

GREAT NEWS



- Illinois long term care facilities are eligible for a FREE one-time bulk shipment of rapid COVID - 19 antigen tests.
- Eligibility criteria
 - A CLIA waiver that allows for the administration of antigen testing.
 - A provider order for antigen testing that has been approved and signed by a medical professional.
 - Registered to report all positive antigen test results to the State of Illinois.
- Tests may only be administered onsite for diagnostic or screening purposes.
- Request form: <https://redcap.dph.illinois.gov/surveys/?s=T78A4HAKFTPKWAA>
- Deadline: March 24th



How to Complete an Outbreak Investigation

March 10, 2023



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Objectives

- Recognize the steps in an outbreak investigation.
- Locate the regulatory requirements for outbreak reporting.
- Identify tools to utilize when conducting an outbreak investigation.
- Create an outbreak investigation summary report.



Do you have an outbreak investigation plan?

- a) Yes, I was provided a plan from the corporate office.
- b) Yes, I developed an outbreak investigation plan for my facility.
- c) No, my facility does not have an outbreak investigation plan.
- d) I am not sure if my facility has an outbreak investigation plan.

Outbreak Investigation Plan/Policy

- Establishes the steps to take during an investigation
- Can contain definitions

Outbreak Investigation Sample

Objectives of an Outbreak Investigation

The objectives at the beginning of an outbreak investigation are to define the problem and establish that the problem is real. The immediate goal is to prevent further cases if possible. There is always something to learn from an investigation.

Steps in an Outbreak Investigation*

1. Verify diagnosis
2. Research the disease
3. Confirm the existence of an outbreak; establish the background rate of the disease
4. If the existence of an outbreak is established, begin a binder or folder to contain all pertinent information related to the outbreak investigation
5. Define a case and conduct case finding
6. Relate outbreak to person, place, time; Prepare an epidemic curve
7. Formulate and evaluate a hypothesis
8. Implement control measures
9. Carry out additional studies
10. Analyze and interpret data
11. Formulate conclusions
12. Put additional control measures in place if necessary
13. Make a final report

These steps may occur simultaneously or be repeated as new information is received, especially Step 8—the implementing of control measures. This step may occur throughout the investigation until the outbreak ceases.

*The infection preventionist (IP) along with the Hospital Epidemiologist or designee should communicate as needed and at least weekly about the progress of the investigation.



Definitions

- “Epidemic: the occurrence of more cases of disease than expected in a given area or among a specific group of people over a particular period of time. Usually, the cases are presumed to have a common cause or to be related to one another in some way
- Outbreak: epidemic limited to localized increase in the incidence of disease
- Cluster: aggregation of cases in a given area over a particular period without regard to whether the number of cases is more than expected”¹

¹ <https://www.cdc.gov/csels/dsepd/ss1978/lesson6/section1.html>



Definitions

- Outbreak investigation definition: the who, what, and where.
- Case definition: the elements used to determine the case should be included.
 - Confirmed – positive lab test
 - Probable – clinical features and an epidemiologic link without positive lab test
 - Possible – some clinical features with a weak epidemiologic link



Investigating a Cluster or Outbreak

What is the problem?

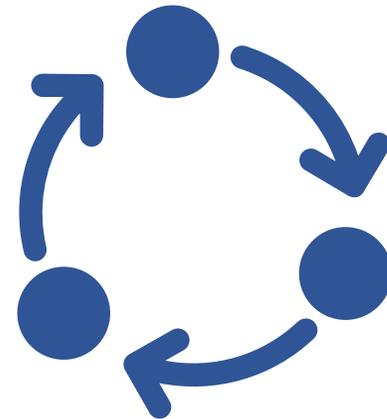
What is the cause?

What can be done about it?



Steps in an Outbreak or Cluster Investigation

- Verify the diagnosis
- Confirm the outbreak
- Communicate
- Establish the case definition
- Identify the cases
- Organize the data
- Observations and data abstraction
- Formulate and test the hypothesis
- Mitigation measures
- Follow Up



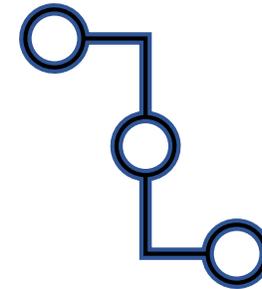
Verify the Diagnosis

- Confirm the lab findings
- Review surveillance data
- Identify clinical findings



Confirm the Outbreak

- Establish the epidemiologic link
- Determine if there was a change in the surveillance definition or increased case finding
- Consider a community focused event



Sample Outbreak Definition

Influenza Outbreak Definition: Two or more cases of ILI occurring within 72 hours among residents in a unit of the facility with at least one of the ill residents having laboratory-confirmed influenza (i.e., reverse transcription polymerase chain reaction [RT-PCR], viral culture, or rapid test).

Portal access: <https://dph.partner.illinois.gov/communities/communicabledisease/CDAZ/Documents/Influenza/Seasonal/2022-2023%20Influenza%20LTCF%20Outbreak%20Guidance.pdf>

Public Access: <https://www.dupagehealth.org/DocumentCenter/View/7662/Guidelines-for-the-Prevention-and-Control-of-Influenza-Outbreaks-in-Illinois-LTCFs-2022-2023-PDF?bidId=>



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Outbreaks in long term care facilities must be reported to:

- a) There is no reporting requirement for outbreaks in long-term care facilities.
- b) Only the Director of Nursing.
- c) The Director of Nursing and the local health department.
- d) The Director of Nursing, the local health department, and the Illinois Department of Public Health (IDPH) Office of Health Care Regulation (OHCR).

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- c) The Director of Nursing and the local health department.
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Communication and Notification

- Internal
 - Administrator
 - Director of Nursing
 - Risk Management/Legal
 - Staff
- Laboratory
- Local Health Department and IDPH Office of Health Care Regulation
- Food and Drug Administration and Environmental Protection Agency



Regulatory Requirements

**TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER k: COMMUNICABLE DISEASE CONTROL AND IMMUNIZATIONS
PART 690 CONTROL OF COMMUNICABLE DISEASES CODE
SECTION 690.30 GENERAL PROCEDURES FOR THE CONTROL OF
COMMUNICABLE DISEASES**

Section 690.30 General Procedures for the Control of Communicable Diseases

This Section establishes routine measures for the control of communicable diseases by the Department or local health authorities and health care providers, and establishes progressive initiatives to ensure that disease-appropriate measures are implemented to control the spread of communicable diseases. These procedures are intended for use in homes and similar situations. This Section does not apply to sexually transmissible infections, which are regulated under the Control of Sexually Transmissible Infections Code.

- 2) Each case or cluster of a reportable communicable disease shall be investigated to determine the source, where feasible. Findings of the investigation shall be reported as specified under the Section of this Part applicable to each specific disease.

<https://www.ilga.gov/commission/jcar/admincode/077/077006900A00300R.html>



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Regulatory Requirements

- 5) When two or more cases of a suspected or reportable infectious disease occur in any business, organization, institution, health care facility or private home, the business owner, the person in charge of the establishment, or the homeowner shall cooperate with public health authorities in the investigation of cases, suspect cases, outbreaks and suspect outbreaks. This includes, but is not limited to, release of food preparation methods; menus; lists of customers, attendees, residents or patients; environmental specimens; food specimens; clinical specimens; and the name and other pertinent information about employees, guests, members or residents diagnosed with a communicable disease as the information relates to an infectious disease investigation. When outbreaks of infectious disease occur in any business, organization, institution, health care facility or private home, employees of the location under investigation may be considered to be contacts to cases and be required to submit release specimens by the local health authority.
- 6) When two or more cases of a reportable communicable disease occur in association with a common source, the investigation should include a search for additional cases.

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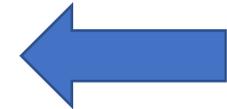
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Regulatory Requirements

**TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER k: COMMUNICABLE DISEASE CONTROL AND IMMUNIZATIONS
PART 690 CONTROL OF COMMUNICABLE DISEASES CODE
SECTION 690.200 REPORTING**

- 2) An individual required to report reportable diseases who is unsure whether the case meets the definition of a suspect case shall make a report if the suspect disease, infection or condition is one that is required to be reported immediately, is highly transmissible, or results in health consequences.

- 5) The reports shall be submitted electronically through the Illinois National Electronic Disease Surveillance System (I-NEDSS) web-based system or by mail, telephone, facsimile, other secure electronic system integrated with I-NEDSS, or other Department designated registry to the local health authority in whose jurisdiction the reporter is located.
 - A) The method of reporting shall be as described in the individual Section for the reportable disease.



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Illinois Department of Public Health

STOP

and Report Infectious Disease

Illinois Reportable Diseases

Mandated reporters, such as health care providers, hospitals and laboratories, must report suspected or confirmed cases of these diseases to the local health department. Diseases in **bold** are reportable within 24 hours. Diseases marked "immediate" (or in red) are reportable as soon as possible within 3 hours. All other conditions not in red or bold are reportable within 7 days.

<p>Anaplasmosis</p> <p>Any suspected bioterrorist threat (immediate)</p> <p>Any unusual case or cluster of cases that may indicate a public health hazard (immediate)</p> <p>Anthrax (immediate)</p> <p>Arboviruses (including WNV)</p> <p>Babesiosis</p> <p>Botulism, foodborne (immediate)</p> <p>Botulism, infant, wound, other</p> <p>Brucellosis*</p> <p>California Encephalitis virus</p> <p>Campylobacteriosis</p> <p>Candida auris**</p> <p>Carbapenem-resistant Enterobacteriaceae (CRE)**</p> <p>Chancroid</p> <p>Chikungunya virus</p> <p>Chlamydia</p> <p>Cholera</p> <p>Cryptosporidiosis</p> <p>Cyclosporiasis</p> <p>Dengue viruses 1-4</p> <p>Diphtheria (immediate)</p> <p>Eastern Equine Encephalitis virus</p> <p>Ehrlichiosis</p> <p>Escherichia coli infections (E. coli O157:H7, and other Shiga Toxin Producing E. coli)</p> <p>Foodborne or waterborne outbreaks</p> <p>Gonorrhea</p> <p>Haemophilus influenzae, invasive</p>	<p>Hantavirus pulmonary syndrome</p> <p>Hemolytic uremic syndrome, post diarrheal</p> <p>Hepatitis A</p> <p>Hepatitis B, C, D</p> <p>Pregnant hepatitis B carrier</p> <p>Histoplasmosis</p> <p>HIV infection</p> <p>Influenza, deaths in <18 yr olds</p> <p>Influenza A, novel (immediate)</p> <p>Influenza, ICU admissions</p> <p>Jameson Canyon virus</p> <p>Keystone virus</p> <p>La Crosse virus</p> <p>Legionellosis</p> <p>Leptospirosis</p> <p>Listeriosis</p> <p>Lyme disease</p> <p>Malaria</p> <p>Measles</p> <p>Mumps</p> <p>Neisseria meningitidis, invasive</p> <p>Outbreaks of public health significance</p> <p>Pertussis (whooping cough)</p> <p>Plague (immediate)</p> <p>Poliovirus (immediate)</p> <p>Powassan virus</p> <p>Pittacosis</p> <p>Q fever (Coxiella burnetii)*</p> <p>Rabies, human and potential human exposure and animal</p>	<p>Reye's syndrome</p> <p>Rubella</p> <p>St. Louis Encephalitis virus</p> <p>Salmonellosis, other than typhoid</p> <p>Severe Acute Respiratory Syndrome (SARS) (immediate)</p> <p>Shigellosis</p> <p>Smallpox (immediate)</p> <p>Smallpox vaccination, complications of</p> <p>Snowshoe hare virus</p> <p>Spotted fever rickettsioses</p> <p>S. aureus infections with intermediate or high level resistance to vancomycin</p> <p>Streptococcal infections, Group A, invasive including STSS and necrotizing fasciitis</p> <p>S. pneumoniae, invasive in those <5 yrs</p> <p>Syphilis</p> <p>Tetanus</p> <p>Toxic shock syndrome due to S. aureus</p> <p>Trichinosis</p> <p>Trivittatus virus</p> <p>Tuberculosis</p> <p>Tularemia*</p> <p>Typhoid fever</p> <p>Typhus</p> <p>Varicella (chickenpox)</p> <p>Vibriosis (non cholera)</p> <p>West Nile virus</p> <p>Western Equine Encephalitis virus</p> <p>Yellow Fever virus</p> <p>Zika virus</p>
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*If bioterrorism suspected then report immediately (within three hours)

**Reportable to the Extensively Drug-Resistant Organism (XDR-RO) Registry by providers

Laboratories must report positive test results of these diseases to their local health department within the time frame indicated.

All reports are confidential and should include—

- the disease or condition being reported
- patient's name, date of birth, age, sex, race/ethnicity, address, and telephone number
- physician's name, address, and telephone number
- method of diagnosis, if available

TO REPORT A CASE
contact your local health department:

During regular business hours, call _____

For emergencies after business hours, call _____

If no local health department is available, contact the
Illinois Department of Public Health
217-785-7165 • TTY (hearing impaired use only) 800-547-0466

State of Illinois
Illinois Department of Public Health

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<https://dph.illinois.gov/content/dam/soi/en/web/idph/files/publications/illinois-stop-and-report-disease-poster.pdf>



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Regulatory Requirements

SUBPART D: DETAILED PROCEDURES FOR THE CONTROL OF COMMUNICABLE DISEASES

Section 690.295 Any Unusual Case of a Disease or Condition Caused by an Infectious Agent Not Listed in this Part that is of Urgent Public Health Significance (Reportable by telephone immediately (within three hours))

- a) **Control of Case**
Cases shall be evaluated to determine the need for isolation in a health care setting or at the person's residence. The isolation precautions followed shall be based on the most likely pathogen.
- b) **Control of Contacts**
Contacts shall be evaluated to determine the need for quarantine.
- c) **Persons who identify a single case of a rare or significant infectious disease shall report the case to the local health authority. This may include, but is not limited to, a case of cowpox, Reye's syndrome, glanders, amoebic meningoencephalitis, orf, monkeypox, hemorrhagic fever viruses, infection from a laboratory-acquired recombinant organism, or any disease non-indigenous to the United States.**

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Regulatory Requirements

SUBPART J: REGISTRIES

- [Section 690.1500 Extensively Drug-Resistant Organism Registry](#)
- [Section 690.1510 Entities Required to Submit Information](#)
- [Section 690.1520 Information Required to be Reported](#)
- [Section 690.1530 Methods of Reporting XDRO Registry Information](#)
- [Section 690.1540 Availability of Information](#)

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Regulatory Requirements

**TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER c: LONG-TERM CARE FACILITIES
PART 295 ASSISTED LIVING AND SHARED HOUSING ESTABLISHMENT CODE
SECTION 295.2050 INCIDENT AND ACCIDENT REPORTING**

Section 295.2050 Incident and Accident Reporting

- a) An establishment shall report to the Department an incident or accident that has a significant negative effect on a resident's health, safety or welfare. A significant negative effect shall be assumed whenever an unplanned or unscheduled visit to a hospital is necessary as a result of that incident or accident, treatment is provided, and follow-up care is required.
- b) The report shall be made by contacting the Department of Public Health Central Complaint Registry or by fax or by other electronic means within 24 hours after the occurrence of the incident or accident.
- c) A copy of the report shall be maintained by the establishment for one year after the date of the incident or accident.

(Source: Amended at 28 Ill. Reg. 14593, effective October 21, 2004)

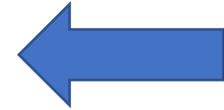
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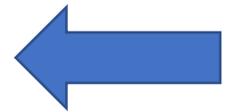
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Regulatory Requirements

Section 295.4040 Communicable Disease Policies

- a) The establishment shall meet the Control of Communicable Diseases Code (77 Ill. Adm. Code 690).
- b) The establishment shall not knowingly admit a person with a communicable, contagious, or infectious disease, as defined in the Control of Communicable Diseases Code. A resident who is suspected of or diagnosed as having any such disease shall be placed in isolation, if required, in accordance with the Control of Communicable Diseases Code. If the establishment believes that it cannot provide the necessary infection control measures, it shall initiate residency termination pursuant to Section 80 of the Act.
- c) All illnesses required to be reported under the Control of Communicable Diseases Code and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693) shall be reported immediately to the local health department and to the Department. The establishment shall furnish all pertinent information relating to such occurrences. In addition, the establishment shall also inform the Department of all incidents of scabies and other skin infestations.



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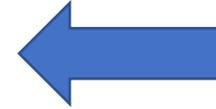
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Regulatory Requirements

**TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER c: LONG-TERM CARE FACILITIES
PART 300 SKILLED NURSING AND INTERMEDIATE CARE FACILITIES CODE
SECTION 300.690 INCIDENTS AND ACCIDENTS**

Section 300.690 Incidents and Accidents

- a) The facility shall maintain a file of all written reports of each incident and accident affecting a resident that is not the expected outcome of a resident's condition or disease process. A descriptive summary of each incident or accident affecting a resident shall also be recorded in the progress notes or nurse's notes of that resident.
- b) The facility shall notify the Department of any serious incident or accident. For purposes of this Section, "serious" means any incident or accident that causes physical harm or injury to a resident.
- c) The facility shall, by fax or phone, notify the Regional Office within 24 hours after each reportable incident or accident. If a reportable incident or accident results in the death of a resident, the facility shall, after contacting local law enforcement pursuant to Section 300.695, notify the Regional Office by phone only. For the purposes of this Section, "notify the Regional Office by phone only" means talk with a Department representative who confirms over the phone that the requirement to notify the Regional Office by phone has been met. If the facility is unable to contact the Regional Office, it shall notify the Department's toll-free complaint registry hotline. The facility shall send a narrative summary of each reportable accident or incident to the Department within seven days after the occurrence.



(Source: Amended at 37 Ill. Reg. 2298, effective February 4, 2013)

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Regulatory Requirements

Section 300.696 Infection Prevention and Control

- b) Written policies and procedures for surveillance, investigation, prevention, and control of infectious agents and healthcare-associated infections in the facility shall be established and followed, including for the appropriate use of personal protective equipment as provided in the Centers for Disease Control and Prevention's Guideline for Isolation Precautions, Hospital Respiratory Protection Program Toolkit, and the Occupational Safety and Health Administration's Respiratory Protection Guidance. The policies and procedures must be consistent with and include the requirements of the Control of Communicable Diseases Code, and the Control of Sexually Transmissible Infections Code.

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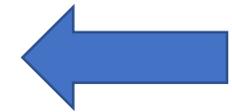
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Regulatory Requirements

Section 300.1020 Communicable Disease Policies

- a) The facility shall comply with the Control of Communicable Diseases Code (77 Ill. Adm. Code 690).
- b) A resident who is suspected of or diagnosed as having any communicable, contagious or infectious disease, as defined in the Control of Communicable Diseases Code, shall be placed in isolation, if required, in accordance with the Control of Communicable Diseases Code. If the facility believes that it cannot provide the necessary infection control measures, it must initiate an involuntary transfer and discharge pursuant to Article III, Part 4 of the Act and Section 300.620 of this Part. In determining whether a transfer or discharge is necessary, the burden of proof rests on the facility.
- c) All illnesses required to be reported under the Control of Communicable Diseases Code and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693) shall be reported immediately to the local health department and to the Department. The facility shall furnish all pertinent information relating to such occurrences. In addition, the facility shall inform the Department of all incidents of scabies and other skin infestations.



(Source: Amended at 29 Ill. Reg. 12852, effective August 2, 2005)

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Regulatory Requirements

Section 350.700 Incidents and Accidents

Section 350.760 Infection Control

- a) Policies and procedures for investigating, controlling, and preventing infections in the facility shall be established and followed. The policies and procedures shall be consistent with and include the requirements of the Control of Communicable Diseases Code (77 Ill. Adm. Code 690) and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693). Activities shall be monitored to ensure that these policies and procedures are followed.

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<https://www.ilga.gov/commission/jcar/admincode/077/077003500C07600R.html>



Regulatory Requirements

Section 350.1223 Communicable Disease Policies

- a) The facility shall comply with the Control of Communicable Diseases Code (77 Ill. Adm. Code 690).
- c) All illnesses required to be reported under the Control of Communicable Diseases Code and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693) shall be reported immediately to the local health department and to the Department. The facility shall furnish all pertinent information relating to such occurrences. In addition, the facility shall also inform the Department of all incidents of scabies and other skin infestations.
- e) The facility shall notify the Department no later than five working days after the date of the admission of any person with a communicable, contagious, or infectious disease under subsection of this Section. The notice to the Department shall include at least the date of the admission and the nature of the condition.



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Regulatory Requirements

Section 390.700 Incidents and Accidents

Section 390.760 Infection Control

- b) Written policies and procedures for surveillance, investigation, prevention, and control of infectious agents and healthcare-associated infections in the facility shall be established and followed, including the appropriate use of personal protective equipment as provided in the Centers for Disease Control and Prevention's Guideline of Isolation Precautions, Hospital Respiratory Protection Program Toolkit, and the Occupational Safety and Health Administration's Respiratory Protection Guidance. The policies and procedures shall be consistent with and include the requirements of the Control of Communicable Diseases Code and Control of Sexually Transmissible Infections Code.

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Regulatory Requirements

Section 390.1130 Communicable Disease Policies

- a) The facility shall comply with the Control of Communicable Diseases Code (77 Ill. Adm. Code 690).
- b) A resident who is suspected of or diagnosed as having any communicable, contagious, or infectious disease shall be placed in isolation, if required, in accordance with the Control of Communicable Diseases Code. If the facility believes that it cannot provide the necessary infection control measures, it must initiate an involuntary transfer and discharge pursuant to Article III, Part 4 of the Act. In determining whether a transfer or discharge is necessary, the burden of proof rests on the facility.
- c) All illnesses required to be reported under the Control of Communicable Diseases Code and Control of Sexually Transmissible Diseases Code (77 Ill. Adm. Code 693) shall be reported immediately to the local health department and to the Department. The facility shall furnish all pertinent information relating to such occurrences. In addition, the facility shall also inform the Department of all incidents of scabies and other skin infestations.



(Source: Added at 29 Ill. Reg. 12988, effective August 2, 2005)

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Regulatory Requirements

**TITLE 77: PUBLIC HEALTH
CHAPTER I: DEPARTMENT OF PUBLIC HEALTH
SUBCHAPTER c: LONG-TERM CARE FACILITIES
PART 370 COMMUNITY LIVING FACILITIES CODE
SECTION 370.820 COMMUNICABLE DISEASE POLICIES**

Section 370.820 Communicable Disease Policies

- a) The program coordinator shall be responsible for meeting all the "Communicable Disease Rules of the State of Illinois", Department of Public Health.
- b) No resident with a communicable, contagious, or infectious disease shall be admitted knowingly. An individual, when suspected or diagnosed as having any such disease, shall be given immediate medical attention.
- c) No resident may be admitted knowingly who has had a history of tuberculosis until the patient is classified as inactive, as defined by the latest classification of the American Thoracic Society, "Diagnostic Standards."
- d) All illnesses required to be reported under Section 370.820(a) above, shall be reported immediately to the local health department and/or to this Department. The program coordinator shall furnish all pertinent information relating to such occurrences and document the notification.



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Establish the Case Definition

- Confirmed: Positive lab results
- Probable:
 - Typical clinical features
 - Epidemiological link
 - Lacks lab confirmation
- Possible:
 - Fewer clinical features
 - Weaker epidemiological links
 - No lab confirmation



Identify Cases

- Consider multiple sources of information
 - Pharmacy
 - Employee Health
 - Surveillance data
 - 24-hour log/report
 - Discharged or transferred residents



Organize the Data

- Line list
 - Helps guide the investigation
 - Allows for analysis of the data
 - Spreadsheet format more useful than paper
 - Allows for sorting
 - Drop downs create consistent responses
 - Highlights possible exposures
- Line list format
 - Rows represent cases/residents
 - Columns represent the demographic, location, clinical, and risk factors



Organize the Data

- Create a line listing
 - Demographics
 - Person
 - Place
 - Time
 - Risk factors

Name	Birth Date	Admission Date	Location of prior healthcare	Dates of prior healthcare	Screened for C. auris on admssion	Positive for C. auris on admission	Location on (DATE)	Location on (DATE)	Location on (DATE)	Swabbed for C. Auris on (DATE)	C. auris Lab results from (DATE)	Swabbed for C. Auris on (DATE)	C. auris Lab results from (DATE)	XDRO Report ID (if known)	Roomate who was C. auris positive? (Indicate name and room number.)	Dialysis	Wound Care	CRE/CPO Positive	Date of last positive CRE/CPO	Mechanism of resistance if known	Elizabethkingia (EK) positive	Date of positive EK
------	------------	----------------	------------------------------	---------------------------	-----------------------------------	------------------------------------	--------------------	--------------------	--------------------	--------------------------------	----------------------------------	--------------------------------	----------------------------------	---------------------------	---	----------	------------	------------------	-------------------------------	----------------------------------	-------------------------------	---------------------



Organize the Data

HEALTHCARE-ASSOCIATED INFECTION (HAI) OUTBREAK INVESTIGATION ABSTRACTION FORM

Name: _____

Medical Record Number: _____

ID Number: _____

Facility Name: _____

[https://www.cdc.gov/hai/pdfs/outbreaks/Response Toolkit Abstraction Form-508.pdf](https://www.cdc.gov/hai/pdfs/outbreaks/Response_Toolkit_Abstraction_Form-508.pdf)

[https://www.cdc.gov/hai/pdfs/outbreaks/Response Toolkit Users Guide-508.pdf](https://www.cdc.gov/hai/pdfs/outbreaks/Response_Toolkit_Users_Guide-508.pdf)



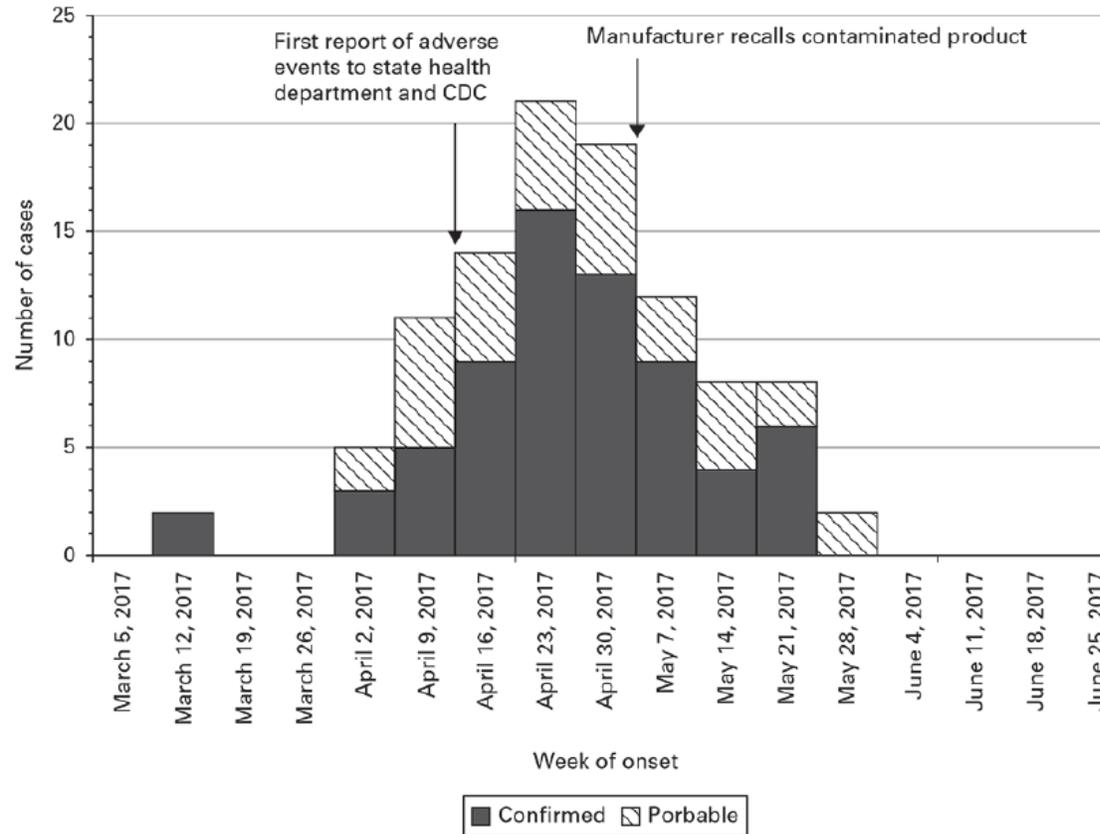
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ID Number: _____ Chart Abstraction Dates (Exposure Period): _____ to _____			
Today's Date: _____		Abstructor Initials: _____	
Date of Illness Onset: ____/____/____			
For Case/Control Study			
Patient is a: <input type="checkbox"/> Case <input type="checkbox"/> Control - Linked to Case ID#: (_____)			
Demographics			
Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female		DOB: ____/____/____	
Race/Ethnicity:			
<input type="checkbox"/> African American		<input type="checkbox"/> Hispanic	
<input type="checkbox"/> White		<input type="checkbox"/> Non-Hispanic	
<input type="checkbox"/> Asian/PI		<input type="checkbox"/> Other:	
<input type="checkbox"/> Native American			
Inpatient Admission Information			
Admit Date: ____/____/____		Admit Room #: _____	
Facility Room (Entire Admission)			
Unit	Room #	Date In	Date Out
Admit Service:		Admit Unit:	
		<input type="checkbox"/> ICU - Type of ICU: MICU _____ CCU _____ SICU _____	
		<input type="checkbox"/> Med/Surg Floor	
		<input type="checkbox"/> Step-down/Telemetry	
		<input type="checkbox"/> Other _____	
Admit Diagnoses:			
Admit Source:			
<input type="checkbox"/> Home			
<input type="checkbox"/> Long-term Acute Care Hospital (LTACH)			
<input type="checkbox"/> Nursing Home			
<input type="checkbox"/> Rehabilitation Facility			
<input type="checkbox"/> Other Facility - In any ICU prior to this ICU admit?: <input type="checkbox"/> Y <input type="checkbox"/> N			
<input type="checkbox"/> Other _____			
Admit to this facility in last 30 days: <input type="checkbox"/> Yes <input type="checkbox"/> No		Admit to other facility in last 30 days: <input type="checkbox"/> Yes <input type="checkbox"/> No	
		Date: ____/____/____	
		Facility Name: _____	
2			

Organize the Data

- Develop an epidemiologic curve – the number of cases by onset



Example epidemic curve of patient adverse events associated with a contaminated medical product.

<https://www.cdc.gov/eis/field-epi-manual/chapters/Healthcare-Settings.html>



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Organize the Data

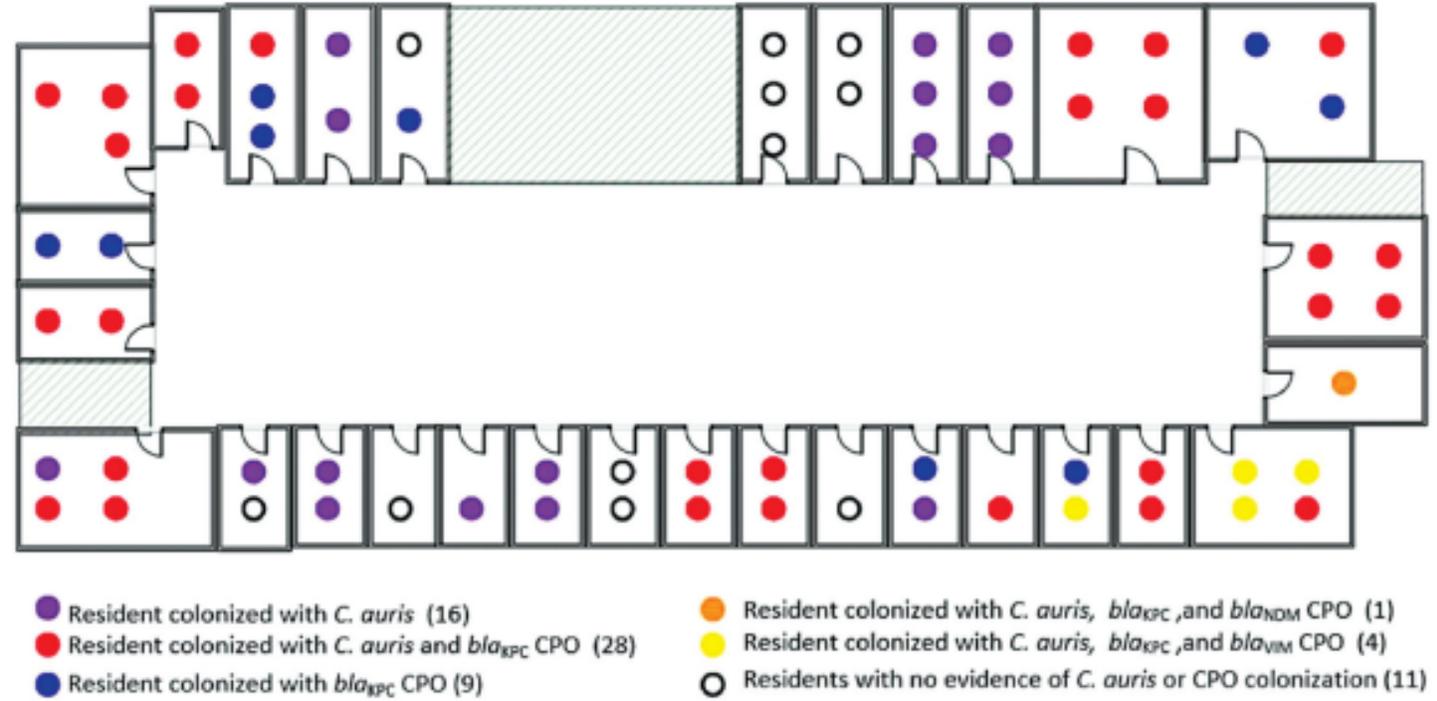
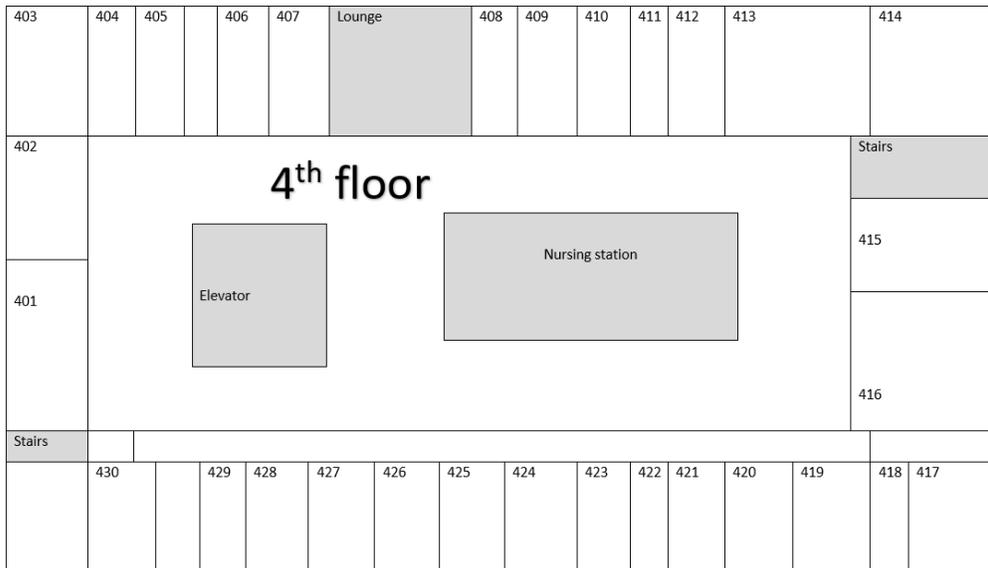


Figure 4.

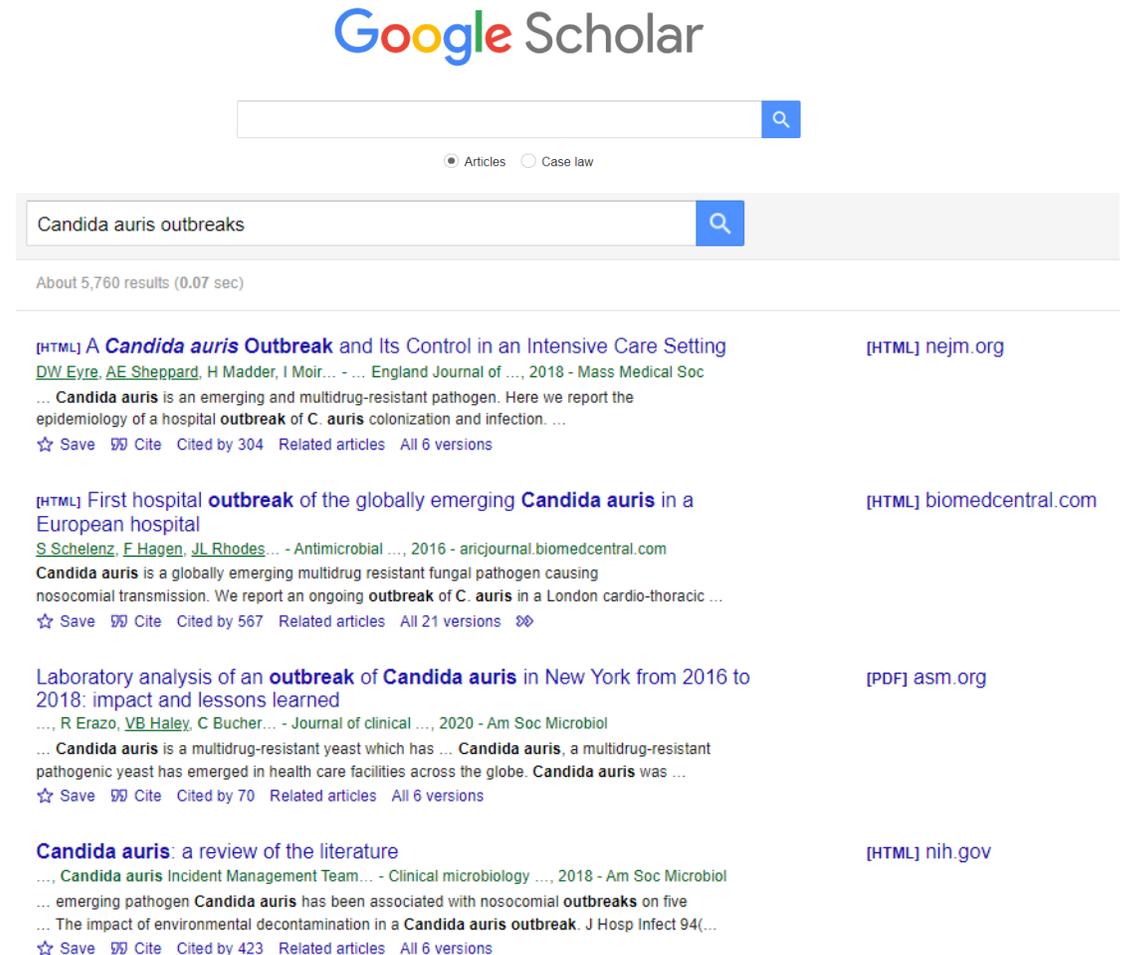
Resident *Candida auris* (*C. auris*) and CPO colonization status and room assignment: vSNF-A ventilator-capable unit, October 2018. *C. auris* prevalence, 71% (49 out of 69); CPO prevalence, 61% (42 out of 69). Abbreviations: CPO, carbapenemase-producing organism; vSNF, ventilator-capable skilled nursing facility.

<https://pubmed.ncbi.nlm.nih.gov/32291441/>



Observations and Data Abstraction

- What might be contributing to the cases
- Literature review
- Obtain additional data



Google Scholar

Articles Case law

Candida auris outbreaks

About 5,760 results (0.07 sec)

[HTML] [A **Candida auris** Outbreak and Its Control in an Intensive Care Setting](#) [HTML] [nejm.org](#)
[DW Eyre](#), [AE Sheppard](#), H Madder, I Moir... - ... *England Journal of ...*, 2018 - *Mass Medical Soc*
... **Candida auris** is an emerging and multidrug-resistant pathogen. Here we report the epidemiology of a hospital **outbreak** of *C. auris* colonization and infection. ...
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[HTML] [First hospital **outbreak** of the globally emerging **Candida auris** in a European hospital](#) [HTML] [biomedcentral.com](#)
[S Schelenz](#), [F Hagen](#), [JL Rhodes](#)... - *Antimicrobial ...*, 2016 - [aricjournal.biomedcentral.com](#)
Candida auris is a globally emerging multidrug resistant fungal pathogen causing nosocomial transmission. We report an ongoing **outbreak** of *C. auris* in a London cardio-thoracic ...
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Laboratory analysis of an **outbreak** of **Candida auris** in New York from 2016 to 2018: impact and lessons learned [PDF] [asm.org](#)
..., R Erazo, [VB Haley](#), C Bucher... - *Journal of clinical ...*, 2020 - *Am Soc Microbiol*
... **Candida auris** is a multidrug-resistant yeast which has ... **Candida auris**, a multidrug-resistant pathogenic yeast has emerged in health care facilities across the globe. **Candida auris** was ...
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Candida auris: a review of the literature [HTML] [nih.gov](#)
..., **Candida auris** Incident Management Team... - *Clinical microbiology ...*, 2018 - *Am Soc Microbiol*
... emerging pathogen **Candida auris** has been associated with nosocomial **outbreaks** on five ...
... The impact of environmental decontamination in a **Candida auris** **outbreak**. *J Hosp Infect* 94(...
☆ Save Cite Cited by 423 Related articles All 6 versions



Formulate and Test the Hypothesis

- Formulate the hypothesis
 - Rigorous repetitive process
 - The cause of the problem based on available evidence
 - Mode of transmission
 - Specific pathogen
 - Exposure risk
 - Interviews of residents or families
 - A prediction, assumption or explanation



[https://www.techtarget.com/whatis/definition/hypothesis#:~:text=A%20hypothesis%20\(plural%3A%20hypotheses\),explanation%20for%20some%20observed%20phenomenon](https://www.techtarget.com/whatis/definition/hypothesis#:~:text=A%20hypothesis%20(plural%3A%20hypotheses),explanation%20for%20some%20observed%20phenomenon)



Formulate and Test the Hypothesis

- Test the hypothesis
 - Case control study – comparison between ill and well
 - Will it add to what is known
 - Are resources available
 - Sufficient number of cases and controls
 - Cohort study – risk of illness in all exposed
 - Environmental cultures
 - Healthcare worker cultures

Scientific Method

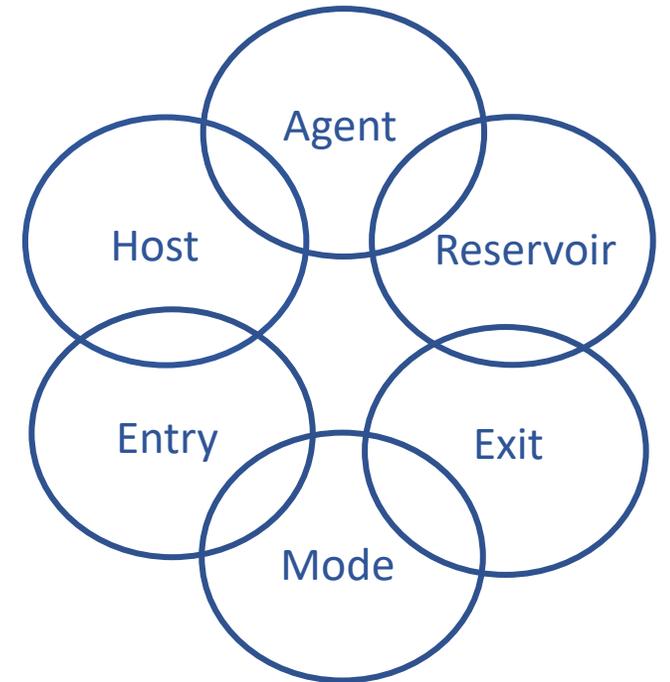


[https://www.techtarget.com/whatis/definition/hypothesis#:~:text=A%20hypothesis%20\(plural%3A%20hypotheses\),explanation%20for%20some%20observed%20phenomenon](https://www.techtarget.com/whatis/definition/hypothesis#:~:text=A%20hypothesis%20(plural%3A%20hypotheses),explanation%20for%20some%20observed%20phenomenon)



Mitigation Measures

- Based on initial findings
- Linked to the chain of infection
- Back to the basics
 - Education
 - Competency assessment
 - Audits and feedback
- Infection Control Assessment and Response (ICAR)



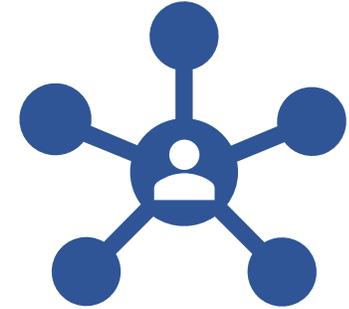
Follow Up

- Communication
- Resident and family notification
- Final report
- Scientific community



Communication

- Internal
 - Leadership
 - Staff debrief
 - Reflected in Quality Assurance/Performance Improvement Committee minutes
- External
 - Regulatory agencies
 - Public



Resident and Family Notification

- Aids with management and support of the situation
- Specific to the occurrence
 - Unsafe practice-based occurrence
 - Worried well response
- Honest and open without over promising
 - Apologize and accept responsibility
 - State prevention efforts
- Part of a culture of safety

Single
Overriding
Communication
Objective

<https://www.cdc.gov/injectionsafety/pntoolkit/index.html>

https://partners.org/Assets/Documents/Graduate-Medical-Education/Disclosing_Harmful_Medical_Errors_to_Patients.pdf

Patel PR, Srinivasan A, Perz JF. Developing a broader approach to management of infection control breaches in healthcare settings. *Am J Infect Control*. 2008;36:685–90.

Rutala, W.A, Weber, DJ. (2007). How to assess risk of disease transmission to patients when there is a failure to follow recommended disinfection and sterilization guidelines. *Infection Control & Hospital Epidemiology*, 28(2), 146-155.



Final Report

- Summary of the findings
- Oral
 - Findings
 - Actions
 - Immediate
 - Future
- Written
 - Introduction
 - Background
 - Methods
 - Results
 - Discussion
 - Recommendations



Follow Up

Outbreak/Cluster Investigation Report -Instructions

Organism/Disease

Dates of Investigation

INTRODUCTION

Facts of the situation. When first suspected.

BACKGROUND

Who/how many are impacted? Residents and staff?

Date of first symptoms

Date of last symptoms

METHODS

Were cultures collected? Observations completed?

Mitigation measures implemented: re-education, competency assessment

Who was notified and when?

RESULTS

Testing results

Summary of observations

DISCUSSION

Possible causes. Opportunities identified.

RECOMMENDATIONS

Are policy or practice changes required?

Does additional training/competency need to occur?

Submitted by:

Date:



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Scientific Community

- Publish and/or present
 - Contributes to science
 - Shares the experience
 - Professional development



Summary

- An outbreak investigation involves many interconnected steps.
- Outbreak investigations are a systematic approach to simultaneous actions.
- Standardized tools assist with capturing the important aspects of the investigation and analysis of the data.
- Frequent and clear communication is important.



Summary

- Memorialize the investigation through a summary which:
 - Creates a record
 - Provides a document for potential legal issues
 - Acts as a resource for future similar situations.
- Contribute to the infection prevention and control science and knowledge base through publishing and/or presenting.





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