Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19

Date: January 6, 2023

Public Health Message Type: ☐ Alert ☐ Advisory ☒ Update ☒ Information

Intended Audience: ☒ All public health partners ☒ Healthcare providers ☒ Infection preventionists ☒ Local health departments ☐ Schools/Childcare centers ☐ ACOs ☐ Animal health professionals ☐ Other:

Key Points:

- The Council of State and Territorial Epidemiologists (CSTE) and CDC have developed a new surveillance case definition for Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with COVID-19 to be used starting January 2023.
- This case definition is intended for public health surveillance and establishes clinical, laboratory, and epidemiological reporting criteria for identification and classification of cases as confirmed, probable, or suspect MIS-C associated with SARS-CoV-2 infection.
- This surveillance definition might not capture the full range of presentations of MIS-C and was not developed as diagnostic criteria for MIS-C. Thus, it might not identify all MIS-C cases and is not intended to replace clinical judgment or inform patient management decisions.
- This definition was based not only on data-driven approaches and expert opinion, but also on practical case reporting considerations and anticipated future surveillance challenges.
- The New Jersey Department of Health (NJDOH) continues to report MIS-C cases to CDC[1] and share case counts on https://covid19.nj.gov/forms/datadashboard and additional information continues to be available at https://www.nj.gov/health/cd/topics/mis.shtml

Action Items:

- Healthcare providers who have cared for or are caring for patients younger than 21 years of age meeting MIS-C criteria outlined below should continue to report suspected cases to NJDOH
- The NJDOH MIS Case Report Form should be completed on any patient who meets the criteria. This newest version includes additional important information requested by CDC and supersedes the previous versions of this form.
- All completed case report forms should be faxed to (609) 292-5811 or (609) 292-5821 or sent via secure email to pedcov@doh.nj.gov.
- The Communicable Disease Service (CDS) staff will continue to review case report forms and coordinate medical records requests and chart abstractions if necessary.
- For all cases meeting criteria, CDS staff will continue to create MIS-C cases in CDRSS and document all available information received so that Local Health Departments can stay informed of cases within their jurisdiction.

Contact Information:

- Please contact Deepam Thomas at deepam.thomas@doh.nj.gov or the MIS-C team at pedcov@doh.nj.gov with any questions.

Case Definition Changes:

In comparison with the 2020 CDC MIS-C case definition revisions include: 1) no required duration of subjective or measured fever; 2) requirement of C-reactive protein ≥3.0 mg/dL to indicate systemic inflammation; 3) adjustments to criteria of organ system involvement to include addition of shock as a separate category and elimination of respiratory, neurologic, and renal criteria; and 4) new requirements on timing of positive SARS-CoV-2 laboratory testing relative to the MIS-C illness.

Although MIS-C is not a nationally notifiable condition and reporting is voluntary, CSTE and CDC recommend that all states and territories continue to report all cases meeting confirmed, probable, or suspect criteria using the revised surveillance case definition beginning January 2023. Updated case definitions included below are also available at [CSTE MIS-C Surveillance Case Definition]

BOX. Council of State and Territorial Epidemiologists/CDC surveillance case definition for multisystem inflammatory syndrome (MIS-C) in children associated with SARS-CoV-2 infection — United States

Case definition classifications

Confirmed: Meets the clinical criteria and the laboratory criteria.

Probable: Meets the clinical criteria and the epidemiologic linkage criteria.

Suspect: Meets the vital records criteria.

Clinical criteria

An illness in a person aged <21 years characterized by all of the following, in the absence of a more likely alternative diagnosis*:

- Subjective or documented fever (temperature ≥38°C)
- Clinical severity requiring hospitalization or resulting in death
- Evidence of systemic inflammation (indicated by C-reactive protein of ≥3.0 mg/dL [30 mg/L])
- New onset manifestations in at least two of the following categories:
  - Cardiac involvement (indicated by left ventricular ejection fraction of <55%; coronary artery dilatation, aneurysm, or ectasia; or troponin elevated above laboratory normal range, or indicated as elevated in a clinical note)
  - Mucocutaneous involvement (indicated by rash, inflammation of the oral mucosa [e.g., mucosal erythema or swelling, drying or fissuring of the lips, strawberry tongue], conjunctivitis or conjunctival injection [redness of the eyes], or extremity findings such as erythema [redness] or edema [swelling] of the hands or feet)
  - Shock†
  - Gastrointestinal involvement (indicated by abdominal pain, vomiting, or diarrhea)
  - Hematologic involvement (indicated by platelet count of <150,000 cells/μL or absolute lymphocyte count of <1,000 cells/μL)

Laboratory criteria

- Detection of SARS-CoV-2 RNA in a clinical specimen§ up to 60 days before or during hospitalization, or in a postmortem specimen using a diagnostic molecular amplification test (e.g., polymerase chain reaction); or
- Detection of SARS-CoV-2–specific antigen in a clinical specimen§ up to 60 days before or during hospitalization, or in a postmortem specimen; or
- Detection of SARS-CoV-2–specific antibodies¶ in serum, plasma, or whole blood associated with current illness resulting in or during hospitalization

Epidemiologic linkage criteria

Close contact** with a confirmed or probable case of COVID-19 disease in the 60 days before hospitalization.

Vital records criteria

A death of a person aged <21 years whose death certificate lists MIS-C or multisystem inflammatory syndrome as an underlying cause of death or a significant condition contributing to death.

Criteria to distinguish a new case from an existing case

A case should be enumerated as a new case if the person had never been enumerated as a case or if the person was most recently enumerated as a case with illness onset date (if available) or hospital admission date >90 days previous.

* If documented by the clinical treatment team, a final diagnosis of Kawasaki disease should be considered an alternative diagnosis. These cases should not be reported to national MIS-C surveillance.
† Clinician documentation of shock meets this criterion.
§ Positive molecular or antigen results from self-administered testing using over-the-counter test kits meet laboratory criteria.
¶ Includes a positive serology test regardless of COVID-19 vaccination status. Detection of anti-nucleocapsid antibody is indicative of SARS-CoV-2 infection, whereas anti-spike protein antibody might be induced either by COVID-19 vaccination or by SARS-CoV-2 infection.
** Close contact is typically defined as being within 6 feet for at least 15 minutes (cumulative over a 24-hour period). However, close contact depends on the exposure level and setting (e.g., in the setting of an aerosol-generating procedure in a health care settings without proper personal protective equipment, close contact might be defined as any duration).

[1] https://covid.cdc.gov/covid-data-tracker/#mis-national-surveillance