Wisconsin Department of Health Services
Division of Public Health
P-01977 (04/2025)

Communicable Disease Case Reporting and Investigation Protocol

Poliovirus infection

I. Identification and definition of cases

A. Clinical description:

Poliomyelitis is a highly infectious disease caused by 3 serotypes of poliovirus. Infection with poliovirus results in a spectrum of clinical manifestations from inapparent infection to nonspecific febrile illness, aseptic meningitis, paralytic disease, and death. Two phases of acute poliomyelitis can be distinguished: a nonspecific febrile illness (minor illness) followed, in a small proportion of patients, by aseptic meningitis and/or paralytic disease (major illness). The ratio of cases of inapparent infection to paralytic disease among susceptible individuals ranges from 1:200 to 1:1900. Poliovirus is mainly transmitted by contact with feces, however transmission from respiratory secretions is possible. The incubation period for polio is commonly 6 to 20 days. The period of infectiousness is not well defined, presumably as long as virus is being excreted; may begin 1 to 2 days before clinical onset.

Polio has been eliminated from the U.S. and western hemisphere; the last U.S. cases of indigenous, wild poliovirus-associated disease were in 1979, and the last case in the Americas was detected in New York during 2022. As of November 2023, no additional paralytic cases have been detected, and the last detection of poliovirus in wastewater occurred in February 2023.

B. Clinical criteria:

- Acute onset of flaccid paralysis with decreased or absent tendon reflexes in the affected limbs, in the absence of a more likely alternative diagnosis.

C. Laboratory criteria:

- Poliovirus detected by sequencing of the capsid region of the genome by the Centers for Disease Control (CDC) Poliovirus Laboratory, **or**
- Poliovirus detected in an appropriate clinical specimen (for example, stool [preferred], cerebrospinal fluid, oropharyngeal secretions) using a properly validated assay, **and** specimen is not available for sequencing by the CDC Poliovirus Laboratory.

D. Wisconsin surveillance case definitions:

- **Nonparalytic poliovirus infection**
  Confirmed: Meets confirmatory laboratory evidence.

- **Paralytic poliomyelitis**
  Confirmed: Meets clinical criteria AND confirmatory laboratory evidence.

II. Reporting

A. Wisconsin notifiable disease category I – Methods for reporting:

This disease shall be reported **IMMEDIATELY BY TELEPHONE** to the patient's local health officer or Tribal health director or to the local health officer or Tribal health director's designee upon identification of a case or suspected case, per Wis. Admin. Code § DHS 145.04 (3) (a). In addition to the immediate report, complete and fax, mail or electronically report an Acute and Communicable Disease Case Report (DHS F-44151) to the address on the form, or enter the data into the Wisconsin Electronic Disease Surveillance System, within 24 hours.

B. Responsibility for reporting:

According to Wis. Admin. Code § DHS 145.04(1), persons licensed under Wis. Stat. ch. 441 or 448, laboratories, health care facilities, teachers, principals, or nurses serving a school or day care center, and any person who knows or suspects that a person has a communicable disease identified in Appendix A.

C. Clinical criteria for reporting:

Clinically compatible illness. Cases should be reported immediately upon consideration of poliomyelitis in the differential diagnosis.

D. **Laboratory criteria for reporting:**
Laboratory evidence of infection. All positive results should be reported.

III. Case investigation

A. **Responsibility for case investigation:**
It is the responsibility of the LTHD to investigate or arrange for investigation of suspected or confirmed cases as soon as is reasonably possible. A case investigation may include information collected by phone, in person, in writing, or through review of medical records or communicable disease report forms, as necessary and appropriate.

B. **Required documentation:**
1. Complete the Wisconsin Electronic Disease Surveillance System (WEDSS) disease incident investigation report, including appropriate, disease-specific tabs.
2. Complete Appendix 14: Suspected Polio Case Worksheet – Investigation of Suspected Case of Poliomyelitis
3. Upon completion of investigation, set WEDSS disease incident process status to "Sent to State."

C. **Additional investigation responsibilities:**
Contact your Immunization Program Regional Representative

IV. Public health interventions and prevention measures

A. In accordance with Wis. Admin. Code § DHS 145.05, LTHD agencies should follow the methods of control recommended in the current editions of *Control of Communicable Diseases Manual*, edited by David L. Heymann, published by the American Public Health Association, and the American Academy of Pediatrics' *Red Book: Report of the Committee on Infectious Diseases*, unless otherwise specified by the state epidemiologist.

B. Implement control measures before laboratory confirmation. If the laboratory results are negative, the decision to continue control measures should be made in consultation with the treating physician, the LTHD, and the Bureau of Communicable Diseases.

C. Clinical specimens should be sent to the Wisconsin State Laboratory of Hygiene. Virus isolates will be forwarded to the Centers for Disease Control and Prevention (CDC) for sequencing to determine whether the poliovirus is wild or vaccine-related.

D. Collect all demographic, clinical, laboratory, vaccine, and epidemiologic information required on the Suspected Polio Case Worksheet.

V. Contacts for consultation

A. Local health departments and Tribal health agencies
B. Regional Immunization Program representatives.

C. Wisconsin Division of Public Health, Immunization Program: 608-267-9959.
After hours number: (800) 943-0003 (option 4).

D. Wisconsin State Laboratory of Hygiene: 1-800-862-1013.
After hours emergency number: 608-263-3280.

VI. Related references

A. Heymann DL, ed. Poliomyelitis. In: Control of Communicable Disease Manual. 21st ed. Washington, DC: America Public Health Association, 2022.

B. Committee on Infectious Diseases, American Academy of Pediatrics. David W. Kimberlin, MD, FAAP, ed. 2024. Red Book: 2024-2027 Report of the Committee on Infectious Diseases - 33rd Ed. American Academy of Pediatrics. ISBN 978-1-61002-734-2. eISBN 978-1-61002-735-9.

C. Centers for Disease Control and Prevention. Epidemiology and Prevention of Vaccine-Preventable Diseases. Hall E., Wodi A P., Hamborsky J., eds. 14th ed. Washington D.C. Public Health Foundation, 2021.

D. Centers for Disease Control and Prevention. Manual for the Surveillance of Vaccine-Preventable Diseases Polio website

E. Centers for Disease Control and Prevention. Polio Surveillance Worksheet. Retrieved November 4, 2024, from https://www.cdc.gov/surv-manual/downloads/appendix14-2-polio-wrsht.pdf

F. Wisconsin Immunization Program Polio webpage