**ANNEX 4: EPIDEMIOLOGY**

**Epidemiological Response Plan**

Portsmouth City and Scioto County Health Department hereby re-adopts the Epidemiological Response Annex, EPI Team Notebook, and its Implementing Instructions, as evidence by the signature of the Health Commissioner on the line below.

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**\*** Summary of Changes can be found at the end of this document

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Introduction and Purpose

Epidemiology is a study of disease distribution in populations. It deals with the incidence, distribution, and control of disease in a population. It focuses on the community or groups, rather than individuals and often takes a historical perspective.

Every public health jurisdiction in the country has a responsibility to develop and maintain the capability to conduct public health surveillance and epidemiologic investigation. The purpose of public health surveillance and epidemiologic investigation is to establish routine systems and processes for collecting and analyzing health data from the population.

This response plan describes the expansion these systems and processes in response to incidents of public health significance to mount an effective response to natural and man -made threats or disease incidents. Much of this plan focuses on human infectious disease incidents, but the information can be applied to other incidents involving the general public’s health, such as, e.g., acute environmental exposures, chemical spills, radiological accidents, etc.

This plan will also address the conditions, criteria, and situations that may necessitate coordination of regional epidemiological resources in the South Central (SC) region for a local or regional response providing uniformity and guidance for:

* Case investigation;
* Outbreak Investigation;
* Evaluation of the infectious disease surveillance system; and the
* Review of disease reports.

Definitions

Case - An infectious disease occurring in a single individual.

Cluster - Refers to an aggregation of cases grouped in place and time that are suspected to be greater than number expected, even though the expected number may not be known.

* A cluster will be investigated in much the same manner as an outbreak but with few exceptions. This is in consideration of the fact that the initials discovery is syndromic in nature and etiology unknown.
	+ Specimen collection and testing will be expedited, especially in the beginning.
	+ The case definition may be more flexible.
	+ All symptoms will need to be included in the case definition and all ill persons will be considered even if not perfectly in line with the primary observed symptoms

Outbreak - Refers to an increase, often sudden, in the number of cases of a disease above what is normally expected in that population in that area.

Scope

The scope of this standard operating guide includes the Southeast Central Ohio Public Health Region, its Public Health Emergency Preparedness Program (PHEP) Epidemiologists, and public health epidemiological surveillance and response. Though there is no established regional authority, the primary responsibilities of the PHEP Epidemiologists duties lie with the needs of their own jurisdiction(s). In any health event requiring an investigation, the PHEP Epidemiologist will follow the guidelines of their Local Health jurisdiction and/or Ohio Department of Health (ODH).

This annex encompasses Epidemiological Response. Epidemiologic responsibilities include but are not limited to infectious disease surveillance, case/outbreak investigation, data analysis, and prevention and control recommendations.

Situation and Assumptions

Situation

* An infectious disease emergency requiring public health action

Assumptions

1. Each local health department (LHD) should maintain a current list of the personnel needed for interviewing, scribes, data entry, data analysis, specimen collection, handling and shipping. This list will be referred to as the local epi-response team. See Figure 1 below.
2. LHD Infectious Disease Nurses (IDN) and the regional Epidemiologists have established a partnership with local healthcare, hospital Infection Control Practitioners (ICPs) and Epidemiologists in adjacent regions through pre-event surveillance and reporting activities.
3. Coordinating regional assistance may not be needed for every aspect of investigation/control; e.g., prophylaxis and control may require regional assistance with some diseases while the actual investigation/interview may be done by LHD. In other cases, interviewing and specimen collection may require regional assistance but not prophylaxis and control.
4. The SC LHDs should strive toward a unified epidemiologic response. The SC epidemiologists will work together on common education, training, and exercises to ensure a common foundation for epidemiological investigation.
5. These epidemiologic response guidelines are directed towards acute communicable disease issues, including novel and/or emerging public health threats. These guidelines may not be applicable to non-infectious disease investigations.
6. Response levels will not necessarily correlate to number of illnesses reported but will be dependent on the disease morbidity and/or mortality and the reaction (i.e. media, public) to the response.
7. Communication between members of the epi-response team will occur using the most appropriate means available based on the situation. In most scenarios, telephone and e-mail will suffice with use of Multi-Agency Radio Communications System (MARCS) reserved for communication with members of the team conducting field work.
8. Compliance with National Incident Management System (NIMS) will occur throughout the epidemiologic response efforts. Specifically, the epi-response team will function as a branch under the Operations Section within the managing jurisdiction’s Incident Command System (ICS) structure.
9. ODH and Center for Disease Control and Prevention (CDC) may be involved at any response level.
10. Health information has been obtained following the jurisdictional and Federal laws that protect personal health information (45 Code of Federal Regulations (CFR) Parts 160 and 164). See the Ohio Department of Health’s Health Insurance Portability and Accountability Act(HIPAA) Bulletin, dated August 5, 2003, located in each local health department’s EPI Team Notebook.

Concept of Operations

Surveillance

Surveillance is the cornerstone of preparedness activities, and insures a prompt public health response to unusual health events in individual counties and in the Southeast Central Region of Ohio.

Several systems are used as public health surveillance tools to identify key signs and symptoms that may be indicative of an illness or disease trend requiring further investigation.

Routine Surveillance

Routine surveillance includes the daily monitoring of the following systems for the purpose of identifying potential disease outbreaks:

* Ohio Disease Reporting System (ODRS): Provides secured access for public health practitioners, infection control professionals, individual health care providers and laboratories to report infectious diseases. ODRS provides the LHD with the capability to receive Electronic Laboratory Reports for reportable conditions from healthcare providers using national Meaningful Use standards. LHD staff members also enter reports received directly from health care providers into ODRS. ODRS allows local health department staff to have immediate access to infectious disease reports and serves as a system for managing epidemiological data. This surveillance tool serves to monitor major causes of morbidity within the community, as all reporting systems do.
* EpiCenter: Ohio’s statewide syndromic surveillance system used by state and local public health agencies to detect, track and characterize health events such as pandemic influenza, injuries, outbreaks, technological hazards (chemical or radiological), environmental exposures and potential bioterrorism. The system gathers real-time, de-identified information on patient symptoms from Emergency Room visitations and automatically alerts public health when an unusual pattern or trend has occurred during last 24 hours.
* BioSense: A federal (CDC) syndromic surveillance program. Local hospital(s) participate in Epicenter, providing situational awareness of healthcare utilization. ODH submits this data from EpiCenter to BioSense.
* National Retail Data Monitor (NRDM): A public health surveillance tool that collects and analyzes daily sales of select over-the-counter (OTC) products for anomalies indicative of disease outbreaks, either naturally occurring or as a result of bioterrorism. Retail pharmacy, grocery, and mass merchandise operations participate in the NRDM by providing certain OTC sales data, which is aggregated with all providers' data (retailer is not identified) and shown via the NRDM secure website to health department officials who are reviewing the data to identify possible disease outbreaks.
* Epi-X: Centers for Disease Control and Prevention's (CDC) web-based communications solution for public health professionals. Through Epi-X, CDC officials, state and local health departments, poison control centers, and other public health professionals can securely access and share preliminary health surveillance information. Users are also actively notified of breaking health events as they occur.
* Annual Reports: The LHD generates annual reports, which include mortality and birth rates as well as leading causes of death. These reports which include mortality data are distributed to other local, state, and federal agencies as requested.

Enhanced Surveillance

Certain situations require more in depth surveillance. Enhanced surveillance is implemented to gather more information and analyze epidemiological trends and disease processes affecting the community. Enhanced surveillance could include data analysis from the following sources:

* Vital statistics
* Environmental conditions
* Hospital discharge abstracts
* Information from mental/behavioral health agencies
* Population-based surveys
* Disease registries
* Immunization registries/Immunization information systems
* Active case finding (e.g., by healthcare logs and record reviews)
* Outbreak report including morbidity and mortality data distributed to LHD, ODH, CDC, and local agencies involved

Additional epidemiologic tools for the management of outbreaks:

* National Outbreak Reporting System (NORS): CDC collects reports of enteric and water-borne outbreaks due to enteric bacterial, viral, parasitic, and chemical agents. State, local, and territorial public health agencies report these outbreaks to CDC through the National Outbreak Reporting System (NORS).
* Epi Info: Used worldwide for the rapid assessment of disease outbreaks; for the development of small to mid-sized disease surveillance systems; as ad hoc components integrated with other large scale or enterprise-wide public health information systems; and in the continuous education of public health professionals learning the science of epidemiology, tools, and techniques.

Response Actions

Typical Sequence of Activities

* The local health department determines that the cluster/outbreak has expanded beyond local capability.
* The affected local health department(s) (LHD) ERP may be activated if health department leadership determines the need for additional resources.
* This Annex of the LHD ERP may be activated by their Health Commissioner, or their designee. This Annex of the SCO RPH ERP may be activated by a SCO Regional Epidemiologist, or their designee.
* Documentation and a description of the activation, notifications, services enhanced, services reduced/eliminated, and other pertinent information may be included on the ICS form 201.
* The epidemiological response level will be determined (see figure 2).
* Appropriate response partners will be notified.
* Local and regional resources will be utilized. If it is determined that the local and regional resources will be insufficient to provide the projected need of response, State and Federal assets may be considered.

Emergency Response Plan (ERP) Activation

* The Portsmouth City and Scioto County Health Department Emergency Response Plan (PCHD and SCHD ERP) may be activated in order to implement this Annex.
* See the “Concepts of Operations, Emergency Response Plan Activation Authority” section of the PCHD and SCHD ERP.

Command & Control

* The Epidemiology and Surveillance Branch, whether applied to a local or regional response, operates under a local department ICS structure.

**ICS structure of the Epi-Team**

Figure 1. ICS Components of the Epidemiologic Response Plan in South Central Ohio (Epi-Team).

**LHD Operations Section**

**Epidemiology & Surveillance Branch**

**Data and Surveillance Group**

**Investigation Group**

**Surveillance Strike Team**

**Data Analysis Strike Team**

**Case Investigation Strike Team**

**Contact Investigation Strike Team**

**Laboratory Liaison Strike Team**

**Epi-Team**

Notification and Communication

Notification of the region and implementation of a coordinated regional epidemiological response will depend on the severity of the incident and whether it affects more than one jurisdiction and/or county within the SC Ohio Region. The four response levels, illustrated in Figure 2, have been created to guide notification and communication, as well as investigation efforts.

Figure 2. Epidemiological (EPI) Response Level Decision Tree.

**Does the Incident Involve > 1 Jurisdiction?**

NO

YES

**Can the Incident be managed by the affected LHD?**

YES

NO

**Can the Incident be managed with Additional SCO/SEO EPIs?**

YES

NO

**Can the Incident be managed by Jurisdictions with Additional SCO/SEO EPIs?**

NO

**Can the Incident be managed by Resources Available within Region?**

YES

NO

YES

**Can the Incident be managed by Resources Available within Region?**

YES

NO

For all Epi Response Levels, the affected LHD, or its designee (such as the PHEP Epidemiologist) must provide:

* Notification of the PHEP Epidemiologist for a report of a Class A Infectious Disease OR one, or more, cases that warrant a cluster or outbreak investigation even when the response does not exceed the reporting LHD capabilities;
* Notification of local partners (medical providers, hospitals, etc.) of suspected or actual disease outbreak, if appropriate;
* Notification to the Ohio Department of Health in accordance with the reporting timeframes designated in the Ohio Administrative Code Chapter 3701-3.
* Activation of its ICS, with at least an Incident Commander and Operations Section. The ICS structure will be expand as needed.

Response Level 1 (Local):

One local health department is affected and the response can be handled by the local epi-response team.

* The potential members of the local Epi-Team are in the “Local Epi-Team Member Contact List” in the EPI Notebook.
* General notification of the incident may be made to the region as deemed necessary. The decision to notify the region will be made by the affected jurisdiction’s Health Commissioner and/or epidemiologist.

Response Level 2 (Regional):

One or more local health departments are affected and the response needs exceed the capacity of the local epi-response team, additional assistance is necessary and should follow the guidelines below.

* The affected health jurisdiction’s epidemiologist will notify the other epidemiologists in the SC or other regions.
* Response will be led by the local epi-response team with assistance from the other PHEP (SC or other region’s) epidemiologists.
* Updates out to the region will be made as determined by the Health Commissioner and the epidemiologists managing the investigation.

Response Level 3 (Regional):

One or more local health departments are affected and the response needs exceed the capacity of the local epi-response team and the PHEP epidemiologists (SC or other region’s), additional assistance is necessary and should follow the guidelines below.

* As specified in the SC regional Memorandum of Understanding (MOU), additional staff to supplement the response will be requested from the SC region.
* The Regional Coordination Center (RCC) will be activated.
* Response updates will be made according to the SC regional communication plan.

Response Level 4 (Regional):

One or more regions in the state or multiple states are affected and the response needs exceed the capacity of Level 3 response, additional assistance is necessary and should follow the guidelines below.

* ODH will be consulted for assistance in recruiting additional staff across the state to aid in the response.

Notification of State Officials

Figure 3. LHD Notification of Suspected Class A or Outbreak Recommendations.

**CLASS A SUSPECTED?**

**YES**

**NO**

**OUTBREAK SUSPECTED?**

**YES**

**NO**

**No Information Sharing Needed**

**NOTIFY IMMEDIATELY\***

**Notify Regional Public Health Coordinator for Notification Assistance**

**Notify SCO LHDs/Hospitals & other affected LHDs**

\* In both Class A disease & an outbreak, the LHD Epi Team should be notified. The urgency of that notification is dependent on the nature of the outbreak.

**Consult/Notify Health Commissioner Prior to Notification Beyond the County**

**Regional Epidemiologist**

**Regional Epidemiologist within 3 hours**

**NOTIFY\***

**Notify other Regional EPIs in SCO & SEO**

**Notify ODH Immediately**

**Notify ODH by End of Next Business Day**

**LHD Notification of Suspected Class A or Outbreak Recommendations**

Initial Notification Communications

Figure 4. Initial Notification Communication Matrix

**Primary**

 **Affected LHD**

**Regional Cluster**

**EPI**

**Primary**

**Affected Hospital(s)**

**Primary**

**Cluster LHDs**

**Primary**

**Cluster Hospitals**

**2° Regional**

**Cluster EPI**

**RPHPC**

Secondary

Cluster LHD

Secondary

Cluster Hospitals

Reg. Hospital

Coordinator

Follow-Up Communications/Updates

Figure 5. Follow-up Communications Matrix.

**Primary**

**Affected LHD**

**Regional Cluster**

**EPI**

**Primary**

**Affected Hospital(s)**

**RPHPC**

**2° Regional**

**Cluster EPI**

**Regional**

**Hospitals**

**Reg. Hospital**

**Coordinator**

**Secondary**

**Cluster LHDs**

**Primary**

**Cluster LHDs**

Organization and Assignment of Responsibilities

Lead Agency

The LHD is the Lead Agency for epidemiologic response requiring outbreak investigation. The purpose of the Epidemiology & Surveillance Branch is to gather information in order to guide the response and to select strategies to mitigate morbidity and mortality. In the event more than one LHD is actively involved in the response, unified command may be established.

Each LHD has the ability and responsibility to collect, review, and respond to reports of potential health threats twenty-four (24) hours a day, seven (7) days a week.

* Each LHD has arrangements to be available 24/7/365 through after-hours services, 9-1-1 using local non-emergency contact telephone number, telephone recordings with instructions, etc. tailored to meet their needs
* Access to the five (5) surveillance systems used in the south central and southeast regions is available 24/7/365.

Supporting Agencies/Critical Partnerships

These supporting agencies/critical partnerships are crucial in infectious disease prevention and control. The LHD has established a partnership with these agencies to meet their community’s specific needs and assist in the implementation of prevention and/or control response strategies. The table below addresses roles and responsibilities of each agency.

Supporting Agencies

|  |  |
| --- | --- |
| Agency | Responsibilities |
| Ohio Department of Health\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * Report to CDC the occurrence of “Nationally Notifiable Infectious Diseases”
* Report to any other (state or federal) applicable entities as needed, i.e., Department of Agriculture
* Coordinate communication, response, and resources within the Ohio Department of Health and other state and federal entities, as necessary
* Statewide surveillance and support to include assistance with statewide and other jurisdiction, as necessary
 |
| Hospitals and Health Care Providers\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * Protect/treatment to responders and public
* Reporting of infectious disease to include gathering necessary information
 |
| Emergency Medical Services\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * Protect/treatment, medical transport to responders and public
 |
| Emergency Management Agency (EMA)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Coordinate County Emergency Operations Center (EOC) Operations, to include* Coordination of resources
* Notification of and collaboration with other County EMAs
 |
| Law Enforcement/Sheriff\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Upon request & availability, if warranted:* Security;
* Traffic control; &
* Area control.
 |
| Law Enforcement/State Patrol\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Upon request & availability, if warranted:* Criminal investigation, if necessary;
* Provide security
 |
| Public Works\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * Access, if needed
 |
| Advocacy Support Agencies\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Assist with location of, interview of, education of, and assessing the needs of individuals with functional needs:* + Elderly;
	+ Developmental disabilities;
	+ Physical disabilities;
	+ Transportation issues;
	+ Language barriers;
	+ Mental health.
 |
| School System/Superintendent\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * Public education and information;
* Transportation resources (upon request);
* Surveillance and reporting
 |
| Elected Officials\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | * + Responsible for the emergency operations in their jurisdictions;
	+ Cooperation with the EMA director and support of EOC operations;
	+ Access City/Township assets to support operations per EOC requests; and
	+ Participate and support Joint Public Information Center operations.
 |

State Authority

The Governor of Ohio has the ability to request federal assistance and to waive or suspend state or local laws and regulations in the event of an emergency.

Administration and Logistics

The activation and management of an epidemiological response requires numerous protocols and resources. The protocols and resources have been pre-identified locally and can be found in the *Epi-Team Notebook,* including Job Action Guides (JAGs) detailing the functions of the Epidemiology & Surveillance Branch and response groups and strike teams to be activated as needed are outlined below.

Epidemiology & Surveillance Branch

Purpose

The purpose of the Epidemiology & Surveillance Branch is to gather information in order to guide the response and to select strategies to mitigate morbidity and mortality.

Objectives

* Determine appropriate epidemiology and surveillance response strategies
* Conduct surveillance
* Conduct epidemiologic investigations
* Identify potential sources of disease and disease transmission routes
* Monitor incidence and prevalence trends to identify new or unrecognized exposures or risk factors
* Describe epidemiologic and clinical features
* Report cases to the proper agencies

Methods

Primary strategies for the Epidemiology & Surveillance Branch include:

Surveillance/Data Analysis - Surveillance is the continuous analysis, interpretation, and dissemination of systematically collected data, generally using methods distinguished by their practicality, uniformity, and rapidity rather than by accuracy or completeness. By observing trends in time, place, and person, changes can be observed or anticipated, and appropriate action, including investigative or control measures, can be taken.

Epidemiologic Investigation – Epidemiologic investigation uses epidemiologic tools, including case investigation, contact investigation, and laboratory testing, to establish person, place, and time characteristics associated with an event. Epidemiologic investigations can include cohort and/or case-control studies. Guidelines for conducting an outbreak investigation are included in Implementing Instruction: Epi: Outbreak Investigation Protocol.

Implementation

The Epidemiology & Surveillance Branch should be activated for all responses in which ICS is implemented when a public health event warrants an epidemiological response beyond routine case investigation or regular duties.

Data and Surveillance Group

Purpose

To rapidly identify cases and clusters of disease, receive, manage, and analyze information that will guide the selection of strategies for the response.

Objectives

* Develop, update, and disseminate the case definition
* Develop case-finding strategies
* Verify the accuracy and completeness of surveillance data
* Identify cases for follow-up by the Investigation Group
* Determine appropriate data analysis strategies for the response to:
	+ Identify sources of disease and disease transmission routes
	+ Monitor incidence and prevalence of disease trends to identify new or unrecognized exposures or risk factors
	+ Describe epidemiologic and clinical features
	+ Ensure cases are reported to the proper agencies

Methods

Passive Surveillance – Passive surveillance is the collection of data from existing unsolicited reports of disease. This date may be received from physicians, hospitals, and laboratories serving South Central Ohio residents. This data is used to identify cases to determine the magnitude of the outbreak.

Enhanced Passive Surveillance – Enhanced passive surveillance employs a mix of active techniques in addition to the passive surveillance described above. For example, send a health alert that highlights a specific disease or syndrome to clinical providers in order to stimulate clinician and/or laboratory reporting.

Active Surveillance - Active surveillance involves actively finding cases of disease. Examples include calling medical facilities (e.g. laboratories or emergency departments) or sending field surveillance teams to hospitals to extract information from hospital records.

Syndromic Surveillance – Syndromic surveillance is the collection and analysis of non-specific data from multiple data sources to detect a possible change or trend in the health of a population. Syndromic surveillance data sources may include data from hospital emergency departments (i.e. Epi-Center) or other emergency encounters, physician office visits, over-the-counter pharmaceutical sales (i.e. NRDM), and school absenteeism records.

Data Analysis – Data analysis is the systemic study of data so that its meaning, structure, relationships, origins, etc. are understood. Data analysis uses statistical methods and logical techniques to describe, summarize, and compare data.

Implementation

The Data and Surveillance Group should be activated when any component of the Epidemiology & Surveillance Branch has data analysis or surveillance needs, with strike teams established based on the specific needs of the investigation. The Data and Surveillance Group will be activated in tandem with the Investigation Group.

Investigation Group

Purpose

The purpose of the Investigation Group is to carry out case and contact investigations to collect information on factors that may be associated with the outbreak.

Objectives

* Select appropriate investigation strategies for the response
* Conduct case investigations and contact investigations
* Collect information about cases, controls, disease characteristics, clinical characteristics, and possible disease exposures in a methodologically appropriate and efficient manner
* Obtain and prioritize specimens for laboratory testing
* Determine if a formal epidemiologic study is needed, and if so, design and implement study with assistance from the Data and Surveillance Group

Methods

*Case Investigation –* Case investigation is used to identify cases of an infectious disease, evaluate cases for possible exposure factors, assess case characteristics, provide ODH-approved treatment recommendations to cases and/or their medical provider, identify possible contacts to the case, collect and/or manage laboratory specimens, and/or offer recommendations to help interrupt the transmission of disease. Case investigation can be important throughout an event but is particularly important during the initial stages of an infectious disease emergency response. Investigations may be conducted over the telephone or in person, depending on the nature of the outbreak and available resources. Guidelines for case investigations are included in the Implementing Instruction:Epi: Case Investigation Protocol.

*Epidemiologic Study –* An epidemiologic study may be needed in an outbreak suspected to have originated from one source (“point source”) in order to identify the specific food item, activity, location, animal(s), or other exposure that was the source of infection. This enables targeted public health interventions to remove the source of disease. In an epidemiologic study, exposures among those who are sick are compared to exposures among those who are well; thus, many interviewers may be needed to survey both ill and well persons. A cohort study and case-control study are examples of epidemiologic studies. A cohort study may be used if the exposed population is readily defined. A case-control study may be used when the exposed population is not easily defined, when multiple exposures need to be examined, and/or when the disease occurrence is rare. Guidelines for conducting an outbreak investigation are included in the Implementing Instruction:Epi: Outbreak Investigation Protocol.

*Contact Investigation –* Contact investigation is used to identify contacts to an infectious disease case, evaluate possible contacts for infection/disease, recommend strategies to treat and/or prevent infection/disease in the individual contact and/or interrupt the transmission of disease.

Individual contact investigation may be more effective in controlling the spread of disease when there are low numbers of cases, when chemoprophylaxis or vaccination are available and can be promptly administered to the contact, and/or when no chemoprophylaxis is available, if quarantine can be promptly implemented.

Individual contact investigation may not be feasible or an effective use of scarce personnel resources when the prevalence/incidence of infection is high (e.g. pandemic influenza), when many transmission routes exist, when the contact tracing process is slower than the infection process (the incubation period is short, or the basic reproductive ratio is high or a combination of both), and/or when a disease has airborne transmission (e.g. smallpox).

*Symptom Monitoring –* Symptom monitoring involves monitoring either cases or contacts of a case for new signs and symptoms of disease. There are two types of monitoring: active and passive. During active monitoring, a healthcare or public health worker evaluates a case or contact on a regular basis by phone and/or in person for signs and symptoms suggestive of disease. During passive monitoring, a case or contact is asked to perform regular self-assessment and to contact the health department immediately if specific signs or symptoms develop. (Patient care recommendations and public health follow-up will be guided by the ODH Infectious Disease Control Manual). Choosing active versus passive monitoring will depend on available resources and the disease.

*Survey Development –* Questionnaires or survey forms will be needed for case investigations, contact investigations, epidemiologic studies, and symptom monitoring. Questionnaires and surveys can be administered via the telephone, in-person, or through a computer, depending on the population being targeted (cognitive skills, education level, access to a telephone or computer, etc.) and available resources.

Implementation

The Investigation Group will be activated when:

* Case investigation is required, or
* Contact investigation is required, or
* An epidemiologic study is needed, or
* Symptom monitoring is needed

Specific strike teams will be activated based on what is needed, as deemed necessary by the Epidemiology & Surveillance Branch Director.

Depending on the situation, other support and functions may be necessary and provided from other ICS resources. These functions include:

Communications and Public Information

# Tactical Communication

* The primary means of communication will be existing phone lines, internet access and cell phones. MARCS radios or other two-way radio systems may also be used. Alternate types of communication equipment may need to be used and these could include HAM radios, and runners;
* Through internet connectivity forms, surveys, and access to enter data directly into the Ohio Disease Reporting System (ODRS), the National Outbreak Reporting System (NORS) or other applicable systems will be maintained. If internet connectivity is not available or is lost, use paper forms and enter the information upon restoration of connectivity.

IT and Communications Systems

* IT systems may be utilized to:
	+ - Report and manage cases utilizing the Ohio Disease Reporting System (ODRS);
		- Prepare Ohio Public Health Communication System (OPHCS) alerts, public health warnings and advisories, and other forms of communication;
		- Communication systems, including telephone lines, fax machines, copy machines, computers, printers and internet access, may be used to maintain communications with appropriate partners, ODH, and other government/non-government agencies.
		- The back-up plan if communications equipment, including radio communications, needs maintenance or becomes unavailable includes:
* Contacting the EOC and EMA to send Information Technology (IT) support;
* Contacting any available on-site IT personnel; and/or
* Contacting the health department’s contractual IT support company.
* The region’s communications equipment is interoperable. Radio channels/frequencies will be pre-designated, and security measures will be taken to ensure efficient communications among all site personnel.
	+ - Detailed information is maintained *within Annex 2: Interoperative Communication* of the SCO Regional Public Health & Hospital Emergency Response Plan.
* See Annex 2: Interoperative Communications of the SCO Regional Public Health & Hospital Emergency Response Plan and the Multi-Year Training and Exercise Plan for testing and exercising of communications systems.

Public Information

* A Public information officer (PIO) will be assigned if the event warrants and public information will be funneled through this person to:
* Ensure that information released will be closely coordinated with the local, regional, and state PIO;
* Ensure that all staff members provide consistent information
* Public information templates have been developed, as well as a list of potential resources for agent specific information and are located in *Implementing Instruction: EPI&W: Communications (PIO) Guidance Document*

**De-Mobilization**

The Incident Commander will work with the local government to determine when the functions of the Epidemiological Response are complete or near completion. When this determination has been made, the Incident Commander will work with the Logistics Section Chief and the Operations Section Chief to arrange the de-mobilization activities, such as:

* Staff reassignment
* Equipment/Supplies cleaning, replacement, storage, and return
* Documentation of Incident activities
* Debriefing of staff and support staff

Actual Incident Evaluation

In addition to the outbreak report, depending on the size and cost of the response, additional post-event activities may be necessary to ensure that the event is documented for the public record, to determine the costs of the event, and to enhance efficiency of operations for future efforts. In this regard, the evaluation of the epidemiological response should include the following information:

* Expenditures and in-kind costs incurred in the operation
* Identified successes and opportunities for improvement
* Recommended changes in emergency response plan
* Implications for the public health infrastructure

See the PCHD and SCHD Integrated Preparedness Plan (IPP) for guidance of when an After-Action Plan/Improvement Plan (AAR/IP) should be initiated.

If an After-Action Report is needed to collect key information that will improve any future epidemiological response, ODH requires the use of the Homeland Security Exercise and Evaluation Program’s (HSEEP) template. The template can be found at: <https://preptoolkit.fema.gov/welcome>.

The After-Action Report will include, at a minimum:

* What occurred, including
* number of cases identified
* start and stop dates/times
* total number of hours of operation
* listing of all personnel involved
* how the process took place
* Problems identified throughout the process; and
* Associated Improvement Plan.

The outbreak report and After-Action Report/Improvement Plan (if necessary) will be communicated to all key stakeholders electronically or another method if preferred by the stakeholders. The Improvement Plan will be included in the health department’s quarterly Improvement Plan Review to ensure that corrective actions are implemented.

Training, Exercise, and Evaluation

The local health departments in SCO will ensure training for the epidemiological response. Components of an epidemiological response will be exercised individually annually. The Epidemiological Response training, exercise, and evaluation plan is contained in the PCHD and SCHD Integrated Preparedness Plan (IPP).

Personnel Training Objectives

The team should:

* Understand Epidemiological Response, its mission, purpose, and methods of operation;
* Possess the knowledge and skills to perform tasks effectively;
* Be cross-trained to work in other functional areas assigned; and
* Understand the performance standards and measures for successfully activating and operating all the functions in the plan.

Training Strategies

* Outbreak and investigation training, ODRS training, and training on other relevant epidemiological response functions is provided to members of the Local Epi-Team and other key Local Health Department staff.
* A “Just in Time” training approach with the aid of ODH information, CDC resources and locally developed materials will be utilized to provide relevant disease information, plan review, and preparation for other specialized tasks such as conduction interviews.

Staff Orientation and Training

New Staff - All new staff are required to review the Emergency Response Plan including the Epidemiological Response Annex. Additional orientation will be completed by the new employee’s direct supervisor and will be dependent on the new staff member’s job description. Each LHD determines roles and responsibilities of new staff members. See “[Resource: EPI: Medical Surge & Local EPI Team Member Contact List](#_Toc484698777)” in the EPI Team Notebook for qualifications of EPI Team roles (page 93-95).

New Epidemiologist - All new epidemiologists are required to review the Emergency Response Plan. Access to [all surveillance tools](#EPISurveillance) will be initiated within 5 days of start date. See “Implementing Instruction: EPI: Access to Disease Surveillance Systems” for a list of surveillance tools and how to gain access to them. New epidemiologists will be scheduled with other regional epidemiologists for more detailed roles and responsibilities.

Medical Surge and Continuing Education - In order to ensure a unified surge response local health department within the region utilize the same epidemiological response plan. Annual trainings are conducted to reinforce surge capabilities.

Memorandums of Understanding

Written agreements between the health departments in the Southeast and Southeast Ohio and Southeast Central Ohio regions are in place.

After an event, written agreements are critical for federal disaster reimbursement under the Stafford Act which was enacted to support State and local governments and their citizens when disasters are overwhelming. The Federal Emergency Management Agency (FEMA) is tasked with coordinating the response.

Plan Development and Maintenance

See the “Plan Development and Maintenance” section of the SCO Regional Public Health & Hospital Emergency Response Plan Emergency Response Plan - Base Plan.

**Implementing Instructions**:

| Implementing Instruction Title | Location |
| --- | --- |
| II: EPI |  |
| Job action sheets | Epi-Team Notebook |
| Case investigation protocol | Epi-Team Notebook |
| Outbreak investigation protocol | Epi-Team Notebook |
| Evaluation of the Infectious Disease Surveillance System Protocol | Epi-Team Notebook |
| Required documentation protocol  | Epi-Team Notebook |
| Epidemiology Response Notifications and Communications | Epi-Team Notebook |
| Process for Posting Health Alerts | Epi-Team Notebook |
| Laboratory Data and Sampling | Epi-Team Notebook |
| Review of Disease Reporting Protocol | Behind/Following Annex 4 |
| Evaluation of Infectious Disease Surveillance System Protocol | Behind/Following Annex 4 |
| Disease Surveillance System Access | Behind/Following Annex 4 |
| II: EPIW:  |  |
| Immediate Response to Inquiries | PIO Binder |
| First Minutes Message Template | PIO Binder |

**Authorities and Reference**:

| Reference | Location |
| --- | --- |
| Ohio Department of Health Infectious Disease Control Manual | <https://odh.ohio.gov/wps/portal/gov/odh/know-our-programs/infectious-disease-control-manual/infectious-disease-control-manual> |
| Ohio Administrative Code Chapter 3701-3 | [Chapter 3701-3 - Ohio Administrative Code | Ohio Laws](https://codes.ohio.gov/ohio-administrative-code/chapter-3701-3) |

**Epi-Team Notebook****:**

Updated annually

| Epi-Team Notebook Contents |
| --- |
| Job Action Guides |
| Epidemiology & Surveillance Branch Director |
| Data and Surveillance Group Supervisor |
| Surveillance Strike Team Leader |
| Data Analysis Strike Team Leader |
| Investigation Group Supervisor |
| Case Investigation Strike Team Leader |
| Contact Investigation Strike Team Leader |
| Laboratory Liaison Team Leader |
| Case Investigation Protocol |
| Outbreak Investigation Protocol |
| Epidemiology Response Notifications and Communications |
| Process for Posting Health Alerts |
| Required documentation protocol |
| Laboratory Data and sample Testing |
| Specimen Shipping & requirement Forms |
| Know Your ABCs & Reportable Zoonotic Diseases |
| ODH HIPAA bulletin  |
| Local Epi-Team Member Contact Lists |
| Regional Epidemiologists Contact List |

Summary of Changes

| date | version | change | Summary | Initials\* |
| --- | --- | --- | --- | --- |
| 042017 | 2016a | 1 | Acronyms identified & spelled out. | ERC-MD |
|  |  | 2 | Reference website verified & updated. | ERC-MD |
|  |  | 3 | Spelling checked | ERC-MD |
|  |  | 4 | Definitions from this document added to Plan Glossary (attachment B) | ERC-MD |
|  |  | 5 | Changed reference & link to new HSEEP site | ERC-MD |
| 060617 | 2017 | 1 | Added definitions for: “case”, “cluster”, and “outbreak” | ERC-MD |
|  |  | 2 | Clarification added to “Routine Surveillance” | ERC-MD |
|  |  | 3 | Moved ERP Activation to lower area of “Response Actions” | ERC-MD |
|  |  | 4 | Additional details added to “Sequence of activities” | ERC-MD |
|  |  | 5 | Additional direction for AAR/IP development/reference to MTEP | ERC-MD |
|  |  | 6 | Added section for Staff & new EPI orientation | ERC-MD |
| 051518 | 2018 | 1 | Re-formatted the “Summary of Changes | ERC-MD |
|  |  | 2 | Added: **“**will be dependent on the new staff member’s job description. Each LHD determines roles and responsibilities of new staff members. See “[Resource: EPI: Medical Surge & Local EPI Team Member Contact List](#_Toc484698777)” in the EPI Team Notebook for qualifications of EPI Team roles (page 93-95)” | ERC-MD |
|  |  | 3 | Added section: “The training/qualification information section of the roster, if marked, indicates that the individual has met the qualifications and can perform activities related to the topic. These trainings/qualifications include: ……”, to: [Resource: EPI: Medical Surge & Local EPI Team Member Contact List](#_Toc484698777), which is on the EPI Team Notebook | ERC-MD |
|  |  | 4 | Added: “See “II: EPI: Access to Disease Surveillance Systems” for a list of surveillance tools and how to gain access to them. | ERC-MD |
|  |  | 5 | Added Hyper link that takes the reader to the description of each surveillance system | ERC-MD |
|  |  | 6 | Added: “The partnership between public health and healthcare, in the southeast and southeast central regions of Ohio, that has been established, through continued passive surveillance and collaborative epidemiological investigations, has led to the development and finalization of this effective epidemiological response plan.  | ERC-MD |
|  |  | 7 | Added: “LHD Infectious Disease Nurses (IDN) and the regional Epidemiologists have established a partnership with local healthcare, hospital Infection Control Practitioners (ICPs) and Epidemiologists in adjacent regions through pre-event surveillance and reporting activities | ERC-MD |
|  |  | 8 | Added: “Relationships developed during times of “normal” business between healthcare agencies, hospital ICPs, and Epidemiologists within the region and surrounding regions have led to the development and finalization of response protocols and procedures.” to the II: EPI: Outbreak Investigation Protocol, which is in the EPI Team Notebook,  | ERC-MD |
|  |  | 9 | Title change & & paragraph added to describe how community’s spefici needs are addressed, table of partners below that already there. | ERC-MD |
| 031919 | 2019 | 1 | Expanded on definition of “cluster” | ERC-MD |
|  |  | 2 | II:EPI:Diseas Surveillance System Access updated:* contact information access to systems
* hyperlinks replaced or stll active
* Additional direction for getting EPI-X access
 | ERC-MD |
|  |  | 3 | II:EPI:Audit Outbreak Investigation Records reviewed – no changes | ERC-MD |
|  |  | 4 | II:EPI:Review Disease Reporting Protocol reviewed: * ODH hyperlionk updated
* Additional instructions added for reporting protocol
 | ERC-MD |
|  |  | 5 | Updated EPI Team Notebook.  | ERC-MD |
| 12/15/20 | 2020 | 1 | Reviewed for hyperlinks connections | ERC-MD |
|  |  | 2 | Reviewed for readiblity | ERC-MD |
| 081721 | 2021 | 1 | “Multi-year Training and Exercise” replaced with “Integrated Preparedness” | ERC-MD |
|  |  | 2 | Implementing Instructions reviewed | ERC-MD |
|  |  | 3 | EPI Notebook reviewed. | ERC-MD |
| 02162022 | 2022 | 1 | Changed first page to remove signature and review of ERC; replaced it with signature page for Health Commissioner | ERC-MD |
| 2162022 | 2022 | 2 | EPI Notebook reviewed added location for documents on page 4.21 | ERC-MD |

\* key for “initials” column

ERC-MD Portsmouth City and Scioto County Health Department Emergency Response Coordinator, Molly Dargavell