Meningococcal Disease Investigation Checklist

☐ **Determine if there is sufficient lab or clinical evidence to meet at least suspect case definition for meningococcal disease. If so, begin an investigation immediately.**

- A meningococcal disease investigation should be initiated immediately if any of the following lab or clinical findings are present:
  - Isolation of gram negative diplococci from a normally sterile body site (such as blood or cerebrospinal fluid [CSF])
  - Isolation of *Neisseria meningitidis* from a normally sterile body site or purpuric lesions
  - Detection of *N. meningitidis* nucleic acid by PCR from a normally sterile body site
  - Detection of *N. meningitidis* antigen
    - In CSF by latex agglutination or
    - In formalin-fixed tissue by immunohistochemistry (IHC)
  - Clinical purpura fulminans in the absence of a positive blood culture
- In patients with meningitis, if the above lab and/or clinical findings are not present or laboratory tests are pending, additional CSF findings can be helpful in assessing likely etiology. Refer to Table 1 in the ISDH Meningococcal Disease Investigation Guide for additional information.

☐ **Gather clinical information about the patient's symptoms, symptom onset, admission date(s), laboratory findings, and any antibiotic treatment.**

- Contact the treating hospital(s) to request medical records for the case (history and physical, lab results, emergency department notes, etc.).
- Refer to the Meningococcal Disease Investigation Form or Table 2 in the Meningococcal Disease Investigation Guide for guidance on relevant clinical information to collect.

☐ **Establish the patient's illness onset date. This is used to determine the contact tracing window (7 days prior to symptom onset through the completion of 24 hours of appropriate antibiotic therapy).**

☐ **Obtain contact information for the patient or the patient's next-of-kin if the patient is not well enough to provide a contact history.**

☐ **Interview the patient and/or patient's next-of-kin to identify any close contacts in need of antibiotic post-exposure prophylaxis (PEP).**

- Identify close contacts with exposure to the case from 7 days prior to symptom onset through the completion of 24 hours of appropriate antibiotic therapy.
- Obtain **name, age and/or date of birth, and contact information** for all identified close contacts. It is helpful to keep a line list of all identified contacts.
- Close contacts who should receive prophylaxis include:
  - Those who shared a residence with the patient (household contacts or overnight house guests)
  - Daycare/childcare or preschool contacts
  - Anyone with direct exposure to the case's saliva or respiratory secretions (direct cough or sneeze in the face, kissing, shared food/drink, shared cigarettes, etc.)
- Assess the patient's employment; any association with a school; residence in a shelter, long term care facility, or correctional facility; and attendance at any gatherings or social events during the contact tracing window. Attendance at these settings/events does not necessarily indicate a need for broader PEP, but the investigator should assess whether any direct

exposure to the patient's saliva or respiratory secretions was likely to have occurred and recommend PEP for any high-risk contacts identified.
  - Assess the patient's travel history within the **14** days prior to symptom onset. Determine transportation mode, whether any transit time lasted over 8 hours, and whether the patient had an active cough or vomiting during transit.
  - Refer to the meningococcal disease contact tracing script, investigation form, and investigation guide or consult ISDH for additional guidance on contact tracing.

- ☐ **Reach out to close contacts of the case to notify them of the exposure, recommend PEP, and educate on signs and symptoms.**
  - Notify the individual of his or her exposure and recommend seeking **antibiotic prophylaxis as soon as possible (ideally within 24 hours).**
  - PEP is recommended for close contacts **regardless of meningococcal vaccination status**.
  - Educate the individual of signs/symptoms of meningococcal disease (refer to Meningococcal Disease Quick Facts for additional information). Advise them to seek medical care immediately if symptoms develop.
  - Patients may seek PEP from their primary care providers, urgent care, or emergency department. Sometimes, the treating hospital's pharmacy will provide PEP. The local health department may also provide prescriptions for PEP at the discretion of the local health officer.
  - Refer to Table 3 in the ISDH Meningococcal Disease Investigation Guide for additional information about recommended prophylaxis regimens.

- ☐ **Follow up with contacts within the next 1-2 days to confirm receipt of PEP.**

- ☐ **Confirm that the hospital is conducting an internal assessment of healthcare workers who may need antibiotic post-exposure prophylaxis (PEP).**
  - Usually hospitals have internal protocols for assessing staff who may have had high-risk exposure to a case (direct contact with a patient's saliva or respiratory secretions, such as through intubation, suctioning, managing a patient's airway or resuscitation).
  - Confirm the patient's mode of arrival at the hospital (private vehicle vs. ambulance) and confirm whether the patient had any other healthcare visits in the 7 days prior to symptom onset to identify any other potential healthcare worker exposures outside the treating hospital.
  - Follow up with the hospital within the next few days to confirm the number of healthcare workers who were provided PEP.

- ☐ **Request that the hospital or clinical laboratory submit *N. meningitidis* isolates (if available) to the Indiana State Department of Health Laboratories for serogrouping.**
  - Isolate submission is required per the Indiana Communicable Disease Rule. Guidance on isolate submission is available on the ISDH Laboratories website.

- ☐ **Collaborate with ISDH and any other affected entities (such as schools, daycares or businesses) to address additional education and communication needs.**
  - Editable letter templates and communication assistance, including assistance with media communications, are available through ISDH.

- ☐ **Ensure all case investigation information is entered into NBS.**
  - Please also submit any available medical records to ISDH by attaching them to the NBS investigation or faxing them to the ISDH Epidemiology Resource Center at 317-234-2812.

Meningococcal Disease Investigation Form

Patient Contact Information

Patient Name (Last, First, MI):

Patient Address and Phone Number
Street: City:
Zip: County: Phone:

Patient Next-of-Kin Contact Information
Name (Last, First): Relationship to Case: Phone:

Patient Demographic Information

Date of Birth:	**Age:**	**Sex:**

Race:
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Black or African American
- ☐ Other (specify):
- ☐ Native Hawaiian or Other Pacific Islander
- ☐ White
- ☐ Unknown

Ethnicity:
- ☐ Hispanic or Latino
- ☐ Not Hispanic or Latino
- ☐ Unknown

Clinical Information

Physician Information:
Name (Last, First): Email: Phone:

Was patient hospitalized?:
☐ Yes ☐ No ☐ Unknown

Hospital:
Patient Chart Number (MRN):

Admission Date:	**Discharge Date:**

Total duration of hospital stay (days):

Patient transferred to/from another hospital?: ☐ Yes ☐ No ☐ Unknown	**If yes, name of hospital:**
Seen at emergency department (ED)?: ☐ Yes ☐ No ☐ Unknown	**If seen at ED, date seen?:** **MRN:**
Illness Onset Date:	**Illness End Date:**

Symptoms
- ☐ Coma
- ☐ Confusion
- ☐ Fever (Temp:___________)
- ☐ Headache
- ☐ Malaise
- ☐ Nausea
- ☐ Rash (Describe):
- ☐ Sensitivity to light
- ☐ Stiff neck
- ☐ Vomiting
- ☐ Other (specify):

Type of infection caused by organism:

☐ Bacteremia without focus
☐ Meningitis
☐ Abscess (not skin)
☐ Cellulitis
☐ Chorioamnionitis
☐ Conjunctivitis
☐ Empyema
☐ Endocarditis
☐ Endometritis
☐ Epiglottitis
☐ Hemolytic uremic syndrome (HUS)
☐ Necrotizing fasciitis
☐ Osteomyelitis
☐ Otitis media
☐ Pericarditis
☐ Peritonitis
☐ Pneumonia
☐ Puerperal sepsis
☐ Septic abortion
☐ Septic arthritis
☐ Other (specify):

Sterile site organism isolated from:

☐ Blood
☐ Cerebrospinal Fluid (CSF)
☐ Pleural fluid
☐ Peritoneal fluid
☐ Pericardial fluid
☐ Joint
☐ Bone
☐ Muscle
☐ Internal body site (specify):
☐ Other normally sterile site (specify):

Date first positive culture was obtained:

Other nonsterile sites organism isolated from:

☐ Placenta
☐ Amniotic fluid
☐ Wound
☐ Middle ear
☐ Sinus
☐ Other nonsterile site (specify):

Underlying Conditions:

☐ Splenectomy/asplenia
☐ Complement deficiency
☐ Immunosuppressive therapy (Steroids, Chemotherapy, Radiation)
☐ HIV
☐ AIDS
☐ Immunoglobulin deficiency
☐ Sickle cell anemia
☐ Systemic lupus erythematosus (SLE)
☐ Burns
☐ Current smoker
☐ Intravenous Drug Use (IVDU)
☐ Alcohol abuse
☐ Cochlear implant
☐ Deaf/ profound hearing loss
☐ CSF leak
☐ Asthma
☐ Emphysema/COPD
☐ Diabetes mellitus
☐ Nephrotic syndrome
☐ Renal failure/ Dialysis
☐ Cirrhosis/ Liver failure
☐ Atherosclerotic Cardiovascular Disease
☐ Heart failure (CHF)
☐ Obesity
☐ Cerebral vascular accident/ Stroke
☐ Multiple myeloma
☐ Leukemia
☐ Hodgkin's disease
☐ Other malignancy (specify):
☐ Other transplant (specify):
☐ Other prior illness (specify):

Patient taking eculizumab (Soliris)?:

☐ Yes ☐ No ☐ Unknown

Pregnant/Post-Partum at time of first positive culture?:

☐ Yes ☐ No ☐ Unknown

If yes, outcome of fetus:

☐ Survived, no apparent illness
☐ Survived, clinical infection
☐ Live birth/neonatal death
☐ Abortion/stillbirth
☐ Induced abortion
☐ Unknown

Patient <1 month old?:

☐ Yes ☐ No ☐ Unknown

If yes, gestational age (weeks):
If yes, birth weight:

Exposure Risk

Is patient attending college? (15-24 years only): ☐ Yes ☐ No ☐ Unknown

If yes, what school does patient attend?:

Year of school:
☐ Freshman ☐ Junior ☐ Graduate student
☐ Sophomore ☐ Senior ☐ Unknown

Full time or part time:
☐ Full time ☐ Part time ☐ Unknown

Patient's Housing:
☐ Apartment
☐ Barracks
☐ Boarding school
☐ Camp
☐ Dormitory
☐ Communal living situation
☐ Correction facility
☐ Long-term care
☐ Shelter
☐ Single family home
☐ Single family home with other students
☐ Unknown
☐ Decline to answer
☐ Other (specify):

If apartment or single family home, household size:

Does the patient reside in a nursing home or other chronic care facility?
☐ Yes ☐ No ☐ Unknown If yes, name of facility:

Did the patient travel in the 2 weeks prior to symptom onset?
☐ Yes ☐ No ☐ Unknown

If yes, did patient travel by:
☐ Airplane ☐ Automobile ☐ Bus ☐ Train ☐ Other (specify):

Travel location and dates:

Did any trip last 8 hours or longer?
☐ Yes ☐ No ☐ Unknown If yes, specify:

Did the patient have an active cough or vomiting during travel?
☐ Yes ☐ No ☐ Unknown If yes, specify dates:

Is the patient employed?
☐ Yes
☐ No
☐ Unknown

Employer:
Patient's occupation:
Date(s) worked in the 7 days prior to symptom onset:

Any high risk contact (direct contact with patient's saliva or respiratory secretions) during work?
☐ Yes ☐ No ☐ Unknown

Does the case attend or work at a daycare facility?
☐ Yes
☐ No
☐ Unknown

If yes, daycare name:

Date(s) attended in the 7 days prior to symptom onset:

Did the patient attend social gatherings in the 7 days before symptom onset? (including but not limited to):

☐ Church
☐ Concert
☐ Bar/Tavern
☐ Support group
☐ Family gathering
☐ Movie
☐ Party
☐ Restaurant
☐ Sporting events
☐ Other (specify):

List dates and locations:

Any high risk contact during these events (e.g. kissing, shared food or drink, other direct exposure to saliva or respiratory secretions)?

☐ Yes ☐ No ☐ Unknown

Any shared respiratory secretions with the patient in the 7 days prior to illness onset?

☐ Kissing
☐ Shared utensils
☐ Shared food/drink
☐ Shared toothbrush
☐ Shared cigarettes, e-cigarettes, or other smoking materials
☐ Shared musical instruments
☐ Other (specify):

Additional information for contacts (name, age, phone number, etc.):

In the 7 days prior to illness onset, did any of the following transmission risks exist?

☐ Sleepovers
☐ House guests
☐ Military
☐ Jail/prison
☐ Shelter
☐ Other:

Dates and locations:

Sexual exposure in past 12 months:

☐ Sex with only males
☐ Sex with only females
☐ Sex with both males and females
☐ Declined to answer
☐ Unknown

Patient considers themselves:

☐ Heterosexual/Straight
☐ Gay/Lesbian/Homosexual
☐ Bisexual
☐ Declined to answer
☐ Other

In the 3 months before being diagnosed with meningococcal disease, how many MEN did the patient have sex with during that time?:

Prophylaxis Summary

Number of close contacts AT RISK FOR TRANSMISSION:	Number of health care worker contacts AT RISK FOR TRANSMISSION (including first responders):
Number of close contacts WHO RECEIVED PROPHYLAXIS:	Number of health care worker contacts WHO RECEIVED PROPHYLAXIS:

Patient Vaccination History

Ever received meningococcal conjugate vaccine?
☐ Yes ☐ No ☐ Unknown

Ever received meningococcal B vaccine?
☐ Yes ☐ No ☐ Unknown

Ever received meningococcal polysaccharide vaccine?
☐ Yes ☐ No ☐ Unknown

Vaccine Name	Date administered	Provider	Organization Name	Lot Number	Expiration Date

If not vaccinated, reason:
- ☐ Born outside of the United States
- ☐ Foreign visitor
- ☐ Immigrant
- ☐ Lab evidence of previous disease
- ☐ Provider diagnosis of previous disease
- ☐ Medical contraindication
- ☐ Missed opportunity in medical setting
- ☐ Never offered vaccine
- ☐ Parent/patient forgot to vaccinate
- ☐ Parent/patient refusal
- ☐ Parent/patient report of previous disease
- ☐ Parent/patient unaware of recommendation
- ☐ Philosophical exemption
- ☐ Religious exemption
- ☐ Too young
- ☐ Under age for vaccination
- ☐ Vaccine record incomplete/unavailable
- ☐ Unknown
- ☐ Other

Supplemental Demographics

Highest grade or year of school patient completed:
- ☐ Never attended school or only attended kindergarten
- ☐ Elementary (grades 1-8)
- ☐ Some high school (grades 9-11)
- ☐ High school graduate (grade 12 or GED)
- ☐ Some college, no degree (college 1 year – 3 years)
- ☐ Associate's degree or technical school degree (2-year school)
- ☐ Bachelor's degree (4 year college)
- ☐ Professional degree beyond a bachelor's degree
- ☐ Unknown
- ☐ Decline to answer

Patient's current employment status:
- ☐ Employed for wages
- ☐ Self employed
- ☐ Homemaker
- ☐ Retired
- ☐ Unable to work
- ☐ Unemployed
- ☐ Out of work - 1+ years
- ☐ Out of work < 1 year
- ☐ Student- Employed
- ☐ Student- Not employed
- ☐ Unknown
- ☐ Decline to answer

Has patient delayed receiving health care in the past 12 months for any of the following reasons?:	**Annual household income from all sources in past 12 months:**
☐ Clinic/office closed ☐ Couldn't get an appointment ☐ Couldn't phone ☐ Long wait time ☐ No transportation	☐ Less than $15,000 ☐ $15,000 - $24,999 ☐ $25,000 - $49,999 ☐ $50,000 - $74,999 ☐ $75,000 or more ☐ Decline to answer

Patient's type of insurance:
☐ Medicare
☐ Medicaid/State Assistance Program
☐ Private/HMO/PPO/Managed care plan
☐ Indian Health Service (IHS)
☐ Military/VA
☐ No healthcare coverage
☐ Unknown
☐ Declined to answer
☐ Other (specify):

Laboratory

Serogroup of *N. meningitidis* isolate:
☐ A ☐ B ☐ C ☐ Y ☐ W ☐ Not groupable ☐ Unknown ☐ Other (specify):

Case Identification Method:
☐ Gram negative diplococci (sterile site)
☐ Isolation of *N. meningitidis* from blood or CSF
☐ *N. meningitidis* DNA by PCR
☐ Clinical purpura fulminans
☐ *N. meningitidis* antigen by IHC
☐ Positive meningococcal antigen test in CSF
☐ Culture from other sterile site (specify):
☐ Other (specify):

If case identified by non-culture method, date sample collected for diagnostic testing:

If *N. meningitidis* isolated from blood or CSF, was it resistant to:

Sulfa?: ☐ Yes ☐ No ☐ Unknown **Rifampin?:** ☐ Yes ☐ No ☐ Unknown

Epidemiologic

Secondary Case?:
☐ Yes ☐ No
☐ Unknown

If yes, specify type:
☐ Day care center contact
☐ Family contact
☐ Hospital acquired
☐ Lab acquired
☐ Other (specify):

Where was disease acquired?:
☐ Indigenous, within jurisdiction
☐ Out of jurisdiction, from another jurisdiction
☐ Out of state
☐ Out of country
☐ Unknown

If disease acquired outside of jurisdiction:
Imported City: Imported State: Imported County:
Imported Country:

Case part of outbreak?
☐ Yes ☐ No ☐ Unknown **If yes, outbreak ID:**

Case Information

Patient outcome: ☐ Case survived ☐ Death due to condition ☐ Death unrelated ☐ Unknown **If deceased, date of death:**	**How much of investigation was completed?** ☐ All questions asked ☐ Partial questions asked ☐ Unable to contact ☐ Not investigated

Case lost to follow-up?:
☐ Yes ☐ No ☐ Unknown

Investigation

Jurisdiction:	Investigation Start Date:
Investigator Name:	Date assigned to investigation:
Investigator Phone:	Investigator Email:

Reporting Source

Date of report:

Reporting Source (Organization): Phone:

Reporting Source Address:
Street: City: County: Zip:

Earliest date reported to: County: State:

Reporter Information:
Name (Last, First): Email: Phone:

General Comments

Questions for Family, Patient and/or Contacts

Date of Symptom Onset: _______________

Contact Tracing Start Date : _______________
(7 days prior to symptom onset):

Contact Tracing End Date : _______________
(after 24 hours of completion of antibiotic therapy)

1. Did the patient travel outside of Indiana in the 14 days prior to symptom onset? **Y** **N**

   Where did the patient travel (city, state and country)?

   ____

   ____

   ____

   Method of transportation (check all that apply):

   - Airplane
     - Airline _________________ Flight Number ____________ Duration _________
     - Airline _________________ Flight Number ____________ Duration _________
     - Airline _________________ Flight Number ____________ Duration _________
     - Airline _________________ Flight Number ____________ Duration _________
   - Automobile
   - Bus (Transit Company ______________________________)
   - Train (Transit Company ______________________________)

   Date(s) of travel ____

   Did any trip last 8 hours or longer? Y N

   Did the patient have an active cough or vomiting during travel? Y N

2. Is the patient employed? **Y** **N**

   Name of Employer ______________________ Occupation ________________

   Last Date Worked _______________________

   Description of Job Duties

   ____

   ____

   ____

3. Is this patient a college student? **Y** **N**

Name of College/University ____________________ Year in School ________________

Contact Name at University ____________________ Telephone Number _____________

Address ____

____

Housing Situation:

- Dormitory
- Single Family Dwelling with Student(s)
- Apartment
- Single Family Dwelling with Family
- Other _______________

4. Did the patient have contact with a daycare or school during the contact tracing window? **Y** **N**

Name of Daycare/School ____

Description of daycare or school contact:

Attendee Volunteer Staff member

Number of hours per week _____________

Contact Name at Daycare or School ________________________

Telephone Number __________________________

Address

____

____

5. Did the patient attend any social gatherings in the contact tracing window? (Circle all that apply.)

- Church or other religious organization
- Concert
- Tavern or Bar
- Support Group
- Family gathering
- Movie
- Party
- Restaurant(s)
- Sporting events
- Other _________________________

Provide additional information for all social gatherings that were selected. This includes name of location(s) and date(s) in attendance.

____

____

____

Did any activities occur during the above social gathering(s) that may have resulted in exposure to the patient's saliva or respiratory secretions? (Examples may include kissing, shared food/drink, shared utensils, shared smoking devices, direct cough or sneeze in the face, shared musical instruments, etc.) **Y** **N**

If yes, describe: ____

____

____

6. Can the patient or family identify other individuals who have shared respiratory secretions with the patient during the contact tracing window?

- Kissing
- Shared musical instruments
- Shared toothbrush
- Shared utensils
- Shared food/drink
- Shared cigarettes
- Other ______________________

7. Did any of the following transmission risks exist during the contact tracing window? (Circle all that apply):

- Sleepovers
- Houseguests in patient's home
- Military Service
- Jail/Prison
- Presence at Shelter
- Other _____________________

Meningococcal Disease Contact Line List

Contact Name	Parent Name (If Contact <18)	Contact or Parent Phone	Age or Date of Birth	Exposure Date(s)	Exposure Type*	Prophylaxis Received	Prophylaxis Date

*Examples: household contact, daycare contact, contact with saliva/respiratory secretions (e.g. kissing, shared food/drink, shared utensils, etc.)

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