Epidemiological Surveillance and Investigation

Exercise Evaluation Guide:

Capability Description:
The Epidemiological Surveillance and Investigation capability is the capacity to rapidly conduct epidemiological investigations. It includes deliberate and naturally occurring exposure and disease detection, rapid implementation of active surveillance, maintenance of ongoing surveillance activities, epidemiological investigation, analysis, communicating with the public and providers about case definitions, disease risk, mitigation, and recommendations for the implementation of control measures.

Capability Outcome:
Potential exposure and disease is identified rapidly (exposure, mode of transmission, agent, as well as interrupt transmission in order to contain the spread of the event and reduce number of cases). Confirmed cases are reported immediately to all relevant public health, food regulatory, environmental regulatory and law enforcement agencies. Suspected cases are investigated promptly, reported to relevant public health authorities, and accurately confirmed to ensure appropriate preventive or curative countermeasures are implemented. An outbreak is defined and characterized; new suspect cases are identified and characterized based on case definitions on an ongoing basis; relevant clinical specimens are obtained and transported for confirmatory laboratory testing; the source of exposure is tracked; methods of transmission are identified; and, effective mitigation measures are communicated to the public, providers, and relevant agencies are recommended as appropriate.

Activity 1: Direct Epidemiological Surveillance and Investigation Operations

Activity Description: Coordinate, maintain, enhance, analyze, and provide efficient surveillance and information systems to facilitate early detection and mitigation of disease.

Tasks Observed (check those that were observed and provide comments)
Note: Asterisks (*) denote Performance Measures and Performance Indicators associated with a task. Please record the observed indicator for each measure

<table>
<thead>
<tr>
<th>Task /Observation Keys</th>
<th>Time of Observation/ Task Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 (Pro.B1a 3.3.2)</td>
<td>Identify applicable laws, policies, and implementation procedures for public health reporting and notification</td>
</tr>
<tr>
<td></td>
<td>- Applicable local, State, and Federal laws and regulations examined</td>
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<tr>
<td></td>
<td>- Due process and HIPAA requirements followed</td>
</tr>
</tbody>
</table>

Name of Exercise: ____________________________
Location: ____________________________ Date: ____________
Evaluator: ____________________________ Evaluator Contact Info: ____________________________

Note to Exercise Evaluators: Only review those activities listed below to which you have been assigned.
<table>
<thead>
<tr>
<th>Task Number</th>
<th>Task Description</th>
<th>Time</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2 (Pro.B1a 3.3.1)</td>
<td>Maintain public health communication channels  - Communication channels with clinical community maintained  - Communication channels for disease tracking and reporting maintained  - Communication channels for conduct and coordination of field activities maintained  - Health Alert Network utilized</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>1.3 (Pro.B1a 3.3.3)</td>
<td>Provide public health information to emergency public information for release  - Release approved by legally recognized Public Health authority</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>1.4 (Pro.B1a 3.2.3)</td>
<td>Coordinate resources needed to respond to public health concern  - Public health personnel needed for response to public health concern identified  - Resources requested from EOC, as needed  - Timeline for public health response communicated  - Sufficient equipment (e.g., personal protective equipment, information technology, communication, clinical sampling equipment, specimen collection material) to conduct investigation made available</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>1.5 (Pro.B1a 3.1)</td>
<td>Lead public health investigations, in collaboration with law enforcement, to determine source of disease  - Law Enforcement personnel needed for urgent public health concern response identified  - Procedures for notification of Law Enforcement personnel needed for urgent public health response in place  - Timeline for Law Enforcement response communicated</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>1.6 (Pro.B1a 3.2.2)</td>
<td>Identify all stakeholders and agency representatives or liaisons  - Representatives of agencies who provide data identified  - Users of data, including public health professionals, healthcare providers, public safety officials, and appropriate government officials identified</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>1.7 (Pro.B1a 3.3.4)</td>
<td>Make public health recommendations for prophylaxis and other interventions  - Emergency prevention and control measures implemented</td>
<td>Time:</td>
<td>Task Completed?</td>
<td>Fully [ ]</td>
</tr>
<tr>
<td>Activity 2: Surveillance and Detection</td>
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**Activity Description:** Collect ongoing and event-specific health data to recognize events of public health significance.

**Tasks Observed** (check those that were observed and provide comments)

Note: Asterisks (*) denote Performance Measures and Performance Indicators associated with a task. Please record the observed indicator for each measure.

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| 2.1 (Pro.B1a 4.5.4) Facilitate public health reporting consistent with disease reporting laws or regulations  
  — Applicable reporting laws provided to physicians, healthcare facilities, and laboratories  
  — Updated requirements/guidance (from executive authority) communicated to physicians, healthcare facilities, and laboratories  
  — Information resent upon potential identification of an unusual event | Time:  
Task Completed?  
Fully [ ] Partially [ ] Not [ ] N/A [ ] |
| 2.2 (Pro.B1a 4.3) Compile surveillance data  
  — Raw data gathered (e.g., lab results, surveys, notifiable diseases, vital records)  
  — Data sorted in logical order/progression | Time:  
Task Completed?  
Fully [ ] Partially [ ] Not [ ] N/A [ ] |
| 2.3 (Pro.B1a 4.4) Analyze surveillance data  
  — Pattern recognition standardized  
  — Case reports from all sources validated | Time:  
Task Completed?  
Fully [ ] Partially [ ] Not [ ] N/A [ ] |
| 2.4 (Pro.B1a 4.2.1) Detect suspected outbreak through pattern recognition  
  — Patterns recognized at an early stage indicating outbreaks  
  — Epidemiologic investigation initiated | Time:  
Task Completed?  
Fully [ ] Partially [ ] Not [ ] N/A [ ] |
### Activity 3: Conduct Epidemiological Investigation

**Activity Description:** Investigate disease and its determinants in a population; characterize and define a case; identify the source of the public health event, and, define the population at risk.

**Tasks Observed** (check those that were observed and provide comments)
Note: Asterisks (*) denote Performance Measures and Performance Indicators associated with a task. Please record the observed indicator for each measure.

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| 3.1 (Pro.B1a 5.3)     | Confirm the outbreak using lab data and disease tracking data  
  - Lab results reviewed and correlated with disease tracking data  
  - Presumptive and confirmation lab test results received  
  Time:  
  Task Completed?  
  Fully [ ] Partially [ ] Not [ ] N/A [ ]  |
| Time from initial notification to public health epidemiologists to initiate initial investigation | TARGET within 3 hours  |
| 3.2 (Pro.B1a 5.2.1)     | Define case characteristics  
  - Interviews conducted and medical records reviewed  
  - Specificity and sensitivity for condition of interest established  
  - Standard set of criteria based on case definition established action levels  
  Time:  
  Task Completed?  
  Fully [ ] Partially [ ] Not [ ] N/A [ ]  |
| Time from laboratory confirmation of index case(s)/agent to creation of case definitions | TARGET within 12 hours  |
| 3.3 (Pro.B1a 5.3.1)     | Actively search for cases (identifying cases)  
  - Guidance provided to facilitate identifying cases based on case definition  
  - Case definition criteria disseminated to health care providers  
  - Records and new admissions for cases reviewed by treatment facilities  
  - Rough case count generated  
  Time:  
  Task Completed?  
  Fully [ ] Partially [ ] Not [ ] N/A [ ]  |
| 3.4 (Pro.B1a 5.3.2)     | Create registries of ill, exposed, and potentially exposed persons  
  - Ill, exposed, and/or potentially exposed persons are identified and documented  
  - Registry updated as incidence rate changes  
  - Registry statistics are reported, as needed, to appropriate national and/or regional authorities  
  Time:  
  Task Completed?  
  Fully [ ] Partially [ ] Not [ ] N/A [ ]  |
### 3.5 (Pro.B1a 5.4)
Conduct contact tracing of known and suspected cases
- Interviews conducted with ill, exposed, and potentially exposed persons
- Exposed population identified
- Cases are compared to index case and diagnosis confirmed

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<td>Fully [ ] Partially [ ] Not [ ] N/A [ ]</td>
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#### Time for 75% of known suspected cases (or proxies) to be contacted/interviewed for more detailed epidemiologic follow-up

**TARGET**
Within 48 hours

### 3.6 (Pro.B1a 5.4.1)
Analyze and interpret epidemiological investigation data in coordination with data from the law enforcement investigation
- Collaboration initiated
- Ongoing briefings conducted
- Relevant evidence identified and collected
- Coordinate efforts with scientific/forensic testing laboratories

<table>
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### 3.7 (Pro.B1a 5.4.2)
Analyze and confirm origin of outbreak
- Index case identified
- Pathogenic agent identified
- Mode of transmission of pathogenic agent identified
- Time factor in the outbreak and course of the disease are examined
- Risk factors are determined

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### 3.8 (Pro.B1a 5.5.1)
Recommend control measures for outbreak
- Population at risk identified
- Prophylaxis, isolation, and/or quarantine measures recommended to help control the transmission of disease
- Medical treatment measures recommended for confirmed cases

<table>
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<th>Task Completed?</th>
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<tbody>
<tr>
<td>Fully [ ] Partially [ ] Not [ ] N/A [ ]</td>
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</table>

#### Time from first identification of agent to first recommendation of public health intervention

**TARGET**
Within 6 hours

### 3.9 (Pro.B1a 5.6)
Draft and disseminate initial report of epidemiological investigation
- All suspected cases by person, place, and time incorporated
- Report provided to healthcare providers, labs, and Federal, State, and local public health officials in the affected area

<table>
<thead>
<tr>
<th>Time:</th>
<th>Task Completed?</th>
</tr>
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<tbody>
<tr>
<td>Fully [ ] Partially [ ] Not [ ] N/A [ ]</td>
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</table>

#### Time from initial report to be produced describing all suspected cases by person, place, and time

**TARGET**
Within 60 hours
### Activity 4: Monitor Containment

**Activity Description:** Based upon the extent of the population at risk and recommendations from outbreak control, assess the effectiveness of disease containment measures.

**Tasks Observed** (check those that were observed and provide comments)

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<tbody>
<tr>
<td>4.1 (Pro.B1a 6.1.1) Monitor the course and population characteristics of a recognized outbreak</td>
<td></td>
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<tr>
<td>— Routine sentinel surveillance of sites, events, providers, and vectors/animals continued</td>
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<tr>
<td>— Data continues to be transmitted and processed</td>
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<tr>
<td>— Incidence rate monitored</td>
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<tr>
<td>— Adverse reactions of Public Health interventions monitored</td>
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<tr>
<td>— Therapeutic outcomes evaluated</td>
<td></td>
</tr>
<tr>
<td>— Recommendations updated</td>
<td></td>
</tr>
<tr>
<td>— Interdepartmental after action debriefing conducted</td>
<td></td>
</tr>
<tr>
<td>— Intradepartmental after action debriefing conducted</td>
<td></td>
</tr>
<tr>
<td>— Initial observations prepared for after-action reports (AARs)</td>
<td></td>
</tr>
<tr>
<td>Percentage of known cases and exposed persons successfully tracked from the point of identification through disposition in order to allow for continued follow-up</td>
<td><strong>TARGET 100%</strong></td>
</tr>
<tr>
<td>4.3 (Pro.B1a 6.4) Conduct after action debriefing (hot wash) to identify deficiencies that require corrective actions in areas such as personnel, training, equipment, and organizational structure</td>
<td></td>
</tr>
<tr>
<td>— Interdepartmental after action debriefing conducted</td>
<td></td>
</tr>
<tr>
<td>— Intradepartmental after action debriefing conducted</td>
<td></td>
</tr>
<tr>
<td>— Initial observations prepared for after-action reports (AARs)</td>
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Exercise Evaluation Guide Analysis Sheets

The purpose of this section is to provide a narrative of what was observed by the evaluator/evaluation team for inclusion within the draft After Action Report/Improvement Plan. This section includes a chronological summary of what occurred during the exercise for the observed activities. This section also requests the evaluator provide key observations (strengths or areas for improvement) to provide feedback to the exercise participants to support sharing of lessons learned and best practices as well as identification of corrective actions to improve overall preparedness.

### Observations Summary

Write a general chronological narrative of responder actions based on your observations during the exercise. Provide an overview of what you witnessed and, specifically, discuss how this particular Capability was carried out during the exercise, referencing specific Tasks where applicable. The narrative provided will be used in developing the exercise After-Action Report (AAR)/Improvement Plan (IP).

[Insert text electronically or on separate pages]

### Evaluator Observations

Record your key observations using the structure provided below. Please try to provide a minimum of three observations for each section. There is no maximum (three templates are provided for each section; reproduce these as necessary for additional observations). Use these sections to discuss strengths and any areas requiring improvement. Please provide as much detail as possible, including references to specific Activities and/or Tasks. Document your observations with reference to plans, procedures, exercise logs, and other resources. Describe and analyze what you observed and, if applicable, make specific recommendations. Please be thorough, clear, and comprehensive, as these sections will feed directly into the drafting of the After-Action Report (AAR). Complete electronically if possible, or on separate pages if necessary.

<table>
<thead>
<tr>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Observation Title:</strong></td>
</tr>
<tr>
<td><strong>Related Activity:</strong></td>
</tr>
<tr>
<td><strong>Record for Lesson Learned?</strong> (Check the box that applies) Yes ___ No ___</td>
</tr>
<tr>
<td><strong>Analysis:</strong> (Include a discussion of what happened. When? Where? How? Who was involved? Also describe the root cause of the observation, including contributing factors and what led to the strength. Finally, if applicable, describe the positive consequences of the actions observed.)</td>
</tr>
</tbody>
</table>
2) **References:** (Include references to plans, policies, and procedures relevant to the observation)

3) **Recommendation:** (Even though you have identified this issue as a strength, please identify any recommendations you may have for enhancing performance further, or for how this strength may be institutionalized or shared with others.)

<table>
<thead>
<tr>
<th>2. Observation Title:</th>
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</table>

**Related Activity:**

**Record for Lesson Learned?** (Check the box that applies) Yes ___ No ___

1) **Analysis:**

2) **References:**

3) **Recommendation:**

<table>
<thead>
<tr>
<th>3. Observation Title:</th>
</tr>
</thead>
</table>

**Related Activity:**

**Record for Lesson Learned?** (Check the box that applies) Yes ___ No ___

1) **Analysis:**
## Areas for Improvement

### 1. Observation Title:

**Related Activity:**

**Record for Lesson Learned?** (Check the box that applies) Yes ___ No ___

**1) Analysis:** (Include a discussion of what happened. When? Where? How? Who was involved? Also describe the root cause of the observation, including contributing factors and what led to the strength. Finally, if applicable, describe the negative consequences of the actions observed.)

**2) References:** (Include references to plans, policies, and procedures relevant to the observation)

**3) Recommendation:** (Write a recommendation to address the root cause. Relate your recommendations to needed changes in plans, procedures, equipment, training, mutual aid support, management and leadership support.)

### 2. Observation Title:

**Related Activity:**

**Record for Lesson Learned?** (Check the box that applies) Yes ___ No ___

**1) Analysis:**
3. Observation Title:

Related Activity:

Record for Lesson Learned? (Check the box that applies) Yes ___ No ___

1) Analysis:

2) References:

3) Recommendation: