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Guidelines for Reporting Institutional Outbreaks and Reportable Diseases

OBJECTIVES

To rapidly identify, report and contain an outbreak of infectious disease in a manner consistent with the regulations and recommendations of the State of Connecticut, Department of Public Health (DPH).

DEFINITION OF AN OUTBREAK

Using McGeers Definition of Illness (Attachment A) an outbreak is defined as "the occurrence of case(s) clearly in excess of normal expectancy over a specific time period.

REPORTABLE DISEASES

Each year, the Commissioner of Health issues a list of reportable diseases. These diseases are listed in Attachment B, also known as the PD 23. Institutional outbreaks are considered a Category 1 disease and all Category 1 diseases are reportable immediately by telephone on the day of recognition or strong suspicion of disease to the DPH and the local health department.

Category 2 diseases listed in Attachment B are also of significant public health importance. If any of the following diseases listed in Category 2 are identified in a resident or staff of a long-term care facility, it is recommended that it be reported to the DPH and local health department by telephone immediately: campylobacteriosis, cyptosporidiosis, cyclosporiasis, *E coli* 0157:117 infection, hemolytic-uremic syndrome, hepatitis A, legionellosis, listeriosis, salmonellosis, shigellosis, trichinosis, typhoid fever and *vibrio* infection. All other diseases listed in Category 2 should be reported by mail within 12 hours of recognition or strong suspicion to both the DPH and the local health department.

PROCEDURE FOR RESPONDING TO AND REPORTING AN OUTBREAK

- A. Report any suspicion of an outbreak of illness to the infection control nurse, director of nurses, administrator and medical director. Determine if an outbreak exists and should be reported. If there are questions determining if an outbreak exists, please contact the DPH, Epidemiology Program (860-509-7994) for assistance.
- B. Initiate and maintain a current "Line List" (see Attachment C) of ill residents separated by floor/unit. Enter all new ill residents on the line list (including all information as indicated) in sequence of onset of symptoms. Monitor affected resident's intake and output (I&O) and notify each attending physician and family/responsible party of a resident's change of condition.

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For a quick in-house reference summary of those currently affected, consider using the attached "Quick Line List" (Attachment D).

- C. Notify all departments and ancillary services that an outbreak has been identified.
- D. Implement appropriate control measures, including inservicing of all staff in all departments, to prevent further spread of the illness.
- E. Report the outbreak to the following three agencies:
 - 1. **The Department of Public Health, Division of Health Systems Regulation** by telephone at 860-509-7400 or 860-509-8228 (answering machine). Within 72 hours, mail a completed "Reportable Event: Initial Institution Outbreak Date: Incident/Accident Report" (Attachment E) and a copy of the line list (Attachment C) as a Class B incident to:

The Department of Public Health
Division of health System Regulation
410 Capitol Avenue, MS#12HSR
P.O. Box 340308
Hartford, Connecticut 06134-0308
 - 2. **The Department of Public Health, Epidemiology Program** by telephone at 860-509-7994. In addition, a PD23 (Attachment B) should be completed and mailed within 12 hours of the telephone report to:

The Department of Public Health
Epidemiology Program
410 Capitol Avenue, MS# 11FDS
P.O. Box 340308
Hartford, Connecticut 06134-0308
 - 3. **The local health department** by telephone. For gastrointestinal outbreaks, request that the local health department assist in implementing control measures in the kitchen (e.g., interview of food handlers to determine if there are any ill food handlers, review of food handling procedures). In addition, a copy of the PD23 should also be mailed to the local health department within 12 hours of the telephone report.
- F. Continue inservicing control measures to all staff in all departments as appropriate. Monitor compliance with all precautions in effect (i.e., glove use, proper handwashing technique, etc.)
- G. As requested, update the DPH, Division of Health System Regulation and Epidemiology Program with the following information:

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1. The total number of residents involved in the outbreak to date, their floor/room location, symptoms (including fever), duration of symptoms, and specimens obtained.
 2. The total number of residents currently exhibiting symptoms;
 3. The results of any significant lab work identifying a causative agent (e.g., throat cultures, viral studies, stool cultures, etc.);
 4. Any resident who expired or required hospitalization as a result of the current outbreak.
- H. Generally, when symptoms are improved and no new cases have been reported within 72 hours, the outbreak is considered resolved. This period may be extended upon recommendation of the Epidemiology Program. Complete the "Reportable Event – Summary Report" (Attachment F) and the "Outbreak Line List" and mail them to The Department of Public Health, Division of Health Systems Regulation (see address under Procedure: Item E1).

NOTE

- ◆ Maintain a log of all inservices, in-house meetings and telephone communications involving any aspect of the reported outbreak.
- ◆ Keep the medical director, administrator and department heads updated on the outbreak on a daily basis.
- ◆ At the onset of any gastrointestinal outbreak which includes diarrhea, it is strongly recommended by the Epidemiology Program, DPH that three or four stool specimens be collected from ill residents and tested for bacterial pathogens (*Salmonella*, *Shigella*, *Campylobacter*, *E. coli* 0157:117).
- ◆ At the onset of any influenza-like illness, specimens (naso-pharyngeal wash or swab, or throat swab), should be obtained from at least six residents or staff with recent onset of symptoms, ideally within 48 hours of symptom onset (Attachment G).

A Synopsis of McGeers

Definitions of Infection for Surveillance in LTC Facilities₁

Principles: (These definitions are not all inclusive.)

- ◆ All symptoms must be new or acutely worse.
- ◆ Noninfectious causes of infection should always be considered before a diagnosis of infection is made.
- ◆ Identification of Infection should not be based on a single piece of evidence.

Upper Respiratory Tract Infections (URI)		
<p>Common Cold Syndromes/Pharyngitis: Must have at least <u>2</u> of the following.</p> <ul style="list-style-type: none"> • runny nose or sneezing • stuffy nose/congestion • sore throat/hoarseness/difficulty swallowing • dry cough • swollen or tender glands in the neck (cervical lymphadenopathy) 	<p>Influenza-like Illness: <u>Must have fever</u> and meet <u>3</u> of the following. (During months of Nov-April <u>only</u>).</p> <ul style="list-style-type: none"> • chills • new headache or eye pain • myalgias • malaise or loss of appetite • sore throat • new or increased dry cough 	
Lower Respiratory Tract Infections (LRI)		
<p>Pneumonia: Must meet <u>both</u> of the following.</p> <ul style="list-style-type: none"> • Chest Xray that demonstrates pneumonia, probable pneumonia, or presence of an infiltrate • Resident must have 2 of the S/S described under LRI 	<p>Other LRI's (bronchitis, tracheobronchitis): must have <u>3</u> of the following.</p> <ul style="list-style-type: none"> • new or increased cough • new or increased sputum production • fever $\geq 100.4^{\circ}\text{F}$ • pleuritic pain • new or \uparrow findings on chest exam (rales, ronchi, wheezes, or bronchial breathing) • 1 of these changes in breathing: new or \uparrow SOB, respiratory rate $\geq 25/\text{min.}$ or worsening mental or functional status 	
Urinary Tract Infections (UTI)		
<p>Includes only symptomatic UTI. Must meet <u>1</u> of the following. *</p>		
<p>No indwelling Catheter. Must have <u>3</u> of the following.</p> <ul style="list-style-type: none"> • fever $\geq 100.4^{\circ}\text{F}$ • new or increased burning on urination, frequency or urgency • new flank or suprapubic pain or tenderness • change in character of urine • worsening of mental or functional status 	<p>With Indwelling Catheter. Must have <u>2</u> of the following.</p> <ul style="list-style-type: none"> • fever $\geq 100.4^{\circ}\text{F}$ • new flank or suprapubic pain or tenderness • change in character of urine • worsening of mental or functional status 	
<p>*Note that culture results are not included. Pyuria may be considered change in character of urine, if previously reported as negative (other changes include bloody urine, foul odor, or sediment.)</p>		
Gastrointestinal Tract Infection (GII)		
<p>Must have <u>1</u> of the following. (Rule out noninfectious causes, for example medication changes.)</p>		
<p><u>2</u> or more loose or watery stools above what is normal for the resident in a 24 hour period.</p>	<p>OR: <u>2</u> or more episodes of vomiting in a 24 hour period.</p>	<p>OR: Must have <u>both</u> of these</p> <ul style="list-style-type: none"> • Positive stool culture for a pathogen • <u>1</u> GI S/S (n/v/d or abdominal pain or tenderness)

Eye Infections
Must not be due to allergy or trauma to the conjunctiva.
Conjunctivitis must have <u>1</u> of the following. <ul style="list-style-type: none"> • pus from one or both eyes for at least 24 hours • new or increased conjunctival redness, with or without itching or pain, for at least 24 hours
Ear Infection
Must meet <u>1</u> of the following. <ul style="list-style-type: none"> • diagnosis of ear infection by an MD • new drainage for 1 or both ears (nonpurulent drainage must be accompanied by symptoms, ex. pain or redness)

Mouth and Peri-oral Infections	
Including oral candidiasis must be diagnosed by a physician or a dentist. Sinusitis must be diagnosed by a physician.	
Skin Infections	
Cellulitis/Soft tissue/Wounds must meet <u>1</u> of the following. 1. Must have 4 of the following. <ul style="list-style-type: none"> • fever $\geq 100.4^{\circ}\text{F}$ and/or • heat • redness • swelling • pain or tenderness • serous drainage 2. OR, pus present at the site	Fungal Skin infections must have <u>both</u> . <ul style="list-style-type: none"> • maculopapular rash • MD diagnosis or laboratory confirmation
Herpes Simplex and Zoster must have <u>both</u> . <ul style="list-style-type: none"> • vesicular rash • MD diagnosis or laboratory confirmation 	Scabies must have <u>both</u> . <ul style="list-style-type: none"> • maculopapular and/or itching rash • MD diagnosis or laboratory confirmation
Systemic Infection	
Must have <u>1</u> of the following. <ol style="list-style-type: none"> 1. 2 or more blood cultures positive with the same organism 2. single blood culture (not a contaminant) in the presence of : <ul style="list-style-type: none"> • fever $\geq 100.4^{\circ}\text{F}$ or hypothermia $<34.5^{\circ}\text{C}$ • drop in systolic B/P of 30 mm Hg from baseline • worsening of mental or functional status 	
Fever of Unknown Origin (FUO)	
Must have <u>documented</u> fever $\geq 100.4^{\circ}\text{F}$ on 2 occasions at least 12 hours apart in any 3-day period, with no known infectious or noninfectious cause.	

Resource
 1*McGeer, et al, "Definitions of Infection for Surveillance in Long Term Care Facilities",
American Journal of Infection Control, Vol 19, #1, February 1991

OUTBREAK LINE LISTING: Directions for Use

OBJECTIVE: To provide a mechanism for describing and tracking an outbreak (i.e. who become ill, when and where illness is occurring, the symptoms and their duration).

PROCEDURE:

1. Initiate a separate line listing for each floor/unit involved, entering resident's name and room number in order of date/time of onset of symptoms.
2. The Headings are completed as indicated:
 - a. Unit: floor/unit housing symptomatic residents.
 - b. Census: floor/unit census.
 - c. Classification of illness: using McGears Definition of Infection.
3. Complete the form as indicated:
 - a. Residents name/room number: enter at onset of signs and symptoms consistent with classification of disease identified as an outbreak.
 - b. Date of admit: enter initial date of admission to facility.
 - c. Date of Birth (age): at time of onset of illness.
 - d. Primary/Relevant Diagnosis: enter primary diagnosis on admission and any diagnosis pertinent to the classification of illness identified in outbreak.
 - e. Onset Date: Date first sign/symptom of illness presented.
 - f. Date notified (Family/MD): Enter date notified of resident's onset of symptoms/change in condition
 - g. I&O: enter " √ " if Intake and Output initiated with onset of illness.
 - h. Diagnostic(s), Date and Result: Enter labs, x-rays, cultures, etc. (Pertinent to the outbreak) ordered with date(s) obtained and results.
 - i. Extent of Symptoms: Enter range of new onset of symptoms exhibited; including but not limited to:
 1. GI symptoms: Nausea, vomiting, diarrhea (# episodes/24hrs.) blood in stool, fever.
 2. Respiratory symptoms: cough, congestion, sore throat, muscle aches, fever.
 3. Others: as indicated by the specific illness.
 - j. Treatment: Enter any treatment/medication regime ordered to control signs and symptoms associated with the outbreak.
 - k. Current status/Resolution date: Enter date signs and symptoms resolved and the resident status in comparison to before the onset of illness (e.g. "Resident resumed previous activities", "ADL status as before onset of illness").
4. Confirm all pertinent information is documented in the resident's medical record.

Date Onset		Date Resolved	Onset Date		Date Resolved

UNIT: _____

UNIT: _____

QUICK LINE LIST

Facility Name: _____

Facility Report Number _____

Address: _____

Class B Incident

REPORTABLE EVENT: Initial Institutional Outbreak Data: INCIDENT/ ACCIDENT REPORT

Date of Report: _____ Census: _____

Classification of illness: _____

Location of residents involved: _____

Total affected to date: Residents _____ Staff (if applicable) _____

Total currently symptomatic: Residents _____ Staff (if applicable) _____

Total critical residents: _____ Total hospitalized residents: _____

Total number of deaths: _____

Range of symptoms (including temperatures):

Treatment regime(s) initiated:

Laboratory/diagnostic result(s):

Containment measures initiated:

Inservices presented:

Notified of outbreak:

Medical director: _____
Name Date Time

State Dept. of Public Health
Division of Health Services Regulation
Person Contacted Date Time

State Dept. of Public Health
Epidemiology Program
Person Contacted Date Time

Local Department of Health:
Person Contacted Date Time

Families: _____ Date Attending Physician(s): _____ Date

Facility Contact Person: _____ / _____
Print Name Signature

Director of Nurses: _____ Signature Administrator: _____ Signature

Medical Director Signature: _____

Facility Name: _____

Address: _____

REPORTABLE EVENT: SUMMARY REPORT

Date: _____

Duration of outbreak: _____ thru _____
Date of onset Date symptoms resolved

Census: _____

Classification of illness: _____

Location of residents involved: _____

Total affected: Residents _____ Staff (if applicable) _____

Total hospitalized: _____ Total Deaths: _____

Range of symptoms (including temperatures): _____

Treatment interventions: _____

Significant laboratory / diagnostic findings(s): _____

Containment measures: _____

Inservices presented: _____

Respectfully Submitted by:
Name: _____ Title: _____ Date: _____

State of Connecticut Department of Public Health (DPH) Respiratory Disease Outbreaks in Long Term Health Care Facilities

Advance Preparations

1. Encourage all residents and staff to receive an annual influenza vaccination at an appropriate time according to ACIP guidelines (1).
2. Throughout the influenza season (November-March), offer the current influenza vaccination to all newly admitted residents who have not yet received the current influenza vaccine.
3. Encourage residents to receive pneumococcal vaccination according to ACIP guidelines (2).
4. Keep influenza and pneumococcal vaccination records available and up to date.
5. Establish a plan for management of respiratory outbreaks, including use of antiviral medication if warranted.
6. Obtain viral collection kits so they will be readily available if influenza testing is needed. Viral collection kits for influenza testing (throat swabs) can be obtained free of charge from the State Laboratory (860-509-8501).;

Recognizing a Respiratory Outbreak

1. Identify a respiratory outbreak when respiratory illness occurs in more residents or staff than expected.
2. When an outbreak is identified:
 - Notify the medical director of the facility
 - Develop and maintain a line list of cases including name, location (wing/floor, room number, age, sex date of symptom onset, major underlying medical conditions, symptoms, temperature, influenza and pneumococcal vaccination status, hospitalization, chest x-ray results, laboratory results (including influenza testing results), date of personal physician notification and interventions and treatments implemented.

Control Measures for all Respiratory Outbreaks

1. Confine symptomatic patients to their rooms if possible. If this is not possible, restrict them to the affected unit. Do not allow them to have access to the rest of the facility.
2. Ensure that ill employees do not work.
3. Discontinue "floating" of personnel where possible (have employees work consistently on only one unit or in only one area).
4. When transfers occur, notify the receiving facility of the outbreak.
5. Provide in-service training sessions for all staff. In-service training sessions should be specifically related to the duties of each employee group.
6. Notify visitors that a respiratory illness is occurring in the facility.

Respiratory Disease Outbreaks in Long Term Health Care Facilities, page 2

Reporting a Respiratory Outbreak

1. When a respiratory outbreak is identified, immediately notify the following agencies by phone (state regulations require reporting of all institutional outbreaks of any type):
 - Health Systems Regulation, DPH-phone (860) 509-7400, fax (860) 509-7543
 - Epidemiology Program, DPH-phone (860) 509-7994
 - Local health Department in your town
2. Have your line list available when reporting the outbreak. This will facilitate answering some of the questions you will be asked.

Identifying Respiratory Outbreaks due to Influenza

1. Influenza should be suspected if a high proportion of affected residents or staff have fever ($\geq 100^{\circ}\text{F}$ oral or $\geq 101^{\circ}\text{F}$ rectal) along with cough, sore throat or nasal congestion. If influenza is suspected, the medical director should ensure that specimens (naso-pharyngeal wash or swab, or throat swab) are obtained from at least six residents or staff with recent onset of symptoms (ideally within 48 hours of symptom onset).
2. Specimens should be submitted to an appropriate laboratory and tested by both rapid antigen detection and viral culture. Rapid antigen tests are very specific (95-100%) and allow for prompt identification of influenza A. However, a rapid antigen test should be supplemented with viral culture because the sensitivity of the test may be only 50-75%. Both tests are available through the State Laboratory (free of charge from October through March). If desired, two swabs can be collected, one for testing at a local laboratory and the other to be sent to the State Laboratory. When submitting specimens to the State Laboratory for influenza testing, write on the requisition form that the specimen is for "Flu Study". This labeling must be present for the testing to be done free of charge. If you have questions about submitting specimens, call the Virology Section of the State Laboratory at (860) 509-8553.

Control Measures for Respiratory Outbreaks due to Influenza

1. The measures listed above for all respiratory outbreaks should be implemented for influenza outbreaks as for any respiratory outbreak.
2. For clusters or outbreaks identified as being due to influenza (one or more specimens positive for influenza by rapid antigen test or culture), also consider the following additional control measures:
 - Re-offer influenza vaccine to unvaccinated persons, including staff.
 - For clusters or outbreaks due to influenza A, use amantadine or rimantadine in accordance with Centers for Disease Control and Prevention guidelines and with appropriate physician orders (1).
 - Notify visitors that influenza is occurring in the facility.

References

1. CDC. Prevention and control of influenza: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1998; 47 (No. RR-6).
2. CDC. Prevention of pneumococcal disease recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR* 1997; 46 (No. RAR-8).
3. Comolin IH, Leib HB, Arden NH and Sherman FT. Control of influenza outbreaks in the nursing home; guidelines for diagnosis and management. *J Am Geriatr Soc* 1995; 43:71-4

OUTBREAK LINE LIST

Unit: _____
 Census: _____

Name of Facility: _____
 Address: _____

Classification of Illness: _____

Resident's Name & Room #	Date of Admit	(Age) Date of Birth	Primary Diagnosis	Onset Date	Date Notified		Diagnostic(s) Date & Result	Symptoms	Treatment	Current Status	Date Resolved
					Family	MD					