#### **New Jersey Department of Health and Senior Services (NJDHSS)**

# **Community Containment of Plague**

#### March 23, 2005

# 1. Purpose

The purpose of this document is to provide guidance on effective containment strategies during a biological event. This document should be used to develop detailed local implementation plans based on the characteristics of the local outbreak and health care and public health resource capacity.

In this document, isolation and quarantine are abbreviated as I/Q. Additional information on I/Q can be found at

http://www.cdc.gov/ncidod/dq/sars\_facts/isolationquarantine.pdf.

Guidance for community-based isolation refers to isolation (the act of separation of ill persons from healthy persons and the restriction of their movements to stop the spread of illness) outside of acute care hospital/health care facility settings. Acute care hospitals/health care facilities will need to follow isolation and infection control guidelines as specified in CDC's "Guideline for Isolation Precautions in Hospitals" located at

http://www.cdc.gov/ncidod/hip/isolat/isolat.htm

Quarantine applies to people who have been exposed and may be infected but are not yet ill. Separating exposed people and restricting their movements is intended to stop the spread of that illness. There may be situations where monitoring of exposed people may be appropriate without the need for quarantine.

## 2. <u>Legal Considerations</u>

General information regarding the legal authority for I/Q can be found at <a href="http://www.cdc.gov/ncidod/dq/sars\_facts/factsheetlegal.pdf">http://www.cdc.gov/ncidod/dq/sars\_facts/factsheetlegal.pdf</a>

#### a. Statutory Authority

The statutory authority for isolation and quarantine lies in New Jersey statutes, N.J.S.A. 26: 4-2 which provides that in order to prevent the spread of disease, the NJDHSS and the local boards of health within their respective jurisdictions, and subject to the state sanitary code, shall have power to:

- declare what diseases are communicable:
- declare when any communicable disease has become epidemic;

- require the reporting of communicable diseases;
- maintain and enforce proper and sufficient quarantine, wherever deemed necessary;
- remove any person infected with a communicable disease to a suitable place, if in its judgment removal is necessary and can be accomplished without any undue risk to the person infected;
- disinfect any premises when deemed necessary; and
- remove to a proper place to be designated by it all articles within its
  jurisdiction, which, in its opinion, shall be infected with any matter
  likely to communicate disease and to destroy such articles, when in
  its opinion the safety of the public health requires it.

Thus, to prevent the spread of contagious or possibly contagious disease and to protect public health, the NJDHSS Commissioner may issue and enforce administrative orders and procedures for isolation or quarantine. In addition, all reasonable means shall be taken to prevent the transmission of infection among the isolated or quarantined individuals. These orders and procedures may include:

- isolation or quarantine of any person whose refusal of medical examination or testing results in uncertainty regarding whether he or she has been exposed to or is infected with a contagious or possibly contagious disease or otherwise poses a danger to public health;
- isolation or quarantine of persons who are unable or unwilling for reasons of health, religion, or conscience to undergo treatment and/or vaccination; and
- establishment and maintenance of suitable places of isolation and quarantine.

In making decisions to isolate or quarantine, public health authorities must base their decisions upon the latest knowledge of epidemiology, virology, bacteriology, and public health and must utilize the least restrictive means necessary to effectively protect the public's health. The following standards shall apply for quarantine or isolation, when they need to be implemented:

- Persons shall be isolated or quarantined if it is determined by clear and convincing evidence that the person to be isolated or quarantined poses a significant risk of transmitting a disease to others with serious consequences.
- The Commissioner shall terminate isolation or quarantine of any person when that person no longer poses a significant risk of transmitting a disease to others with serious consequences.

- To the extent possible, the premises in which persons are isolated or quarantined shall be maintained in safe and hygienic manners, designed to minimize the likelihood of further transmission of infection or other harm to persons subject to isolation or quarantine.
- Adequate food, clothing, medication, means of communication and other necessities and competent medical care shall be provided.
- Isolated individuals must be confined separately from quarantined individuals.
- The health status of isolated and quarantined individuals must be monitored regularly to determine if their status changes. If a quarantined person subsequently becomes infected or is reasonably believed to have become infected with a contagious or possibly contagious disease, he or she must promptly be moved to isolation.
- A person subject to isolation or quarantine shall obey the Commissioner's rules and orders, shall not go beyond the isolation or quarantined premises, and shall not put himself or herself in contact with any person not subject to isolation or quarantine other than a physician or other health care provider, or person authorized to enter isolation or quarantine premises by the Commissioner.
- In certain cases a work quarantine may be issued. Work quarantine is
  defined as an exposure management tool for the public heath care
  delivery system and its workers who have had limited exposure.
  Workers are to travel alone to and from work, undergo appropriate
  monitoring upon arrival and departure from work, and remain at home
  when not at work, following specific guidelines.

In addressing the public health emergency requiring the isolation or quarantine of individuals, the NJDHSS shall make every effort to respect and accommodate the needs and rights of persons subject to isolation or quarantine, consistent with the overall needs of public health and safety. NJDHSS, as necessary, will seek assistance and relief from the Superior Court in enforcing the Commissioner's isolation and quarantine orders.

## b. N.J.S.A. 26:3-19. Local Health Personnel; Tenure; General Powers

N.J.S.A. 26: 3-19 provides that the local board of health may employ such personnel as it may deem necessary, to carry into effect the powers vested in it. Any duly appointed health officer shall, subject to the superior authority of the local board of health appointing him, be its general agent for the enforcement of its ordinances and the sanitary laws of the State. The health officer shall provide leadership in the field of public health in the community

served by the local board of health as required under the "Public Health Practice Standards of Performance for Local Boards of Health in New Jersey," effective February 18, 2003. In addition to being the chief executive officer of the local board of health, the health officer is responsible for evaluating the health problems of the community served by the local board of health, planning appropriate activities to meet the health problems of the citizens thereof, developing necessary budget procedures to cover these activities and directing the staff of the local board of health to carry out these activities efficiently and economically.

# c. Reporting

The NJDHSS Communicable Disease Service is responsible for epidemiologic activities related to reportable communicable disease as stipulated by N.J.A.C. 8:57 as well as public health issues and emergencies related to infectious diseases. Under the New Jersey Administrative Code N.J.A.C. 8:57-1.3 (a) the following diseases shall be reported immediately to the health officer (HO) with the HO reporting immediately to the NJDHSS:

- Anthrax (*Bacillus anthracis*);
- Botulism (*Clostridium botulinum*);
- Brucellosis (*Brucella spp.*);
- Diphtheria (Corynebacterium diphtheriae);
- *Haemophilus influenzae*, invasive disease;
- Hantavirus;
- Hepatitis A, institutional settings;
- Measles;
- Meningococcal disease (Neisseria meningitidis);
- Pertussis (whooping cough, *Bordetella pertussis*);
- Plague (*Yersinia pestis*);
- Poliomyelitis;
- Rabies (human illness);
- Rubella;

- Smallpox;
- Tularemia (Francisella tularensis);
- Viral hemorrhagic fevers, including, but not limited to, Ebola, Lassa, and Marburg viruses;
- Foodborne intoxications, including, but not limited to, ciguatera, paralytic shellfish poisoning, scombroid, or mushroom poisoning; and
- Any outbreak or suspected outbreak, including, but not limited to, foodborne, waterborne or nosocomial disease or a suspected act of bioterrorism.

## d. Confidentiality of Patient Information

Notwithstanding all provisions of law, access to medical information of persons who have participated in isolation or quarantine programs by the Commissioner during a public health emergency shall be limited to those persons having a legitimate need to acquire or use the information to: provide treatment to the individual who is the subject of the health information; conduct epidemiologic research; and investigate the causes of the transmission.

Medical information held by the Commissioner shall not be disclosed to others without individual written, specific informed consent, except for disclosures made directly to the individual; to appropriate federal agencies or authorities pursuant to federal law; to law enforcement agencies, including the state medical examiner, investigating the circumstances giving rise to the public health emergency; pursuant to a court order to avert a clear danger to an individual or the public health or to identify a deceased individual or determine the manner or cause of death.

# e. <u>Health Insurance Portability and Accountability Act of 1996, 42 U.S.C.A</u> 1301 et seq. (HIPAA)

HIPAA encompasses new Federal rules to protect the privacy of individuals' health information that took effect April 14, 2003. HIPAA recognizes that various agencies and public officials will need protected health information to deal effectively with a bioterrorism threat or public health emergency. To facilitate the communications that are essential to a quick and effective response to such events, the Privacy Rule permits covered entities to disclose needed information to public officials in a variety of ways. Covered entities may disclose PHI, without the individual's authorization, to a public health authority acting as authorized by law in response to a bioterrorism threat or public health emergency (see 45 CFR 164.512(b), public health activities).

The Privacy Rule also permits a covered entity to disclose PHI to public officials who are reasonably able to prevent or lessen a serious and imminent threat to public health or safety related to bioterrorism (see 45 CFR 164.512(j), to avert a serious threat to health or safety). In addition, disclosure of PHI, without the individual's authorization, is permitted where the circumstances of the emergency implicates law enforcement activities (see 45 CFR 164.512(f)); national security and intelligence activities (see 45 CFR 164.512(k) (2)); or judicial and administrative proceedings (see 45 CFR 164.512(e)).

## f. Use of Private and Public Facilities

Under N.J.S.A. App. A:9-34, which sets out the Emergency Powers of the Governor, the Governor is authorized in an emergency, to utilize and employ all the available resources of the State Government and of each and every political subdivision of this State, whether of men, properties or instrumentalities, and to commandeer and utilize any personal services and any privately owned property necessary to avoid or protect against any emergency subject to the future payment of the reasonable value of such services and privately owned property as hereinafter in this act provided.

# 3. Planning Assumptions

- LINCS (Local Information Network and Communications System) is a system comprised of public health professionals and electronic public health information built on computer and Internet technologies. LINCS is a network of twenty-two strategically positioned public health agencies (LINCS agencies) located throughout the state, all local health departments (LHDs) and the NJDHSS.
- The LINCS agency is the lead public health agency in each county or identified city, responsible for planning and coordinating specialized services, in cooperation with local health departments, to prepare for and respond to acts of bioterrorism or other public health emergencies.
- LHDs are responsible for the provision of local public health services. There are over 100 LHDs in New Jersey.
- The primary method of control for a biological event may include individual, population-specific and/or geographic quarantine.
- Acute care hospitals will be used for individuals in need of acute medical care and isolation in an event where the outbreak is contained and case numbers are manageable by the facilities.

- Voluntary home-based I/Q will be used for individuals who are not in need of acute care and meet the requirements for home-based I/Q.
- Voluntary home-based I/Q is the most common approach and results in high compliance. However, for non-adherent individuals, legal procedures to expeditiously enforce I/Q shall be in place.
- When the surge capacity of the acute care facilities has been exceeded, community response measures will be initiated dependent upon numbers of individuals requiring I/Q and transmission patterns. These measures will be initiated based upon the recommendations of the NJDHSS State Epidemiologist. Issues related to surge capacity of hospitals are addressed in each hospital's Disaster Plan as well as in the NJDHSS document "Respiratory Illness Surge Capacity Guidance for General Hospitals."
- If needed, the NJDHSS Commissioner, in coordination with the Director of the State Office of Emergency Management (OEM) will request activation of the State Emergency Operation Plan by the Governor.
- I/Q of an individual will be the least restrictive means needed to protect the public's health.
- The largest cohort requiring monitoring during an outbreak will be asymptomatic contacts. Asymptomatic contacts will be medically monitored as appropriate for the biological agent.
- Under New Jersey state law each municipality maintains an Emergency
  Operation Plan that defines how municipal resources will be used in a time
  of emergency. During an outbreak, response resources may require the
  activation of Municipal and County Emergency Operation Plans to include
  interlocal agreements. Interlocal agreements should clearly outline the use
  of the LINCS agencies and LHD staff to provide surge capacity essential
  to I/Q procedures.
- The I/Q Plan should be incorporated as an appendix to the local and county Public Health Annex of the Emergency Operation Plan.
- Preserving the public's trust will be critical to an effective and orderly I/Q process. Effective communication about I/Q policies and procedures is the key to ensuring and preserving the public's trust. A system is in place to coordinate risk communication messages which are disseminated by NJDHSS and LINCS agencies/LHDs to the media and the public.
- A state-based hotline will be available for clinicians and local health departments to address case management questions (e.g., clinical

management, infection control guidance, laboratory specimen collection) that require NJDHSS expertise.

• NJDHSS will provide guidance regarding appropriate use of personal protective equipment (PPE).

#### 4. Strategies & Considerations for Implementation of I/Q

- a. Implementation of I/Q measures will need to occur in concert with the following:
  - Communication strategies (risk communication messages, travel alerts, press releases and notification of interagency partners);
  - Movement of essential personnel;
  - Movement of materials (food, medical supplies, medical and nonmedical waste):
  - Movement of individuals into and out of I/Q areas;
  - Privacy of individuals' health information (HIPPA);
  - Emergency Medical Treatment & Labor Act (EMTALA); and
  - Law enforcement's role.
- b. There are three types of community I/Q as follows:
  - Home I/Q;
  - Designated facility I/Q; and
  - Work quarantine.

The type of I/Q used will depend on the specific circumstances of a biological event and will vary with the individual being isolated/quarantined. I/Q may be voluntary or court ordered.

## c. Special Considerations

- Community-based I/Q measures for Special Populations should be home-based with daily monitoring by the LHD to assure needed services are provided.
- When there is a need for quarantine of a large number of individuals across a wide geographic area, it may be more feasible to use concepts, such as Snow Days (statewide or geographic location, days off from

work), suspension of public gatherings, restrictions of travel (air, rail, water, motor, pedestrian), cancellation of events, curfews, geographic or population-based movement restrictions, closing of public buildings and places, voluntary or mandatory closing of businesses and institutions, or recommended or mandatory mask use.

Work quarantine may be instituted for health care workers or other
essential personnel who have been exposed to infected patients and
who may need to continue working (using appropriate infection
control precautions). In work quarantine, workers are quarantined
either at home or in a designated facility during off-hours. They must
travel alone to and from work.

#### d. Non-adherent individuals

- An individual can be determined to be non-adherent immediately upon notification of the need for their I/Q or subsequent to notification. Deliberate non-adherence by an individual warrants the need to issue an Administrative Order directing the isolation or quarantine of the individual by the Commissioner in conjunction with the local health officer. Mechanisms must be in place that allow the identification of these individuals and provide for the ability to issue them the Order.
- An individual can also be non-adherent due to a special circumstance that makes them unable to comply. These individuals should be provided support services needed to comply. If support services do not result in adherence, the individual must be placed in an appropriate Community I/Q Center to ensure adherence.

## 5. State Consultation & Technical Oversight

The NJDHSS will be responsible for providing consultation and technical support as needed. Types of technical support provided will include case/contact management, logistics, personal protective equipment, etc., and will parallel the types of services that are needed at the local level.

## 6. Role of LINCS Agencies and LHDs

a. The following are key functions of the LINCS agencies and the LHDs with regard to public health preparedness:

- In order to assist the department with comprehensive Statewide planning and coordination of all activities related to public health preparedness, LINCS agencies should, at the direction of the Commissioner, serve as the planning and coordinating agency for all municipalities and local health agencies within the county or city, as applicable.
- The Commissioner, either directly or through the LINCS agencies, coordinates the activities of all local health agencies with regard to public health protection related to preparing for and responding to public health emergencies.
- The LINCS agency and all other local health agencies within the county are subject to the direction and authority of the Commissioner, and should perform such activities as are directed by the Commissioner.
- The LINCS agency is responsible for performing human disease surveillance, terrorism response and public health emergency response-related activities in such a manner as the Commissioner may direct, and for reporting to the Commissioner on the conduct of these activities as performed in the county or city, as applicable.
- The Commissioner may utilize the LINCS agencies to disseminate such information to the other local health agencies in the county, and to collect such information from those agencies, as the Commissioner deems necessary; and the LINCS agencies should transmit the information to the Commissioner or the other local health agencies as directed by the Commissioner.
- b. Additionally, the LINCS agencies in conjunction with other key staff from LHDs in the jurisdiction; health care providers; and representatives from law enforcement, Chamber of Commerce, local/county OEM, Emergency Medical Services, public transportation agencies, and volunteer disaster agencies such as the American Red Cross and the Salvation Army will be responsible for providing:
  - Medical, social and psychological monitoring and support for individuals being isolated or quarantined;
  - Identification, training and assignment of staff to provide casemanagement services for individuals being isolated or quarantined;
  - Maintenance of all records related to case-management;

- Referral, admission and discharge procedures that link triage systems and contact tracing;
- Medical monitoring of all local public health staff who have contact with potential cases;
- Relay/transmission of information to the NJDHSS;
- Arrangement of logistical and operational support for community-based I/Q operations, such as security, transportation, food, laundry, disposal of medical waste, medical supplies, housekeeping, PPE, administration, and environmental health.

#### **Plague Specific Information**

For additional information, refer to the CDC's "Plague Training Module" located at <a href="http://www.bt.cdc.gov/agent/plague/trainingmodule/index.asp">http://www.bt.cdc.gov/agent/plague/trainingmodule/index.asp</a>.

## I. Unexposed Individuals

#### A. Restriction of Movement

In certain instances, it may be appropriate to institute community-wide measures designed to increase social distance such as community-wide "snow days" and the closure of public venues. These measures do not fall under isolation or quarantine since they are designed to prevent unexposed individuals from becoming exposed. One approach would be to apply concentric levels of restriction designed to limit movement of individuals and conveyances between communities ("cordon sanitaire") in an effort to control the spread of the organism. The decision to limit the movement of large numbers of individuals will need to be a coordinated effort involving law enforcement.

#### II. Exposed, Asymptomatic Individuals

#### A. Medical Surveillance

The majority of individuals who have been exposed to *Y. pestis* will not qualify for isolation or quarantine. Post-exposure prophylaxis will, in the majority of cases, prevent the development of symptomatic illness. Only individuals who are symptomatic transmit the infection to others. Therefore, exposed or potentially exposed individuals who are asymptomatic at the time antibiotic prophylaxis is initiated are unlikely to transmit the infection to others, especially after receiving 48 hours of effective antibiotics. Local health departments (LHDs), depending on their resources, may choose to document their contact-management activities. LHDs can use the "Plague Contact Investigation Form" (Appendix A) as a guide when developing their own forms.

- Contacts should monitor and record their temperature in the morning and early evening each day for seven days.
- During the surveillance period, contacts may continue their usual activities, going to work or attending school, as long as they remain afebrile and have no cough. Contacts should, however, maintain contact with health authorities and not travel away from their area of residence during their surveillance period.

• If contacts develop a temperature of 101 degrees F or greater, or develop a cough or other symptoms of acute illness, they should follow the instructions provided at the time they received their medication.

#### B. Quarantine

In certain situations, it may be appropriate to quarantine an individual who has been exposed or potentially exposed to *Y. pestis*. Those individuals who are unable to take prophylaxis, who refuse to take the therapy as prescribed, who may have been exposed to a resistant strain, or who have barriers to adherence may need to be quarantined. Upon determination of the need for quarantine, the LHD for the jurisdiction, in conjunction with the LINCS agency shall determine the appropriate location of quarantine. Home-based quarantine is preferred; however, provisions shall be made for Community Quarantine Centers.

# 1. Home-based Quarantine

- Issue a Notice of Quarantine Agreement, which will be provided by the NJDHSS when needed, to the involved individual and/or parent/guardian. The Notice of Quarantine Agreement should be discussed with the individual/guardian and signed and dated to attest to the terms of the agreement.
- Provide information about agencies that offer personal support services, such as medical supplies and care, food, childcare, eldercare, and/or mental health services during the quarantine period.
- Provide monitoring and evaluation of individuals who are under home-based quarantine, using the "Plague Surveillance Report Form" (Appendix B), in order to determine the need for referral for further care, isolation, and/or termination of quarantine.
- Persons in quarantine should be vigilant for fever of 101 degrees F or greater measured twice daily and cough for seven days from last exposure. After 48 hours of appropriate prophylactic therapy, it is unlikely that the individual will develop symptoms if asymptomatic at the time of initiation of therapy. An active monitoring system may need to be instituted for those individuals who may have barriers to adherence.
- If appropriate, establish a case management telephone hotline to address concerns and answer any questions of quarantined individuals. This hotline also should be available to track and monitor these individuals (e.g. quarantined individuals can call in to this local hotline to confirm that they are afebrile and asymptomatic).

• If individuals should develop symptoms of active disease, they should follow the directions provided at the time of quarantine initiation.

## 2. Community Quarantine Centers

Community Quarantine Centers may be utilized in several settings:

- ➤ Individuals who have been exposed to *Y. pestis*, but may not have access to an appropriate home environment for quarantine. Examples include travelers, persons living in dormitories, homeless shelters, or other group facilities.
- ➤ Contacts who may have an appropriate home environment but may not wish to put family members at risk and, therefore, prefer a community setting.
- ➤ Community Quarantine Centers may also be necessary if the public health system becomes overwhelmed by the need for home-based quarantine especially if the quarantine is not voluntary. The ability to closely monitor and control large numbers of individuals in distant locations may not be practical. Monitoring many quarantined individuals at a single site will be more practical.

The site selection criteria shall be made in conjunction with county OEM, law enforcement agencies, fire/construction subcode officials, legal professionals, environmental health specialists, infection control professionals, and public health nurses. Please see Appendix C entitled, "Community Quarantine Site Selection Criteria".

Upon determination of the need for community quarantine, the LHD, in conjunction with the LINCs agency for the jurisdiction should:

- Issue a Notice of Quarantine Agreement, which will be provided by the NJDHSS when needed, to the involved individual and/or parent/guardian. The Notice of Quarantine Agreement should be discussed with the individual/guardian and signed and dated to attest to the terms of the agreement.
- Provide information about agencies that offer personal support services, such as medical supplies and care, food, childcare, eldercare, and/or mental health services during the quarantine period.
- Provide monitoring and evaluation of individuals who are under community-based quarantine, using the Plague Surveillance Report Form, (Appendix B) in order to determine the need for referral for further care, isolation, and/or termination of quarantine.
- Persons in quarantine should be vigilant for fever of 101 degrees F or greater measured twice daily and cough for seven days from last exposure.

After 48 hours of appropriate prophylactic therapy, it is unlikely that the individual will develop symptoms if asymptomatic at the time of initiation of therapy. An active monitoring system may need to be instituted for those individuals who have barriers to adherence.

- If appropriate, establish a case management telephone hotline to address concerns and answer any questions of quarantined individuals. This hotline also should be available to track and monitor these individuals (e.g. quarantined individuals can call in to this local hotline to confirm that they are afebrile and asymptomatic).
- If individuals should develop symptoms of active disease, they should follow the instructions provided at the time of quarantine initiation.

# III. Exposed, Symptomatic Individuals

#### D. Isolation

Since those individuals who require isolation are clinically ill, the location of isolation will depend on the condition of the individual, the availability of home-based support, and the availability of healthcare resources in the community. Isolation may occur in hospital, home, or community settings.

# 1. Hospital-based Isolation

Those patients in need of acute care services will best be served in the hospital setting. Hospitals will initiate standard and droplet precautions in accordance with the CDC recommendations for plague. After 72 hours of effective antimicrobial therapy the patient is not considered a risk for transmission of *Y. pestis*.

#### 2. Home-based Isolation

Those patients who are not in need of acute care can remain at home provided they have adequate support. In addition, patients may need to be cared for at home if the healthcare delivery system becomes overwhelmed. Upon determination of the need for home-based isolation, the LHD, in conjunction with the LINCs agency for the jurisdiction shall:

 Issue a Notice of Isolation Agreement, which will be provided by NJDHSS when needed, to the affected individual and/or parent/guardian. The Notice of Isolation Agreement should be discussed with the individual/guardian and signed and dated to attest to the terms of the agreement.

- The patient and household members should be provided instructions on infection control and Personal Protective Equipment (PPE) as outlined in the following section, Infection Control and PPE. Appropriate supplies should be provided; included should be information for those who may need access to the home.
- Provide information about agencies that offer personal support services such as medical supplies and care, food, childcare, eldercare, laundry, housekeeping, mental health services, and information about disability and unemployment compensation. The needs of special needs populations should be considered as well (elderly, children, cultural/religious beliefs, etc).
- Provide monitoring of individuals who are under home-based isolation, using the Plague Surveillance Report Form (Appendix B).
- Assist qualified medical practitioners in making arrangements for clinical monitoring and treatment of their home-based isolated patients.
- If appropriate, establish a case management telephone hotline to address concerns and answer any questions of isolated individuals. However, clinical questions should be addressed by the patient's qualified medical practitioner.
- Evaluate the patient for termination of isolation, in consultation with a qualified medical practitioner. Isolation may be terminated after 72 hours of effective antibiotic therapy AND improved clinical status, OR until plague has been eliminated as a diagnosis.

## 3. Community Isolation Centers

Community Isolation Centers will be used to accommodate those individuals who do not need acute medical care but are not suitable for home-based isolation. Those who might fall into this category include those who are homeless, travelers, non-adherent individuals, those without appropriate social supports. In addition, Community Isolation Centers might be necessary if the healthcare system is overwhelmed and unable to care for patients in the acute care setting. Finally, Community Isolation Centers might be necessary if there are so many patients requiring home-based care that the public health and service sector are overwhelmed. Caring for these individuals in a communal setting would optimize the use of available resources. The site selection criteria shall be made in conjunction with County OEM, law enforcement agencies, fire/construction subcode officials, legal professionals, environmental health specialists, infection control professionals, and public health nurses. Please see Appendix D entitled, "Community Isolation Site Selection Criteria".

The following activities will be implemented upon determination that Community Isolation is warranted.

- Issue a Notice of Isolation Agreement, which will be provided by NJDHSS when needed, to the affected individual and/or parent/guardian. The Notice of Isolation Agreement should be discussed with the individual/guardian and signed and dated to attest to the terms of the agreement.
- Provide those in the facility and those who need access to the facility appropriate PPE and instructions on the use of PPE.
- Provide information about agencies that offer personal support services such as medical supplies and care, food, childcare, eldercare, laundry, housekeeping, mental health services, and information about disability and unemployment compensation. The needs of special needs populations should be considered as well (elderly, children, cultural/religious beliefs, etc).
- Provide monitoring of individuals who are under community-based isolation, using the Plague Surveillance Report Form (Appendix B)
- Assist qualified medical practitioners in making arrangements for clinical monitoring and treatment of the community-based isolated patients.
- Evaluate the patient for termination of isolation, in consultation with a
  qualified medical practitioner. Isolation may be terminated after 72 hours
  of effective antibiotic therapy AND improved clinical status, OR until
  plague has been eliminated as a diagnosis. Patients may be transferred out
  of the isolation facility once isolation has been terminated. This will
  decrease the chance that the individual will be reinfected with the
  organism.

# IV. Infection Control and Personal Protective Equipment (PPE)

Pneumonic plague occurs when *Y. pestis* infects the lungs. Pneumonic plague is spread by breathing in *Y. pestis* suspended in respiratory droplets from a person (or animal) with pneumonic plague. Becoming infected in this way usually requires direct and close contact with an ill person or animal. Pneumonic plague may also occur if a person with bubonic or septicemic plague is untreated and the bacteria spread to the lungs. Only individuals who are symptomatic transmit the infection to others. All confirmed, probable, or suspected pneumonic plague case-patients shall be isolated using standard and droplet precautions, at a minimum, during the first 72 hours of effective antibiotic therapy, AND until clinical improvement occurs, OR until plague has been ruled out by a qualified medical practitioner.

Isolation shall include the following infection control measures as outlined by the CDC at <a href="https://www.cdc.gov/ncidod/hip/ISOLAT.HTM">www.cdc.gov/ncidod/hip/ISOLAT.HTM</a> and in NJDHSS' Universal Respiratory Precautions at <a href="http://nj.gov/health/flu/documents/urp\_public\_english041208.pdf">http://nj.gov/health/flu/documents/urp\_public\_english041208.pdf</a>.

#### A. Standard Precautions

# Handwashing

Hands should be washed after direct contact with body fluids of an individual infected with plague. Wash hands immediately after gloves are removed. Hands may be washed with soap (antimicrobial or nonanitmicrobial) or a waterless hand sanitizer. Further information on hand hygiene may be found at <a href="http://www/cdc.gov/handhygiene">http://www/cdc.gov/handhygiene</a>.

#### Gloves

Wear gloves when touching body fluids of an individual infected with plague or when coming into contact with environmental surfaces that are potentially contaminated with body fluids. Remove gloves promptly after use and wash hands immediately. Gloves should not be washed or reused.

#### • Eye Protection and Face Shield

Where eye and face protection if activities involved in caring for an individual infected with plague might result in splashes or sprays of body fluids.

#### • Gown

Wear a cover or gown over clothing to protect skin and prevent soiling of clothing with the body fluids of an individual infected with plague. Remove the soiled gown or cover as promptly as possible and wash hands.

#### • Environmental control

Disinfect environmental surfaces that may be contaminated with the body fluids of the individual infected with plague. For home disinfection, a dilute bleach solution (1:100) or any household disinfectant can be used. Dispose of paper towels immediately in the trash.

## B. Droplet Precautions

#### • Placement

Place the individual with plague in a private room. In a community setting, patients may be cohorted; maintain spatial separation of at least 3 feet between the infected patient and other individuals. Special air handling is not necessary. The door to the room may be kept open.

# Mask

Care providers should wear a surgical mask, at a minimum, when within 3 feet of the individual.

Movement of the Individual
 Limit the movement of the individual from the room to prevent contamination
 outside the care area.

#### C. Additional measures to reduce transmission:

- Individuals with plague should be advised to cover his/her mouth and nose with a facial tissue when coughing or sneezing. A patient with pneumonic plague can wear a surgical mask during close contact with others (3 feet). This will prevent droplets from traveling through the air and impacting on others. Individuals should be required to wear a mask, for the first 72 hours of treatment, if leaving the area of care. Patients may not be able to wear masks because of respiratory difficulties or the need for supplemental oxygen.
- Disposal supplies should be utilized whenever possible (utensils and dishes). If disposable supplies are not available, care should be taken to avoid contamination of the environment such as kitchen sinks and sponges.
- Materials contaminated or potentially contaminated with body fluids from individuals with plague can be disposed of with the regular trash. This material may include surgical masks, facial tissues and paper towels used to clean environmental surfaces. However, care should be taken to avoid inadvertent contact with the materials after disposal. The trash should be disposed of frequently.
- Cats may develop pneumonic plague; therefore, they should be separated from humans suspected or confirmed to have the disease. Similarly, cats with pneumonic plague may be infectious to humans; ill cats should be promptly evaluated by a veterinarian. Dogs and most other pets are more resistant to infection with plague.
- Individuals who are under quarantine and have not developed symptoms are not considered infectious to others. No specific precautions need be followed for these individuals.

## **APPENDIX A**



# Plague Contact\* Investigation Form

|--|

\*A plague contact is a person having household, hospital or other close (<2 meters/6.5 ft) contact with a pneumonic or pharyngeal plague OR unprotected physical contact with a draining bubo from the onset of symptoms through completion of 72 hours of appropriate antibiotic therapy.

questions provided below and following instructions written in italics.  CASE INFORMATION	please Please
Name of CaseCONTACT IDENTIFICATION	Case Onset Date//
1.) Did you have contact with (name of case above) within 24 hou	rs of (case onset date above)?
	O (if the patient entered and A in instruction section below)
CONTACT	INFORMATION
Address	Birth date// Age Gender □ F □ M □ DK
CLINICAL	INFORMATION
Do you currently have any of the following symptoms? (please read	list below and record responses)
-	d Symptoms
Y N DK	Y N DK
If the person answers NO to ALL questions above rea	
If the person answers YES to any of the above signs a	and symptoms read instructions section C.
	e. We apologize for the inconvenience but there is no further action that
<b>B</b> – You are an identified contact of a plague case. You need to con Additionally, you will need to monitor yourself for any symptoms that temperature and symptoms for 7 days. If you develop a fever or conferency department or your primary care physician. <b>C</b> – You are an identified contact of a plague case and maybe show emergency department for treatment.	t might develop for the next 7 days. Please record your daily ugh in the next 7 days you need to seek medical evaluation with an
Name of Investigator:	Date completed:/

**APPENDIX B – Page 1** 

Department of Health & Senior Services	UE Fax Form To:	
CDRS # Outbreak #	County	
CDR3 # Outbreak #	Municipality	
☐ Reported to DHSS Date// Is this case ☐ Confirmed ☐ Probable ☐ Suspect ☐ Not	a case	
If this is a case, is the case epidemiologically linked to a	a case Suspected Diagnosis  ☐ Pneumonic plague ☐ Septicemic plague	
confirmed/probable case? ☐ Yes ☐ No If yes, Type of Epi-Link	☐ Bubonic plague ☐ Pharyngeal plague	
☐ Household contact ☐ Workplace contact ☐ Other contact:_	Other, specify	
Name of Epi-LinkREPORTING	3 SOLIBOE	
Initial report date//	3 OOSKOL	
Reported by: Name Institution/Agency		
Treating Physician Name		
PATIENT INF	FORMATION	
Name (last, first, MI)	Birth date// Age	
Address		
City/State/Zip	Ethnicity Hispanic or Latino	
Phone(s)/Email		
Alt. contact ☐ Parent/guardian ☐ Spouse ☐ Other Name:	(lolder	
Patient Occupation/Grade	ack/African American	
Patient Employer/Worksite/School/Day Care Name	☐ Asian/PI ative American/Alaskan ☐ Other, pleas pify	
Patient Employer/Worksite/School/Day Core Phone		
CLINICAL INF	FORMATION	
Onset date:// sis d/_  Medical Care for	ess ton:tays	
Y N DK	Current imics	
□ □ Was patient evalue the E enc		
Hospital nameOh		
Y N DK □ □ □ Did patient visit other ders/ft while it	es, please specify below:	
Provider/facility name	Provider/facility name	
Contact and phone #	ontact and phone #	
Date/ DK	Date /_/_ DK	
□ □ Was the patient hospitalized? (Date/) If yes	s, name of facility	
Signs and Symptoms Y N DK	Clinical Findings Y N DK	
☐ ☐ Fever Highest measured temp: °F  Type: ☐ Oral ☐ Rectal ☐ Other: ☐ DK	☐ ☐ Regional lymphadenitis ("bubo")  Location: ☐ Inguinal ☐ Femoral	
Date/	☐ Cervical ☐ Right axillary ☐ Left axillary	
☐ ☐ Were fever reducing drugs taken prior to	Other location:	
temperature reading?  □ □ □ Cough Onset date://	Size: Tender □Y □N □DK	
Productive $\square Y \square N \square DK$ (if yes specify below)	Erythematous	
□ Watery □ Mucoid	□ □ Respiratory distress	
☐ Bloody ☐ Other	☐ ☐ Pharyngitis ☐ ☐ Pneumonia	
☐ ☐ Headache	□ □ Skin ulcer	
☐ ☐ Muscle aches or pain (myalgia)	□ □ □ Conjunctivitis □ □ Other, Specify	
□ □ Malaise □ □ □ Sore throat		
☐ ☐ Tender glands		
□ □ Swollen glands □ □ Other, Specify	2 Page 1	

# **APPENDIX B – Page 2**

Tests Performed				
Y N DK □ □ □ WBC Performed (Date:		Please specify below		
La La Wee Ferreimod (Edite:		WBC Count:		
□ □ □ Leukocytosis Left Shift □	Y□ N	Diff% Neutrophils% Bands	% Lymphs	
		% Monocytes% Eosinophils	% Basophils	
□ □ □ Chest x-ray performed  Result: □ Normal	□ Abnormal			
		pe finding:		
	Torrial, product decorie			
Y N DK		Microbiology		
☐ ☐ Lab tests performed for Y	. pestis			
Test	Date Collected	Specimen Type (blood, lymph node aspirate, sputum, CSF, serum)	Result	
Culture	/ /		☐ growth ☐ no growth	
Gram Stain □ yes □	no Result:		Organism identified:	
Antimicrobial sensitivities	/ /	Resistance to: Gentamicin Doxycycline	Ciprofloxacin ☐ Other:	
Culture	/ /		☐ growth ☐ no growth	
Gram Stain ☐ yes ☐	no Result:		Organism identified:	
Antimicrobial sensitivities	/ /	Resistance to: Gentamicin Doxycycline	Ciprofloxacin ☐ Other:	
DFA	/ /		☐ pos ☐ neg ☐ indeterminate	
DFA	/ /		□ pos □ neg □ indeterminate	
PCR (polymerase chain reaction)	1 1		☐ pos ☐ neg ☐ indeterminate	
PCR	/ /		☐ pos ☐ neg ☐ indeterminate	
IHC (immunohistochemical staining)	/ /		□ pos □ neg □ indeterminate	
IHC	/ /		□ pos □ neg □ indeterminate	
Antimicrobial sensitivities	/ /	Resistance to: Gentamicin Doxycycline	Ciprofloxacin Other:	
Serum antibody titer (acute)	/ /		Titer:	
Serum antibody titer (convalescent)	/ /	Outcome	Titer:	
Y N DK NA		Y N DK		
☐ ☐ ☐ ☐ Died from illness☐ ☐ ☐ ☐ Autopsy performed	Death date/_	_/_ Recovered, I		
		3		
	F	INFECTION TIMELINE Exposure Perio		
Enter onset date (first symptom)		Contagio		
in heavy box. Count backward Da to figure probable exposure	ys from	-7 Pnset unom		
period. s after aparte antibiotic treatment has				
rates / peen initiated.				
EXPOSURE (*Refer to dates above)				
Y N DK				
	ounty	coul	gatherings or crowded setting	
If yes, please list location and	pelow		,	
Location  Please list areas and dates:				
(1)		(1)	/ /	
(4)		(4)		
(5)		(5)		
Y N DK NA				
Y N DK NA  □ □ □ Foreign arrival (e.g. immigrant, refugee, adoptee, visitor)  Specify country:				
			Page 2	

# **APPENDIX B – Page 3**

Risl	Factors
Y N DK	Y N DK
☐ ☐ ☐ Occupational exposure	☐ ☐ Wildlife or wild animal exposure
☐ Laboratory worker ☐ Veterinarian	Specify:
☐ Other:	□ □ Slept in cabin or outside
☐ ☐ ☐ Handled sick or dead animal	☐ ☐ Slept in places with evidence of rodents (e.g. animals,
Type:	nest, excreta)
Date of exposure:/:	□ □ Wild rodent or wild rodent excreta exposure
☐ ☐ Handled tissue of infected animal	Where rodent exposure probably occurred:
Type:	WITETE TOUGHT EXPOSUTE PROBLETY COOUTING.
Date of exposure:/:	☐ ☐ ☐ Outdoor or recreational activities *
Date of exposure	Please check all that apply
☐ ☐ Exposure to pets Date of exposure://	11.7
Cat or kitten ☐ Y ☐ N ☐ DK	☐ lawn mowing ☐ gardening☐ hunting☐ hiking
Dog or puppy □Y □N □DK	□ camping □ sports □ yard work
Other:	Other, please specify
Free-roaming pet?	□ □ Insect or tick bite*
Was the pet sick? □Y □N □DK	☐ Deer fly ☐ Flea ☐ Mosquito ☐ Tick
	☐ Louse ☐ DK ☐ Other:
Who provided information on risk factors and exposures?	
☐ Patient ☐ Relative ☐ Friend ☐ Other, specify	*Please specify specific location in notes section.
If not the patient, specify name and contact information	
in not the patient, specify hame and contact information	
NamePhone	
	HYLAXIS/TREATMENT
Y N DK	THEAMS/INCATHICITY
☐ ☐ ☐ Antibiotics taken (Please list below)	
(1) Antibiotic:Dose: Duration: IM	☐ P( arted: / Date ended:/
	□ PC ted: Pare ended:/
(3) Antibiotic.	□ PC → d:/ ended: /
(4) Antibiotic: ratio	□ PC s s/
(5) Antibiotic:	☐ PC sta/_ Date ended:
	ion Control
What infection control precautions a ace for atie at it is	None nta Airborne
	Othe Dify
What infection control precautions were ace use a parameter arriva	h ? ☐ None ☐ Droplet ☐ Contact ☐ Airborne
	☐ Other, specify
If none were in place upon arrival, when	
Date/TimePM Type □ Droplet	
☐ Other, s	specify
CONTACTS	
Contacts - Please list any contacts of the patient wthin contagious p	period as indicated on infection timeline (see page 2).
Name Age Relation	Symptomatic Phone #
-	
(1)	□ yes □ no □ DK
(2)	□ yes □ no □ DK
(2)(3)	□ yes □ no □ DK □ yes □ no □ DK
(2)	yes     no     DK
(2)(3)	□ yes □ no □ DK □ yes □ no □ DK
(2)	yes     no     DK
(2)	yes     no     DK
(2)	yes     no     DK        yes     no     DK        yes     no     DK
(2)	yes     no     DK
(2)	yes     no     DK
(2)	yes       no       DK
(2)	yes     no     DK
(2)	yes       no       DK

#### PLAGUE CASE DEFINITION AND CLASSIFICATION

Clinical Definition: Plague is characterized by abrupt onset of fever, chills, head and body aches, malaise, prostration, and a polymorphonuclear

leukocytosis (usually >10,000 per cubic mm), and takes one or more of the following principal forms:

- Bubonic plague: regional lymphadenitis
- Septicemic plague: sepsis: primary or secondary
- Pneumonic plague: severe pneumonia resulting form inhalation of infectious droplets or aerosols (primary pneumonic plague); or from

hematogenous spread in bubonic or septicemic cases (secondary pneumonic plague)

• Pharyngeal plague: pharyngitis, usually cervical lymphandenitis

#### **Case classification and Laboratory Testing**

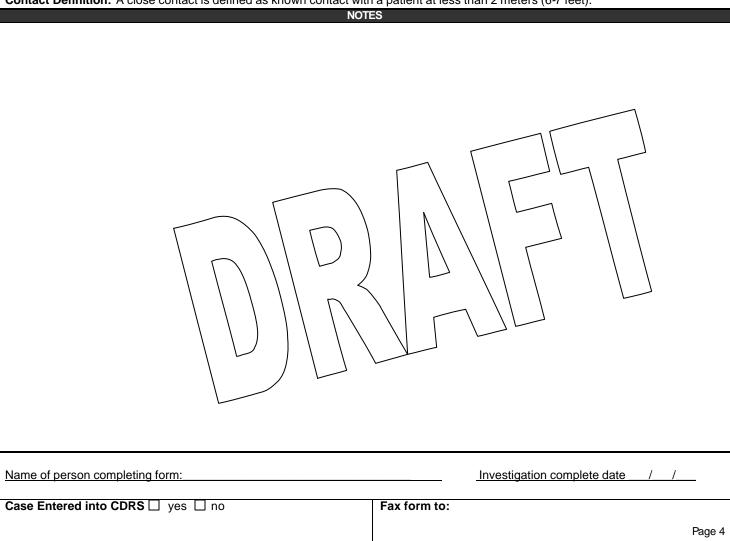
- <u>Suspected case</u>: A clinically compatible case, supported by finding stained organism in clinical specimens that have features of Yersinia pestis.
- Probable case:
  - A clinically compatible case with an epidemiologic link OR
  - o A clinically compatible case with presumptive laboratory results (DFA test, PCR evidence, or a single elevated serum antibody

titer to the F1 antigen) or a clinically compatible case during and within the geographic boundaries of an outbreak with known

confirmed isolation of Y. pestis.

• <u>Confirmed case</u>: A clinically compatible case with confirmatory isolation of *Y. pestis*, or a fourfold or greater change in antibody titer to F1 antigen. Immunohistochemical staining of the organism can be considered confirmatory, when isolation or serological confirmation is possible.

Contact Definition: A close contact is defined as known contact with a patient at less than 2 meters (6-7 feet).



#### **Quarantine Site Selection Criteria:**

The following procedures should be used as the minimal criteria for site selection:

- Adequate water, bathroom and shower facilities;
- Capacity for providing basic needs, such as:
  - food service capabilities;
  - medical evaluation, care and supplies;
  - windows, TV, phones;
- Laundry facilities or a contract to provide laundry facilities;
- Cleanable rooms and facilities with a minimum of non-porous surfaces (e.g., carpets);
- Refrigeration;
- Site layout compatible with American Red Cross Shelter Operations:
- Considerations for separate sleeping areas for families with young children, elderly, single men and women (sleeping quarters require a minimum of 40 square feet per person);
- Able to house at least 100 individuals to provide efficient operations;
- Internet capability;
- Adequate parking;
- Separate toilet and feeding facilities for staff; and
- Development of a written agreement with the facility management.

# Examples of Suitable Facilities:

- community centers;
- existing shelters identified in the County/Local Emergency Operations Plan or through the American Red Cross or Salvation Army;
- youth camps;
- hotel/motels;
- religious facilities;
- unused hospital wings or areas;
- schools;
- cruise ships;
- military bases; and
- armories.

#### Operational Considerations:

- Develop staffing patterns
  - Facility Manager This person will be responsible for the overall operations of the facility including oversight of all support services. It is recommended that at least three individuals be trained in shelter management through the American Red Cross.
  - Physician oversight should be available by phone or on-site as needed.
  - Nursing staff should be available on-site 24/7 for medical monitoring, evaluation and non emergency care at the level appropriate for the number of residents.

# APPENDIX C – Page 2

- Security staff should be available on-site 24-7 to maintain authority. If possible, a separate area with limited access to exits should be maintained for individuals who are under court ordered isolation.
- Administrative support staff to maintain resident records. These records should be able to track the resident, and document medical monitoring and care.
- Food service staff.
- Housekeeping staff.
- Infectious Disease oversight available or on-site consultation as needed.\
- On-site mental health support for residents and staff.
- Social services support available or on-site as needed.
- Institute an administrative and record keeping system that links with the overall disease control efforts at the state and county level.
  - A folder that includes the following records:
    - Resident records
      - Intake/Discharge form and
      - Medical evaluation form (medical monitoring/surveillance, referral, discharge or death).
    - Staff records
      - Staffing assignment, schedule and sign-in and sign-out forms;
      - Staff credentialing; and
      - Staff medical monitoring.
  - Use of a referral, admission and discharge procedure that links triage systems and contact tracing activities.
- Identify emergency transportation (EMS) from the center to a hospital.
- Identify non-emergency transportation systems related to initial transport to the center, health care visits and discharge.
- Identify food service contracts or on-site food preparation needs.
  - Food will be prepared off- site or on-site.
  - Single service utensils, cups, plates should be used if commercial dishwasher not available.
  - Food service shall be compliant with Chapter XII, Retail Foods, N.J.A.C. 8:24-1 et seq.

## **APPENDIX D – Page 1**

#### **Isolation Site Selection Criteria:**

The following procedures should be used as the minimal criteria for site selection:

- Adequate water, bathroom and shower facilities;
- Capacity for providing basic needs, such as:
  - food service capabilities;
  - medical evaluation, care and supplies;
  - windows, TV, phones;
- Laundry facilities or a contract to provide laundry facilities;
- Cleanable rooms and facilities with a minimum of non-porous surfaces (e.g., carpets);
- Refrigeration;
- Considerations for separate sleeping areas for families with young children, elderly, single men and women (sleeping quarters require a minimum of 40 square feet per person);
- Able to house at least 100 individuals to provide efficient operations;
- Internet capability;
- Adequate parking;
- Separate toilet and feeding facilities for staff; and
- Development of a written agreement with the facility management.

#### Examples of Suitable Facilities:

- community centers;
- existing shelters identified in the County/Local Emergency Operations Plan or through the American Red Cross or Salvation Army;
- youth camps;
- hotel/motels;
- religious facilities;
- unused hospital wings or areas;
- schools:
- cruise ships;
- military bases; and
- armories.

# **Operational Considerations:**

- Develop staffing patterns
  - Facility Manager This person will be responsible for the overall operations of the facility including oversight of all support services. It is recommended that at least three individuals be trained in shelter management through the American Red Cross.
  - Physician oversight should be available by phone or on-site as needed.
  - Nursing staff should be available on-site 24/7 for medical monitoring, evaluation and non emergency care at the level appropriate for the number of residents.
  - Security personnel should be available on-site 24/7 to maintain authority. If possible, a separate area with limited access to exits should be maintained for individuals who are under court ordered isolation.

## **APPENDIX D – Page 2**

- Administrative support staff to maintain resident records. These records should be able to track the resident, and document medical monitoring and care.
- Food service staff.
- Housekeeping staff.
- Infectious Disease oversight available or on-site consultation as needed.
- On-site mental health support for residents and staff.
- Social services support available or on-site as needed.
- Institute an administrative and record keeping system that links with the overall disease control efforts at the state and county level.
  - A folder that includes the following records:
    - Resident records
      - Intake/Discharge form and
      - Medical evaluation form (medical monitoring/surveillance, referral, discharge or death).
    - Staff records
      - Staffing assignment, schedule and sign-in and sign-out forms;
      - Staff credentialing; and
      - Staff medical monitoring.
  - Use of a referral, admission and discharge procedure that links triage systems and contact tracing activities.
- Identify emergency transportation (EMS) from the center to a hospital.
- Identify non-emergency transportation systems related to initial transport to the center, health care visits and discharge.
- Identify food service contracts or on-site food preparation needs.
  - Food will be prepared off- site or on-site.
  - Single service utensils, cups, plates should be used if commercial dishwasher not available.
  - Food service shall be compliant with Chapter XII, Retail Foods, N.J.A.C. 8:24-1 et seq.