EPIDEMIOLOGY (EPI) TEAMS IN LOCAL HEALTH DEPARTMENTS

Introduction

Public health preparedness demands that local health departments prepare to respond to disasters, weapons of mass destruction, and acts of terrorism while functioning in an environment of predictable outbreaks of communicable disease and other public health threats. The purpose of this document is to provide local health departments information about establishing and maintaining an effective and competent Epidemiology (Epi) Team. Additional resources in this manual may be found in the Appendix under Policies and Procedures: Sample Policy for LHD Epidemiology Team.

Purpose of Epi Teams

A well-established and trained Epi Team strengthens the capacity of the local public health agency to respond to events. The responsibilities of this team include:

- Coordinating routine and non-routine disease surveillance activities;
- Conducting epidemiologic investigations;
- Gathering and analyzing information from investigations;
- Recommending appropriate public health interventions for disease control to the health director; and
- Educating the public about disease prevention and control measures.

Epi Team Roles

A diverse multidisciplinary composition is crucial to the success of an Epi Team. Epi Teams require expertise in the following: leadership, epidemiology, nursing, environmental health, preparedness planning, public information, health education, laboratory, administrative support, and information technology. Health department staff with the appropriate skills and training to fill these roles should be identified prior to an investigation. Depending on the investigation, staff with other areas of expertise may also be needed. Choose team members who are familiar with the day-to-day activities of your health department to facilitate a rapid and efficient response. During large events, outside assistance may be needed from community resources such as the local hospital, regional resources such as the PHRST, state public health, and other sources such as TEAM EPI AID from UNC School of Public Health. Table 1 contains examples of the key roles of an Epi Team, health department staff positions fulfilling each role, and respective activities performed during disease investigations. These may vary or change according to your health department needs, resources and the nature of the outbreak.

Routine Epi Team Activities

Epi Teams should meet regularly in addition to meeting during an incident or event. These meetings help to improve and encourage regular communication among team members. Each Epi Team should decide how often to meet, but at a minimum should meet quarterly. Suggested activities for routine meetings include:

- Review current epidemiology topics/issues/alerts from sources such as MMWR and NC HAN.
- Review disease surveillance data sources such as:
    - Local Health Department Communicable Disease Reports;
    - NC Influenza Reports;
    - NC Arboviral Reports; and
    - NC DETECT.
- Identify public health threats from surveillance data, determine priorities for action, and develop plans and implement actions.
- Plan prevention strategies and training based upon lessons learned from previous events.
- Conduct training for team members.
- Strengthen relationships with key agencies/community partners to enhance community response to public health threats.

Table 2 provides examples of roles and activities for Epi Team members for general meetings. These may vary according to the membership of your health department team.

Table 1

Epi Team Roles and Activities		
Member	**Role**	**Activity**
Health Director or designee	Leadership	- Appoints team leader or serves as team leader - Ensures notification of the outbreak to state authorities in accordance with statutory requirements - Orders interventions in accordanceS
Team Leader	Leadership	- Prioritizes and assigns activities to team members - Establishes shift length - Conducts daily briefing meetings about the outbreak status - Facilitates outbreak interventions (e.g., immunization clinics, mass prophylaxis, etc.) - Facilitates communication with health care providers and institutions involved with the outbreak (e.g., childcare centers, schools, hospitals)
Epidemiologist/ Communicable Disease Nurse	Epidemiology	- Tracks surveillance data for disease trends - Establishes baseline disease data - Formulates case definitions - Provides training to staff on interviewing skills for case finding and follow-up investigations - Maintains a line listing of cases - Provides daily status reports about case ascertainment and counts - Reviews case report /investigation forms to ensure completeness of data collection - Assures all reports are completed and sent to GCDC
Public Health Nurse	Nursing	- Educates cases and contacts of cases regarding compliance and prevention procedures - Collects clinical specimens - Follows up with patients to ensure treatment or completion of prophylaxis - Monitors contacts of cases for disease development and/ or prophylaxis - Conducts home visits as needed - Contacts and/or visits providers to reinforce reporting and outbreak control recommendations - Attends daily meetings with outbreak team and provide updates - Sets up vaccination clinics as necessary or accelerates vaccination scheduling - Orders additional vaccine/antibiotics/ Immunoglobulin as needed - Trains nurses on current vaccination procedures

Table 1, continued

Environmental Health Specialist and/or environmental epidemiologist	Environmental health	• Establishes a base line of environmental data for future comparisons • Tracks and responds to food and private water complaints • Performs field investigation to determine possible contributing risk factors to an outbreak • Collects environmental samples • Implements control measures affecting the facility • Works with the local, state and federal agencies to perform trace-backs of implicated food items or ingredients • Provides daily updates to team members on inspection findings and status of control measures • Provides guidance on food safety regulations and engineering
Preparedness Coordinator	Planning, NIMS/ICS	• Provides information on existing all hazard, SNS, Pandemic and other planning and preparations • Serves as NIMS/ICS resource
Public Information Officer and/or Health Educator	Public Information	• Reviews provider and public alerts, fact sheets and reporting reminders • Ensures the availability of appropriate educational tools and materials, including developing them when necessary • Prepares/reviews press releases • Responds and provides public information to media inquiries
Health Educator (serves as the PIO in some LHDs)	Health Education	• Develops provider and public alerts, fact sheets and reporting reminders • Ensures the availability of appropriate educational tools and materials, including developing them when necessary
Laboratorian	Laboratory	• Provides information on proper collection of clinical specimens • Coordinates submission of specimens to the State Laboratory of Public Health
Administrative Staff	Administrative	• Distributes meeting agendas • Records minutes and keeps records of meetings • Tracks staff expenses (overtime, travel reimbursement etc.) • Assures after-hours building and cellular phone access
Information Technology (IT) Specialist	Information technology	• Assists in the creation of an outbreak database or modifies an existing database • Provides support for any problems that may arise from the database. • Assists in data entry • Equips team with necessary equipment including computers, phones, copiers, etc.
Ancillary Staff, which may include: Pharmacist Nutritionist Daycare nurses School nurses Animal Control Officers	Ancillary Support	Provides support within their area of expertise.

Table 2

Sample Epi Team Member Activities During General Meeting	
Member	**Agenda Items & Activities**
Health Director	• Chairs or appoints chair for general meetings • Schedules general meetings • Establishes meeting agenda
Epidemiologist/Communicable Disease Nurse	Reports on surveillance data and trends of reportable diseases; HAN alerts CDC alerts; CD issues or investigation
Administrative Staff	• Takes meeting minutes • Sends out meeting reminders • Reserves meeting space
Public Information Officer	Reports on public information activities as related to epidemiology/public health issues
Information Technology Specialist	Maintains, monitors or requests appropriate equipment as needed
Environmental Health Specialist	Reports on food recalls; food and environmental complaints
Health Educator	Reports on the development of educational materials and educational activities
Laboratory	Reports any changes in laboratory capabilities (state and local) that would affect CD initiatives

Special Event and Outbreak Investigations

Epi Teams are a resource for the local health director in fulfilling the statutory responsibility for investigating and responding to outbreaks and other public health threats to the community. The health director or designee will activate the Epi Team as they see the need for resources beyond the routine capability of the communicable disease nurse/section of the health department. Information about Steps of an Outbreak Investigation can be found in the NC Communicable Disease Manual . Disease specific information and links are also found on this site.

After Action Reports or Outbreak Summary Reports should be written after every event/outbreak. This report should include input from all participants in the event and include lessons learned and a plan to implement any needed changes.

NIMS - ICS and Epi Teams

Epi Teams should utilize the National Incident Management System (NIMS) Incident Command Structure (ICS). NIMS-ICS provides a structure within which Epi Teams can manage projects or events efficiently. To integrate NIMS-ICS with your Epi Team development, the following suggestions may be helpful:

- Complete your NIMS-ICS training as directed by the North Carolina Public Health Workforce NIMS Training Plan.
- Utilize NIMS-ICS organizational structure for management of routine events of more than 1-2 days of duration or a long-term health department project to familiarize your staff with the system.
- Preplan assignments for incident commanders, section heads and other positions for various scenarios.
- Utilize the Incident Action Plan (IAP) format in planning routine events to become familiar with it before incidents.
- Work with other NIMS/ICS compliant agencies, such as emergency management or law enforcement, whenever possible.
- Utilize Homeland Security Exercise and Evaluation Program (HSEEP) guidance for development of after-action reports and collection of lessons learned following events.

Training

Group Training: Group training of the team can help establish baseline competencies for all members of the team. Group training is also a way to keep team members current on public health issues and creative training opportunities; maintain interest, improve competency and build teamwork. A variety of exercises should be scheduled for the team. Ensure that exercises are developed and documented in accordance with Homeland Security Exercise and Evaluation Program (HSEEP) guidance whenever possible.

Individual Training: Beyond competencies in their area of expertise, team members can use a variety of training opportunities to increase their knowledge and versatility for dealing with various public health issues. The following are two of many free resources for individual members of the team to utilize:

SPHERE – "Ask SPHERE" is an online clearinghouse of public health training materials and resources. Users can browse the Ask SPHERE database for training materials and also submit their own materials. The ever-growing Ask SPHERE database houses continually updated, valuable information such as short courses, case studies, slides, multimedia course modules, curricula, and instructional materials.

North Carolina Center for Public Health Preparedness (NCCPHP) - The training website offers free short internet-based trainings on public health preparedness topics such as disease surveillance, basic epidemiology, bioterrorism and new/emerging disease agents. Trainings address emergency readiness competencies plus core public health and epidemiology competencies. Free continuing education credits (CEUs) for trainings are available. The web site is: https://sph.unc.edu/nciph/cphp-programs/ .

Additional Resources

[NC Communicable Disease Branch](#)

[NC DENR](#)

[Centers for Disease Control and Prevention](#)

[UNC Center for PH Preparedness for public health education](#)

ICS and Epi-Teams – [link to ICS online free training](#)

[PHP&R Website Training](#)

[NC Communicable Disease Manual](#)

[Food Safety Risk Analysis Clearinghouse](#)

[Gateway to Government Food Safety Information](#)