is suspected due to a rash illness:**
  - Check for patient's travel status to other countries or states with measles in the past 3 weeks
  - Verify vaccination status
  - Assess likelihood of measles based on the clinical assessment
  - Isolate patient in negative pressure room with airborne precautions if measles is possible
    - If there is no known exposure, the patient has been fully vaccinated, and the symptom pattern doesn't match measles, the likelihood of measles is extremely low – See Clinical Diagnosis section on page 3
  - Get proper testing ordered
    - KDPH recommends measles RNA by real-time RT-PCR collected with a nasopharyngeal swab
    - Serologic testing should also be collected in suspect cases but not alone – IgM is more susceptible to false positive results
    - Report all positive measles cases to KDPH immediately (888-9-REPORT: 888-973-7678)

- **Who should be vaccinated?**
  - Children 12 months and older (6-11 months if travelling internationally)
  - Adults *without evidence of immunity* (either vaccination records or lab evidence of immunity)
    - Born after 1957 who don't have vaccination records
    - Vaccinated between 1963-1968 who got the killed measles vaccine or don't know what vaccine they got
    - If you're unsure, there is no harm in getting another dose of MMR vaccine
    - For more information, see p. 2 or CDC's website: https://www.cdc.gov/vaccines/vpd/mmr/public/index.html

National Outbreak Statistics:

- 71% of individuals with measles were unvaccinated, and another 18% had an unknown vaccination status. Only 11% were vaccinated. Vaccination works!
- Overall, 66 (9%) patients were hospitalized and 24 (3%) have had pneumonia. No deaths or cases of encephalitis have been reported to CDC
- Median age of patients is 5 years – 25% of cases are <16 months of age
- 13 measles outbreaks have been reported in 2019 in the U.S.
    - Six outbreaks occurred in under-immunized close-knit communities and account for almost 90% of all cases.
    - New York and New York City account for 67% of all of the reported measles cases in 2019
    - 98% of U.S. measles cases are U.S. residents.
        - 34 cases were in U.S. residents travelling abroad (most were unvaccinated)
        - 44 cases were direct imports from other countries
            - 9 out of 10 individuals who became infected during international travel were either unvaccinated or had an unknown vaccination status, although all were eligible to get vaccinated according to their ages.
- The top three countries where travelers became infected so far in 2019 include the Philippines, Ukraine, and Israel

Measles and MMR vaccine:

- Individuals may not have been vaccinated for many reasons. Some adults may not be aware they need the vaccine. Some children may not be up to date either because the child is unable to be vaccinated or because the caregiver refuses or delays vaccination.
    - Parents may refuse or delay MMR vaccine because of concerns based on the misinformation being spread by some organizations about the vaccine safety and effectiveness, as well as disease severity.
    - Measles can be serious. There is no way to predict how bad a case will be. There is no treatment or cure for measles. Some children may have very mild symptoms but others may face more serious complications, like pneumonia and encephalitis. There have been a variety of cases in this outbreak, from mild to severe.

Detailed Measles Vaccine Recommendations

- CDC's MMR vaccine routine recommendations are as follows:
    - Children 12 months of age or older should have 2 doses, the first dose at age 12 to 15 months and the second dose between 4 to 6 years.
    - Adults who do not have evidence of immunity should get at least one dose of MMR vaccine.
    - Certain persons should receive two doses of MMR. This includes healthcare personnel (not just clinical staff), students at post-secondary institutions (such as colleges or vocational schools), and international travelers

- CDC's MMR vaccine travel recommendations are as follows for international travel:
    - Infants 6 months through 11 months of age should have 1 dose of MMR vaccine.
    - Children 12 months of age and older should receive 2 doses of MMR vaccine, separated by at least 28 days.
    - Adults with documentation of one dose of MMR vaccine should get a second dose. Adults who do not have evidence of immunity against measles should get two doses of MMR vaccine, separated by at least 28 days.

- In specific communities where outbreaks with sustained transmission are occurring, health departments are best poised to make outbreak recommendations for their communities. They may consider the following:
    - If the outbreak affects preschool children or adults with community wide transmission: A second dose should be considered for children aged 1 through 4 years or adults who have received 1 dose (with the 2nd dose given at least 28 days after the first).
    - If the outbreak involves infants aged <12 months with ongoing transmission and continued risk for exposure to infants, infants 6 months through 11 months can be vaccinated.

Additional Vaccination Recommendations

- Providers should NOT use self-report of MMR vaccination as proof of immunity. If there is no record of vaccination or proof of immunity, the patient should be vaccinated
- Provide accurate, scientific-based information to counter misinformation in the community
- Parents want to do their homework when it comes to their children's health. Encourage them to learn about measles and the MMR vaccine. Their children's healthcare providers is their best partner in caring for their children.
- The best and safest protection we have against measles is the MMR vaccine.
- Encourage the public to make sure all family members are up to date on MMR vaccine, including before international travel. Health care providers can help them determine if they need more vaccine doses if traveling.

Please visit www.cdc.gov/measles for more information or e-mail DVDCommunications@cdc.gov with any questions.

Clinical Diagnosis Tips

- Measles has a constellation of symptoms that can help to differentiate it from other rash illnesses:
  - High fever
  - Cough
  - Conjunctivitis (red, watery eyes)
  - Coryza (runny nose)
  - Koplik spots in mouth 2-3 days after symptom onset
  - Rash begins 3-4 days after symptom onset
  - Rash begins at hairline and spreads down face, neck, trunk, then to extremities
  - Rash tends to be flat, sometimes with small, raised bumps on top; spots may become joined together

- Consider these differential diagnoses when working up a patient with measles-like rash illness:
  - Parvovirus B19
  - Epstein Barr Virus
  - Strep
  - Influenza
  - Enterovirus
  - Human herpesvirus-6 (Roseola)
  - Dengue
  - Kawasaki's Disease
  - Scarlet Fever
  - Recent antibiotic use with reaction