

Foodborne Illness Manual



Guide to Surveillance, Investigation, and Reporting

A publication of the Iowa Department of Public Health

January 2014

Comments, questions and suggestions regarding this reference manual are welcome.
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Iowa Department of Public Health

This project is supported by the Epidemiology and Laboratory Capacity for Infectious Disease Cooperative Agreement (cooperative agreement number U50/CCU115217-04), and the Public Health Preparedness and Response for Bioterrorism Cooperative Agreement (CDFA 93.283).

SUGGESTED CITATION

Center for Acute Disease Epidemiology. *Guide to Surveillance, Investigation, and Reporting*.
Iowa Department of Public Health, January, 2014

Guide to Surveillance, Investigation, and Reporting Revision Document, September, 2015

*Note: In general, it is STRONGLY recommended that health professionals NOT rely on printed copies of the Epi Manual. Anyone considering updating a "paper copy" of the Epi Manual may want to consider printing out the entire manual as **most** chapters during this review have grammar, statistical or new terminology corrections, revised review dates as well as the edits listed below. All fact sheets were reviewed and almost all have edits. Included in detail here are edits of a more substantial nature.*

General Contact Information

The following contact information maps were replaced with new versions in this section:

Public Health Epidemiologists

Disease Prevention Specialists

Child care Consultants

Community Health Consultants

State Veterinarians

Reportable Disease Information

Cyclospora

Edits to "Responsibilities" for investigation

E. coli

Many edits to classification of the various types of E. coli throughout the chapter.
E. coli Fact sheet was replaced

Hepatitis B - Maternal

All materials updated and replaced, primarily for the IDPH contact information.

Legionella

Laboratory information section replaced with updated information on legionella testing.

Meningitis

The Entire chapter has undergone grammar and other small edits. The most substantive changes are in Child Care Contacts

Polio

Edits made to the following sections and HP Fact Sheet:
Epidemiology
Protection of Contacts of a Case
Polio Vaccine and Travel

Plague

The Epidemiology section replaced with updated information.

Q Fever

Edits to "Responsibilities" for investigation

Rubella

Added comments to "Protection of Contacts" in this chapter.

Salmonella

The entire chapter has undergone edits to grammar and IDSS instructions

Shigella

The entire chapter has undergone edits to grammar and IDSS instructions. Child care investigations has important changes. In addition, edits to investigation of food handlers, fact sheet etc.

Syphilis

Laboratory information section replaced with updated information on syphilis testing.

Tetanus

Edits to Epidemiology section

Tuberculosis

New Tuberculosis Patient info sheet

Typhoid Fever

New language added to section on food handlers, and restrictions with diagnosis.

Epidemiology information updated

Fact sheet updated also

Viral Hemorrhagic Fever

Edits to Reservoirs, incubation period, and epidemiology

Law Changes

New Iowa Code 139A

New Iowa Code 141A

New IAC 641.1

Added HIPAA statement back in

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ACKNOWLEDGMENTS

The *Guide to Surveillance, Investigation and Reporting* was made possible by the Epidemiology and Laboratory Capacity for Infectious Disease Cooperative Agreement (cooperative agreement number U50/CCU115217-04), and the Public Health Preparedness and Response for Bioterrorism Cooperative Agreement (CDFA 93.283). The contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention (CDC).

The Iowa Department of Public Health wishes to thank the following for their contributions to the development of this manual. Every attempt has been made to recognize all contributors. We regret any omissions that may have occurred.

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PHOTO ACKNOWLEDGMENTS

General Photos

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Telephone – Sandy Briggs, Iowa Dept. of Public Health

Bees – Scott Bauer U.S. Department of Agriculture, Agricultural Research Service

Man with calf – Jane Palen

Deer Mouse – Ryan L. Rehmeier, Kansas State University, Division of Biology

Deer – Scott Bauer U.S. Department of Agriculture, Agricultural Research Service

Hand washing – Sandy Briggs and Sarah Taylor, Iowa Dept. of Public Health

Classroom – Sandy Briggs and the Iowa Communications Network

Bat - William Conner and Nickolay Hristov, Wake Forest University, National Science Foundation, Office of Legislative and Public Affairs

Crow – Dave Jarvis

Mosquito – U.S. Department of Agriculture, Agricultural Research Service

Water pump – Sandy Briggs, Iowa Dept. of Public Health

Lead paint – Rita Gergely, Iowa Dept. of Public Health

X-ray - David Wollaston, Radiology Department, Broadlawns Hospital Des Moines, Iowa

Microscopic images of diseases from the Center for Disease Control and Prevention

website: <http://phil.cdc.gov/phil/search.asp>

Lyme Disease - Dr. Edwin P. Ewing, Jr.

Measles - Dr. Edwin P. Ewing, Jr.

Plague

GreenE. coli

Brown E. coli

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Botulism - Dr. George Lombard

Campylobacter - Dr. William A. Clark

Hantavirus - Dr. Sherif R. Zaki

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Norovirus - Dr. Erskine Palmer

Pertussis

Rabies

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West Nile Virus - W.-J. Shieh and S. Zaki

Yellow Fever

Cholera - Dr. R. Weaver

Lung Disease – Dr. Russell K. Brynes

Anthrax

Iowa Department of Public Health
Mission & Vision Statements

Mission:

Promoting and protecting the health of Iowans

Vision:

Healthy Iowans living in healthy communities

One of the goals of public health professionals at the local and state level, in cooperation with private health professionals across the State of Iowa, is to prevent epidemics and the spread of disease. Strategies used to achieve this goal include monitoring for infectious diseases, detecting and investigating these diseases and providing disease prevention and control services. Members of this local, state and private medical "team" are in critical positions to deter potential public health threats due to communicable diseases. An effective surveillance system and prompt evaluation and response by the "team" are essential to the control of disease.

The purpose of this manual is:

1. To be a reference for all health care providers at the time of a suspected case, a particular disease or condition, or at the time of an outbreak of a communicable disease to institute public health prevention and control measures.
2. To assure more rapid and appropriate responses to situations that present danger to high-risk populations or the population at large.
3. To standardize the reporting and investigation of communicable diseases throughout the state.
4. To clarify the roles of the public and local providers and to optimize the surveillance of a population when a communicable disease(s) occur.

The book Control of Communicable Diseases Manual, Heymann, D., MD, Editor; Nineteenth Edition, 2008, (an official report of the American Public Health Association*) may also be consulted about disease investigation or follow-up.

If there are questions for which this manual or the Control of Communicable Diseases Manual does not provide answers, please contact the Iowa Department of Public Health, Center for Acute Disease Epidemiology (CADE) anytime at (800) 362-2736 or (515) 242-5935.

Introduction

Purpose of *Guide to Surveillance, Investigation, and Reporting*: Infectious diseases are a continuing threat to all people, regardless of age, gender, lifestyle, ethnic background, or socioeconomic status. They cause illness, suffering and even death, and place an enormous financial burden on society. Although modern advances have controlled some infectious diseases, new ones are constantly emerging. State public health officials rely on local public health agencies, healthcare providers, laboratories and other public health personnel to report the occurrence of notifiable diseases. Without such data, trends cannot be accurately monitored, unusual occurrences of diseases (such as outbreaks) might not be detected or appropriately responded to, and the effectiveness of control and prevention activities cannot be evaluated.

The Iowa Department of Public Health (IDPH), Center for Acute Disease Epidemiology (CADE) is placing increased emphasis on strengthening infectious disease surveillance and response. This reference manual is part of the IDPH focus on providing more training and technical assistance to local public health agencies and healthcare facilities. The purpose of this manual is to guide local public health agencies and healthcare providers through specific surveillance and reporting responsibilities for the diseases reportable to the IDPH. For more specific information on surveillance and reporting of reportable diseases, contact CADE (800) 362-2736.

The manual is arranged alphabetically by reportable disease, with each disease in its own chapter. While this manual is targeted to local public health agency personnel and infection preventionists, other healthcare professionals can also use the information to facilitate their understanding of communicable diseases. The private provider and laboratory responsibility in reporting and surveillance is a vital and collaborative piece in acquiring timely and accurate information for assuring healthy Iowa communities.

The terms "local public health agency" and "local health department" are used interchangeably.

"You" and "your" refers to the people/audience for whom this manual is intended, namely, personnel of local public health agencies and local health departments and infection preventionists from health care facilities.

All information in this manual must be considered in light of newer information available after publication. The three-ring binder format of this manual allows for addition of new and updated material as they become available. The web based version of the manual will have the most current information.

Organization

The Iowa Department of Public Health is a division of state government. The Division of Acute Disease Prevention and Emergency Response, and the Division of Environmental Health and Bureau of Health Statistics are located within IDPH, and are housed at the Lucas State Office Building in Des Moines, Iowa.

The Iowa Reportable Disease Surveillance System

A. What is surveillance? Disease surveillance is the regular collection, monitoring and analysis of data relevant for control and prevention of diseases. The data is used to define baseline levels of disease. By knowing the baseline, one may then identify unusual occurrences of disease.

The purposes of infectious disease surveillance are to interrupt transmission of disease to susceptible persons and to reduce morbidity and mortality through:

- Timely reporting,
- Identification and investigation of individual cases and outbreaks, and
- Interpretation of investigative data and dissemination of findings

Surveillance is often categorized into two types: “active surveillance” and “passive surveillance.”

Active Surveillance: An active surveillance system is one in which public health officials regularly solicit disease reports. This is often accomplished by regularly (daily, weekly, bi-weekly) telephoning selected individuals and asking if specific diseases have been identified. The reports are generally solicited from health care providers, infection preventionists, laboratories, schools, minor emergency clinics, etc. This type of system has been shown to double the number of reports of some diseases.

In the case of active surveillance, the organization receiving information takes *direct* action in collecting this information. This may occur through direct review of medical records, laboratory records, or screening of high-risk populations.

Passive Surveillance: A passive surveillance system, such as Iowa has, is one in which reporting is left to individuals (i.e. physicians, nurse practitioners, physician assistants, infection preventionists, laboratories, etc.). Passive surveillance is the most common type of surveillance used in state and local health departments. The two major limitations of this type of system have been under reporting and delayed reporting.

Traditional reporting of diseases by healthcare providers and laboratories is considered passive surveillance. This means that the organization receiving the information waits for initial data on a case to be submitted. This usually leads to collection of additional information and the implementation of follow-up activities. An example of this would be when a local public health agency receives a report of invasive *Neisseria meningitidis* infection from a healthcare provider or facility and then initiates patient interview and contact tracing with recommendations on post-exposure prophylaxis.

A sub-category of passive surveillance is “enhanced passive surveillance.” In this situation, the organization receiving data works closely with healthcare providers and laboratories that are most likely to report a particular disease or group of diseases and sets up systems to increase timeliness and completeness of reporting.

Guide to Using the Specific Disease Format: The format chosen for describing the specific diseases is designed to make the information easy to read and to orient the reader with terminology specific for communicable disease investigation. The following information defines the headings used and provides helpful hints in interpreting the information included in the specific disease sections.

Synonyms: Some disease names have changed over time, and some health professionals or laypersons may describe the disease by other terms.

Agent: The specific pathogen that produces the disease. Whether the agent is bacteria, virus, fungus, parasite, or other organism, it is important to refer to it appropriately when conversing with health professionals or the public. If the agent is an insect (e.g., lice) producing an infestation, the appropriate terminology for the problem is infestation, not disease or infection.

Reservoir: The normal habitats where the infectious agent can live, multiply, and reproduce. These habitats can include man, animals, or the environment.

Mode of Transmission: The direct (person-to-person or animal-to-person) or indirect (through vehicles such as food or water, vectors, etc.) transfer of an infectious agent from a reservoir to a susceptible host. The reservoir and mode of transmission are integrally related and the specific information about them should direct the types of questions asked during the case investigation. Let's take the example of two enteric diseases, salmonellosis and shigellosis. The reservoir for *Salmonella* includes domestic and wild animals and man. The mode of transmission is most often by ingestion of contaminated food, but also may be by the fecal-oral route resulting from contact with infected animals or persons. Having this information, the case investigation to determine the source must include a complete food history and investigation of possible ways persons and animals could transmit the organism via their feces. For *Shigella* the only reservoir is man and the mode of transmission is the fecal-oral route. In this instance, the case investigation to determine the source centers only on the possible ways that a person(s) can transmit the organism via their feces. No history about animals is necessary.

Incubation Period: The interval between exposure to an agent that results in infection and the appearance of the first symptom of illness. There will be a range (shortest - longest) and an average incubation period for each disease.

When investigating the occurrence of a specific disease, the shortest and longest incubation periods should compose the time frame in question. For example, the incubation period for hepatitis A is 15-50 days, average 28-30. When interviewing the case, you should ask, "In the 15-50 days (2-6 weeks) before you became ill . . ." or preferably use specific dates. For example, if the person with hepatitis A had onset of symptoms on February 14, ask about specific exposures from January 1-30.

Period of Communicability: The time during which a person or animal with an infectious disease is a potential source of infection. Period of communicability is important when assessing the risk that the case under investigation may have transmitted his/her disease to others. For example, when investigating a case of hepatitis A, request the names of "contacts" in the 2 weeks prior to and 1 week after the onset of illness (the period of communicability for hepatitis A).

Clinical Illness: The symptoms commonly associated with a particular disease. If specific laboratory testing is not completed, a good clinical history of signs (objective physical findings) and symptoms (experienced by the patient) are necessary to determine the likelihood of diseases for which follow-up would be indicated.

Diagnosis: The use of scientific and skillful methods to establish the cause and nature of a person's disease. Cases may be grouped as follows:

- **Confirmed:** A person who has a laboratory-confirmed infection with a particular agent. The person may have clinical symptoms or the infection may be sub clinical (asymptomatic). Sub clinical disease can only be diagnosed by laboratory testing.
- **Probable:** A person with clinical symptoms of a disease (but no laboratory confirmation) who is a contact to a laboratory-confirmed case or is associated with a documented outbreak. The case is then epidemiologically linked.
- **Suspect:** (frank, apparent) A person with a clinical syndrome suggesting a particular disease. Epidemiologically, this refers to a case which is not (yet) either laboratory confirmed or epidemiologically linked.

Prevention: Slowing or stopping the occurrence of disease. This may include direct intervention by the public health or educating the cases and contacts about the disease, how it is transmitted and how to prevent transmission.

Glossary: A glossary of other pertinent terms can be found at the end of this manual.

Investigation of Communicable Diseases: Not every disease reported requires a detailed follow-up. Diseases are to be reported by health care providers, laboratories, infection preventionists, school nurses, local health department personnel, and can be reported by private citizens.

Confirmation: The first step taken before any action is initiated is to confirm the diagnosis (if at all possible). If the disease is being reported by a physician or infection preventionists, confirmation in most instances is obtained by requesting information on specific laboratory tests to confirm the diagnosis.

When a disease that requires public health follow-up is reported by a private citizen, confirmation requires contact with the appropriate physician, laboratory, or both, and requesting specific test results used to make the diagnosis. If the diagnosis is a clinical diagnosis without laboratory confirmation, it is sometimes necessary to request a clinical history in order to determine if the illness is consistent with the diagnosis. If the symptoms are not consistent with the diagnosis, contact the Center for Acute Disease Epidemiology (CADE) at (800) 362-2736 for recommendations.

Case Investigation: Case investigation involves determining possible sources of the person's infection, assessing the likelihood that the individual will transmit the infection to others, and providing education regarding prevention of further spread to the ill person and their contacts. This may lead to investigation of the possible source and/or other cases.

Critical factors in any case investigation include:

- **Timely response to the initial disease report.** Investigation of diseases requiring follow-up should be initiated within 24 hours.
- **Collection of appropriate data needed to make an accurate assessment.** Prior to interviewing, review material related to the specific disease. Critical information to

consider when collecting data is the reservoir(s), incubation period, mode of transmission, period of communicability and appropriate control measures necessary for the disease.

- **Follow-up of leads regarding a possible source of infection.**

Example: An adult with shigellosis reports his child had fever and diarrhea a few days earlier and the child attends a child care center. An appropriate response would be to visit the child care center to evaluate if other children in the center are, or have been, ill with fever and diarrhea.

Intervening appropriately to interrupt transmission and prevent disease.

Example: A patient with salmonellosis reports that she had eaten at a local food establishment with a large group and several members of the group had become ill with fever and diarrhea. While you are taking food histories on all ill persons, an environmental health specialist/sanitarian should be consulted to visit the food establishment to conduct an inspection, gather necessary information, and collect food samples if warranted.

Accurate documentation of information obtained.

Complete information regarding any case investigation should be recorded in a neat, organized manner and filed. Case investigations should either be filed in a communicable disease file (for example: Hepatitis A Cases - 1985), in a patient file (by patient name) or entered into the Iowa Disease Surveillance System (IDSS), Iowa's secure web-based disease reporting system. If the patient file is used, a log of all case investigations performed in the county should be kept. The record should not only include information given to you about the case but also any recommendations, instructions and education that was provided to the case. Recording should be done as information is obtained or service given. **Do not rely on your memory.**

Legal Basis: Reporting of communicable diseases is required under Iowa Code Chapter 139A. These laws are implemented by regulation under Iowa Administrative Code Chapter 641.1 The purpose of these regulations is "to list those diseases declared dangerous by the Iowa Department of Public Health, and to establish reporting, isolation, and quarantine requirements. This is intended for use by local public health agencies, hospitals, healthcare providers, laboratories, educational and recreational program health officials, food industry officials, and the public."

Infectious diseases designated as a threat to the public health must be reported directly to the local public health agency and the Iowa Department of Public Health. The only exceptions to this are sexually transmitted diseases, tuberculosis, and HIV/AIDS, which are reported directly to the IDPH. Local public health agencies or their designees are authorized to accept, investigate and submit reportable disease case information to IDPH, Center for Acute Disease Epidemiology (CADE).

Reporting of Tuberculosis: Healthcare providers, laboratories, or local public health agencies who have knowledge of a case of confirmed tuberculosis (TB) or clinically suspected tuberculosis case shall notify the Tuberculosis Program within 24 hours. Upon receipt of such notice, the TB Program shall notify the local public health agency within 24 hours. This notice shall include the case name, date of birth, age, sex, case address, and provider name and provider phone number. For more information, local public health agencies should contact the

TB Program directly at (515) 281-7504.

Reporting of HIV/AIDS: HIV and AIDS (as determined by a laboratory test diagnostic of HIV infection or AIDS) are reportable directly to the IDPH, HIV/AIDS Surveillance Program. Perinatal exposures to HIV (i.e., births to HIV-infected women) are also reportable, as are deaths of persons with HIV/AIDS. Reporting is to be done by healthcare providers, laboratories, and other officials using the HIV/AIDS Case Report Form developed and approved by the IDPH. Because information beyond what can be captured in the Iowa Disease Surveillance System is needed for HIV/AIDS reports, reporting through IDSS will prompt the HIV/AIDS Surveillance Office to send the initial reporter the case report form to complete reporting. Local public health agencies should contact the HIV/AIDS Surveillance Program directly at (515) 242-5141 to obtain a case report form or if there are any questions regarding reporting of HIV/AIDS.

Reporting of STDs: Cases of certain sexually transmitted diseases (STD), as determined by a clinical diagnosis and/or from laboratory evidence of an infection, are reportable directly to the IDPH, STD Prevention Program. Specifically, Syphilis, Gonorrhea, and Chlamydia are reportable. Reporting is accomplished by clinicians, laboratories and other officials designated by the IDPH using a form or format approved by the IDPH or by reporting through the Iowa Disease Surveillance System. When using IDSS to report STDs, providers should indicate any treatment provided in the NOTES tab because the follow-up form is closed from view due the partner services information located within it. Local public health agencies, clinicians and laboratories can contact the STD Prevention Program directly at (515) 281-3031.

Reportable sexually transmitted diseases include chlamydial infection, syphilis, and gonorrhea. Minors may give consent for STD prevention, tests, and treatment without parental consent or notification. Case investigation will be conducted by trained disease prevention specialists at the state or local level.

Reporting and Case Investigation; State versus Local Role: CADE collaborates with local public health agencies and health care facilities in the investigation of cases of communicable disease and the implementation of appropriate control and prevention measures. The guidelines in this manual, as well as other referenced material, form the basis for local public health agency communicable disease reporting, investigation and control measures.

When clusters or outbreaks of illness, potential bioterrorist agents, emerging infections or other serious threats to public health are identified, IDPH will provide technical assistance to local public health agencies. IDPH assistance may range from serving in a medical consulting capacity to direct management of the investigation, implementation of control and prevention measures, and initiating follow-up activities. In special situations, IDPH may request technical assistance from the Centers for Disease Control and Prevention (CDC). (**Note:** Requests for CDC technical assistance must be made by the IDPH.)

When an institution such as a healthcare facility or a school is the site of possible transmission, the infection preventionist of the healthcare facility or the school nurse is typically actively involved in the investigation and the application of control and prevention measures. Ideally decisions about control measures are made collectively by the IDPH, the local public health agency, and the infection preventionist (or equivalent) in the affected institution. However, IDPH and the local board of health working together have ultimate authority.

Timeliness of Reporting: Cases of diseases reportable to IDPH are reported to CADE. Certain diseases should be **immediately reported by phone** to the IDPH when a suspect or confirmed case is identified. Diseases that require immediate reporting should always be prioritized above other case investigations. In addition, any disease where a cluster exists or where there is a suspected cluster or outbreak of disease should be reported immediately and prioritized accordingly. Post investigation, the local public health agency can follow up with the official case report form(s). All diseases that are not categorized as “immediate” should be reported as outlined in IAC 641.1 and investigated within a week and a completed case report form with appropriate laboratory test confirmation (if applicable for the disease) should be submitted preferably through the IDSS.

Note: Local public health agencies (LPHA) are responsible for residents of their county. Reports of illness received for residents of other cities/towns outside of the county should be forwarded to CADE or the appropriate LPHA.

The importance of timely reporting cannot be overemphasized. For example, if a local health authority holds reports of salmonella and only submits them once a month, a potential outbreak occurring across city/town limits may go unnoticed and uncontrolled.

The Center for Acute Disease Epidemiology (CADE) has an epidemiologist available during normal business hours (515) 242-5935 or (800) 362-2736 to answer questions about case investigation and control measures. Surveillance information is available during normal business hours at (515) 281-6493 for questions about reporting requirements. For disease reporting please call the Disease Reporting Hotline at (800) 362-2736. A medical epidemiologist is also available during non-work hours and weekends for emergency situations *e.g.*, if you receive several complaints and are concerned about a potential foodborne illness outbreak. All calls are returned promptly.

Examples of top priorities include:

- Clusters of illness
- Diseases that require prompt administration of countermeasures to prevent further spread and/or to reduce morbidity and mortality (*e.g.*, rabies, hepatitis A, or meningococcal invasive disease)
- Diseases with high mortality rates (*e.g.*, eastern equine encephalitis)
- Suspect bioterrorist agents (*e.g.*, anthrax or smallpox)
- Diseases that are unusual in the infected individual’s demographic group or within a geographic region
- Disease with a high potential for spread to others (*e.g.*, measles)

Note: To help local public health agencies distinguish those diseases that pose a more serious public health threat, certain chapters have been flagged. These disease chapters have a box with the notation “Report Immediately” at the top of the first page. If you are unsure about which investigations to do first, or need technical assistance, contact the epidemiologist on-call at (800) 362-2736.

Confidentiality

Confidentiality is a legal requirement. The information that public health officials collect is often personal. Success and cooperation lies in protecting an individual’s right to privacy. It is important to realize that confidentiality concerns extend beyond the investigator. Clerical staff,

administrative staff, interns and local public health agency members who may be aware of personal information on a case should all be familiar with and mindful of the basic tenets of maintaining confidentiality. Only individuals who have a "need to know" should have access to sensitive records. During and after an investigation, only those individuals directly involved in interviewing a case or contacts and/or those directly involved in follow-up activities to control the spread of the disease, fall into the category of "need to know." This category would normally not include general administrators, town officials, elected officials and others involved in town government who are not directly providing disease control services. Individuals assisting in general education to the public also have no need to know personally identifying information about a case.

If you are unsure about whether it is appropriate to release information, ***do not release it!*** Check with a supervisor, the municipal attorney or legal advisor, or contact the Center for Acute Disease Epidemiology at (515) 242-5935 or (800) 362-2736 for advice. Make sure information is released only to people who are authorized to receive it. Do not be pressured into a hasty decision. Do not confirm an individual case unless you are certain it is appropriate to release that information. If you are unsure about who is requesting information, obtain confirmation of the requestor's identity before releasing information *i.e.*, a signed consent form with documented identification such as a driver's license; for guardians, documentation of guardianship. Inappropriate release of data could pose a liability threat to your agency and/or municipality and possibly endanger affected individuals.

It is important to realize that information may be shared between local public health officials, healthcare providers, and with IDPH during the course of a public health investigations and control activities. However, even in these instances "need to know" applies. Information on individual cases may be obtained from IDPH Center for Acute Disease Epidemiology (CADE) only by the responsible representative of a local public health authority involved in an investigation of the case, the person who is the case, the health care provider involved, or the individual's guardian or designee (with written informed consent).

The IDPH strongly encourages local public health agencies to acquire a secure fax machine for the use of individuals involved in communicable disease reporting, investigation and control. This machine should be located in a secured area where disease control staff work and should not be accessible to the general public. Communicable disease control personnel's use of a fax machine shared by many personnel in town government presents a heightened risk for breach of confidentiality.

Remember the type of information released cannot personally identify a case. What facts could be released can change with each situation. For example, demographic information such as age, race, sex, or zip code could or could not be used depending how large the outbreak is, and whether it can be traced back to an individual case. The rule remains that if released information can identify or be traced back to an individual case, the information should not be released.

Local and state public health authorities have investigated cases of infectious disease and collected sensitive information for more than 100 years. These efforts would not be as successful if all personnel did not uphold the public's trust by maintaining strict confidentiality.

Important Points Regarding Confidentiality

- Everyone with access to case information is required to maintain confidentiality.
- Confidential information can be released only to those who “need to know.”
- Be certain of the identity of the person to whom you release confidential information. Insist on confirmation of identity *e.g.* copy of driver’s license, if unsure.
- Maintain confidentiality during reporting. If reporting by fax, be certain that the receiving number is a confidential fax *e.g.*, (515) 281-5698 is the number of the Center for Acute Disease Epidemiology, Surveillance Program confidential fax. When receiving information by fax to your office, confidentiality also must be maintained.
- Personally identifying information from case report forms and other forms **cannot be released** without the individual’s signed consent, except to those directly involved in case investigation, control and prevention who have a “need to know.”

Reporting by Clinicians: Throughout the country, reporting of diseases by clinicians is variable. Clinicians are more likely to report disease with high mortality or diseases spotlighted in local and national media. Some strategies to increase reporting by clinicians include:

- Education on the importance of reporting.
- Appropriate mechanisms for reporting.
- Identification of professional or support staff who work with clinicians and who are able to take on the responsibility for reporting of clinician-diagnosed reportable disease.
- Prioritization of reportable diseases that pose a more serious risk to public health.

Note: Local public health agencies (LPHA) having difficulty obtaining information from clinicians should contact the Center for Acute Disease Epidemiology at (515) 242-5935 for assistance. Also, sample letters outlining the roles and responsibilities of the local public health agency for use with healthcare providers and patients are available in disease specific chapters.

An important strategy to improve reporting by healthcare providers is to develop better working relationships with those in your jurisdiction through education, provision of reports on public health activities and disease data, and by asking for their participation in timely public health initiatives. This includes such things pandemic influenza planning, or a bioterrorism response and/or surveillance planning for emerging infections.

Healthcare providers do not always inform patients that a disease is reportable to local or state health departments. This may lead to distress in a patient when they are contacted for a case investigation. Healthcare provider education on this issue is a good strategy for LPHAs. The LPHA should ask when the test results and diagnoses were communicated to a patient. It is usually best to begin an investigation by contacting the reporting clinician.

Laboratory Reporting: Laboratory results are often reported directly to the IDPH from laboratories. This has led to more timely disease reporting. IDPH sends these laboratory results to LPHAs for follow-up using the Iowa Disease Surveillance System (IDSS). Some laboratories batch their test results and submit them periodically, potentially leading to long delays in receipt and identification or confirmation of cases. IDPH is working to eliminate this situation through laboratory education and the implementation of electronic laboratory data transmission via IDSS. The University of Iowa State Hygienic Laboratory (SHL) reports directly into IDSS. As

time progresses IDPH will reach out to additional laboratories to initiate secure electronic data submission.

Current laboratory systems often are not equipped to collect much of the information needed, nor are they linked directly to clinical/patient information systems. As hospital and laboratory databases become more integrated, better demographic information will become available. IDPH currently attempts to gather additional information when patient information is too limited to allow local public health agency follow-up.

Sentinel Surveillance and Reporting of Selected Diseases: In addition to passive, enhanced passive and active surveillance, IDPH has several “sentinel” surveillance projects. The primary purpose of sentinel surveillance is the initial and/or representative detection of disease, whether it is emergent or recurrent. This requires that the organization receiving data work closely with a select number of sites, *e.g.*, healthcare providers, laboratories, or school nurses, to supplement standard reporting. Sentinel surveillance reporting is particularly useful in providing warning of the arrival of a disease. For diseases that are high in volume and not individually reportable, such as influenza, it can also provide estimates about the burden of disease among the general population. Sentinel surveillance and reporting may also be helpful when monitoring a disease that is newly introduced to a population, such as West Nile virus, or when providing information about a disease disproportionately affecting specific populations, such as varicella surveillance in schools.

Limitations of Data; Under-Reporting and Incomplete Data: Because most surveillance systems are based on a passive disease reporting, under-reporting is inevitable. It is estimated that, depending on the disease, only 5% to 80% of cases that actually occur will be reported. For example, foodborne illness is often underreported because individuals with disease do not consult a healthcare provider, or a diagnosis of “gastrointestinal illness” is made and treated without any diagnostic tests that might identify the particular pathogen. Even with incomplete information, it is often possible to detect key trends and/or sources of infection. For diseases that occur less frequently, the need for completeness becomes more important. Each individual case must be treated as a “key” event.

Lack of Representativeness of Reported Cases: Health conditions are not reported randomly. For example, illnesses in a healthcare facility are reported more frequently than those diagnosed by outpatient care providers. A provider is more likely to report a case of hepatitis A if the patient is ill than if the patient has few or no symptoms. A case of meningitis is more likely to be reported than a case of chickenpox. Reporting bias can distort interpretation of disease data.

Changing/Evolving Case Definitions: Different practitioners frequently use different case definitions for health problems. The more complex the disease syndrome, the greater the difficulty in reaching consensus on a case definition. With newly emerging diseases and as understanding progresses, case definitions are frequently adjusted to allow greater accuracy of diagnosis. Also, as new diagnostic tests are developed, case definitions sometimes change to incorporate these tests. Case definitions establish uniform criteria for disease reporting and are not definitive for diagnosis. The case definitions used by IDPH for disease reporting are put forth by the Council of State and Territorial Epidemiologist (CSTE) and are used nationwide for accurate comparison of disease burden across states. The case definitions can be found at: www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top

Bioterrorism: Bioterrorism is the intentional use of disease agents to create fear, disrupt society or cause injuries and/or death. The use of biologic agents by terrorists may involve acts that are announced or otherwise immediately recognized. Alternatively, and considered to be more likely, would be the silent introduction of a biologic agent into the population that could take days to weeks before illness becomes apparent.

Because some diseases caused by bioterrorism may initially resemble common infectious diseases, the detection of a bioterrorist event may be difficult. **Local health departments should immediately notify the epidemiologist on-call for Center for Acute Disease Epidemiology at (800) 362-2730** if any of the following are noticed:

- A cluster of illness that is unexplained after preliminary investigation
- One or more cases of disease in a community in which the disease does not normally occur
- Illness in an unusual geographic distribution *e.g.*, patients all residing in one area possibly downwind of a point-location or in an unusual population or *e.g.*, serious pneumonia among young adults.

Local communities must lead the response to a bioterrorist event, or to any infectious disease emergency. Planning, exercising plans, and communication are important and will be most effective if a strong partnership among public health, first responders *e.g.*, fire departments, emergency management, law enforcement, local health care providers and hospitals have been developed in advance.

Conclusion: The best surveillance lies in collecting accurate and timely data, and in carefully and correctly interpreting the data. The interpretation should focus on elements that might lead to control and prevention of the condition. Investigators can use surveillance as a basis for appropriate public health actions. The results of such actions can be assessed for effectiveness. This manual is designed to give an overview of local public health agency responsibility for surveillance, reporting, control, and prevention of the diseases reportable to the Center of Acute Disease Epidemiology. As experience has proved, case investigation can vary greatly from setting to setting, and it is impossible to address all the questions and situations that may arise. The Center for Acute Disease Epidemiology is available at (515) 242-5935 to offer guidance and assistance as needed.

A vertical strip on the right side of the page features a microscopic image of tissue, likely stained with hematoxylin and eosin (H&E), showing a dense cellular structure with purple nuclei and pink cytoplasm/extracellular matrix.

Reportable Disease Information

CHAPTER 139A COMMUNICABLE AND INFECTIOUS DISEASES AND POISONINGS

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139A.1 TITLE.

This chapter shall be known as the "*Communicable and Infectious Disease Reporting and Control Act*".

139A.2 DEFINITIONS.

For purposes of this chapter, unless the context otherwise requires:

1. "*Area quarantine*" means prohibiting ingress and egress to and from a building or buildings, structure or structures, or other definable physical location, or portion thereof, to prevent or contain the spread of a suspected or confirmed quarantinable disease or to prevent or contain exposure to a suspected or known chemical, biological, radioactive, or other hazardous or toxic agent.
2. "*Business*" means and includes every trade, occupation, or profession.
3. "*Care provider*" means an individual who is trained and authorized by federal or state law to provide health care services or services of any kind in the course of the individual's official duties, for compensation or in a voluntary capacity, who is a health care provider, emergency medical care provider as defined in section 147A.1, fire fighter, or peace officer. "*Care provider*" also means an individual who renders emergency care or assistance in an emergency or due to an accident as described in section 613.17.
4. "*Communicable disease*" means any disease spread from person to person or animal to person.
5. "*Contagious or infectious disease*" means hepatitis in any form, meningococcal disease, tuberculosis, and any other disease, with the exception of AIDS or HIV infection as defined in section 141A.1, determined to be life-threatening to a person exposed to the disease as established by rules adopted by the department, based upon a determination by the state epidemiologist and in accordance with guidelines of the centers for disease control and prevention of the United States department of health and human services.
6. "*Department*" means the Iowa department of public health.
7. "*Designated officer*" means a person who is designated by a department, agency, division, or service organization to act as an infection control liaison officer.
8. "*Exposure*" means the risk of contracting disease as determined by the centers for disease control and prevention of the United States department of health and human services and adopted by rule of the department.
9. "*Exposure-prone procedure*" means a procedure performed by a health care provider which presents a recognized risk of percutaneous injury to the health care provider and if such an injury occurs, the health care provider's blood is likely to contact a patient's body cavity, subcutaneous tissues, or mucous membranes, or an exposure-prone procedure as defined by the centers for disease control and prevention of the United States department of health and human services.
10. "*HBV*" means hepatitis B virus.
11. "*Health care facility*" means a health care facility as defined in section 135C.1, an ambulatory surgical center, or a clinic.
12. "*Health care provider*" means a person licensed to practice medicine and surgery, osteopathic medicine and surgery, chiropractic, podiatry, nursing, dentistry, optometry, or as a physician assistant, dental hygienist, or acupuncturist.
13. "*HIV*" means HIV as defined in section 141A.1.
14. "*Hospital*" means hospital as defined in section 135B.1.

15. *"Isolation"* means the separation of persons or animals presumably or actually infected with a communicable disease or who are disease carriers for the usual period of communicability of that disease in such places, marked by placards if necessary, and under such conditions as will prevent the direct or indirect conveyance of the infectious agent or contagion to susceptible persons.
16. *"Local board"* means the local board of health.
17. *"Local department"* means the local health department.
18. *"Placard"* means a warning sign to be erected and displayed on the periphery of a quarantine area, forbidding entry to or exit from the area.
19. *"Public health disaster"* means public health disaster as defined in section 135.140.
20. *"Quarantinable disease"* means any communicable disease designated by rule adopted by the department as requiring quarantine or isolation to prevent its spread.
21. *"Quarantine"* means the limitation of freedom of movement of persons or animals that have been exposed to a quarantinable disease within specified limits marked by placards for a period of time equal to the longest usual incubation period of the disease in such manner as to prevent the spread of a quarantinable disease which affects people.
22. *"Reportable disease"* means any disease designated by rule adopted by the department requiring its occurrence to be reported to an appropriate authority.
23. *"Sexually transmitted disease or infection"* means a disease or infection as identified by rules adopted by the department, based upon a determination by the state epidemiologist and in accordance with guidelines of the centers for disease control and prevention of the United States department of health and human services.
24. *"Terminal cleaning"* means cleaning procedures defined in the isolation guidelines issued by the centers for disease control and prevention of the United States department of health and human services.

139A.3 REPORTS TO DEPARTMENT -- IMMUNITY -- CONFIDENTIALITY -- INVESTIGATIONS.

1. The health care provider or public, private, or hospital clinical laboratory attending a person infected with a reportable disease shall immediately report the case to the department. However, when a case occurs within the jurisdiction of a local health department, the report shall be made to the local department and to the department. A health care provider or public, private, or hospital clinical laboratory who files such a report which identifies a person infected with a reportable disease shall assist in the investigation by the department, a local board, or a local department. The department shall publish and distribute instructions concerning the method of reporting. Reports shall be made in accordance with rules adopted by the department and shall require inclusion of all the following information:
 - a. The patient's name.
 - b. The patient's address.
 - c. The patient's date of birth.
 - d. The sex of the patient.
 - e. The race and ethnicity of the patient.
 - f. The patient's marital status.
 - g. The patient's telephone number.
 - h. The name and address of the laboratory.
 - i. The date the test was found to be positive and the collection date.

139A.5 ISOLATION OR QUARANTINE SIGNS ERECTED.

When isolation or a quarantine is established, appropriate placards prescribed by the department shall be erected to mark the boundaries of the place of isolation or quarantine.

139A.6 COMMUNICABLE DISEASES.

If a person, whether or not a resident, is infected with a communicable disease dangerous to the public health, the local board shall issue orders in regard to the care of the person as necessary to protect the public health. The orders shall be executed by the designated officer as the local board directs or provides by rules.

139A.7 DISEASED PERSONS MOVING -- RECORD FORWARDED.

If a person known to be suffering from a communicable disease dangerous to the public health moves from the jurisdiction of a local board into the jurisdiction of another local board, the local board from whose jurisdiction the person moves shall notify the local board into whose jurisdiction the person is moving.

139A.8 IMMUNIZATION OF CHILDREN.

1. A parent or legal guardian shall assure that the person's minor children residing in the state are adequately immunized against diphtheria, pertussis, tetanus, poliomyelitis, rubeola, rubella, and varicella, according to recommendations provided by the department subject to the provisions of subsections 3 and 4.
2. *a.* A person shall not be enrolled in any licensed child care center or elementary or secondary school in Iowa without evidence of adequate immunizations against diphtheria, pertussis, tetanus, poliomyelitis, rubeola, rubella, and varicella.
b. Evidence of adequate immunization against Haemophilus influenza B and invasive pneumococcal disease shall be required prior to enrollment in any licensed child care center.
c. Evidence of hepatitis type B immunization shall be required of a child born on or after July 1, 1994, prior to enrollment in school in kindergarten or in a grade.
d. Immunizations shall be provided according to recommendations provided by the department subject to the provisions of subsections 3 and 4.
3. Subject to the provision of subsection 4, the state board of health may modify or delete any of the immunizations in subsection 2.
4. *a.* Immunization is not required for a person's enrollment in any elementary or secondary school or licensed child care center if either of the following applies:
 - (1) The applicant, or if the applicant is a minor, the applicant's parent or legal guardian, submits to the admitting official a statement signed by a physician, advanced registered nurse practitioner, or physician assistant who is licensed by the board of medicine, board of nursing, or board of physician assistants that the immunizations required would be injurious to the health and well-being of the applicant or any member of the applicant's family.
 - (2) The applicant, or if the applicant is a minor, the applicant's parent or legal guardian, submits an affidavit signed by the applicant, or if the applicant is a minor, the applicant's parent or legal guardian, stating that the immunization conflicts with the tenets and practices of a recognized religious denomination of which the applicant is an adherent or member.

b. The exemptions under this subsection do not apply in times of emergency or epidemic as determined by the state board of health and as declared by the director of public health.

5. A person may be provisionally enrolled in an elementary or secondary school or licensed child care center if the person has begun the required immunizations and if the person continues to receive the necessary immunizations as rapidly as is medically feasible. The department shall adopt rules relating to the provisional admission of persons to an elementary or secondary school or licensed child care center.

6. The local board shall furnish the department, within sixty days after the first official day of school, evidence that each person enrolled in any elementary or secondary school has been immunized as required in this section subject to subsection 4. The department shall adopt rules pursuant to chapter 17A relating to the reporting of evidence of immunization.

7. Local boards shall provide the required immunizations to children in areas where no local provision of these services exists.

8. The department, in consultation with the director of the department of education, shall adopt rules for the implementation of this section and shall provide those rules to local school boards and local boards.

139A.8A VACCINE SHORTAGE -- DEPARTMENT ORDER -- IMMUNITY.

1. In the event of a shortage of a vaccine, or in the event a vaccine shortage is imminent, the department may issue an order controlling, restricting, or otherwise regulating the distribution and administration of the vaccine. The order may designate groups of persons which shall receive priority in administration of the vaccine and may prohibit vaccination of persons who are not included in a priority designation. The order shall include an effective date, which may be amended or rescinded only through a written order of the department. The order shall be applicable to health care providers, hospitals, clinics, pharmacies, health care facilities, local boards of health, public health agencies, and other persons or entities that distribute or administer vaccines.

2. A health care provider, hospital, clinic, pharmacy, health care facility, local board of health, public health agency, or other person or entity that distributes or administers vaccines shall not be civilly liable in any action based on a failure or refusal to distribute or administer a vaccine to any person if the failure or refusal to distribute or administer the vaccine was consistent with a department order issued pursuant to this section.

3. The department shall adopt rules to administer this section.

139A.9 FORCIBLE REMOVAL -- ISOLATION -- QUARANTINE.

The forcible removal and isolation or quarantine of any infected person shall be accomplished according to the rules and regulations of the local board or the rules of the state board of health.

139A.10 FEES FOR REMOVING.

The officers designated shall receive reasonable compensation for their services as determined by the local board. The amount determined shall be certified and paid in the same manner as other expenses incurred under this chapter.

139A.11 SERVICES AND SUPPLIES -- ISOLATION -- QUARANTINE.

If the person under isolation or quarantine or the person liable for the support of the person, in the opinion of the local board, is financially unable to secure proper care, provisions, or medical attendance, the local board shall furnish supplies and services during the period of isolation or quarantine and may delegate the duty, by rules, to one of its designated officers.

139A.12 COUNTY LIABILITY FOR CARE, PROVISIONS, AND MEDICAL ATTENDANCE.

The local board shall provide proper care, provisions, and medical attendance for any person removed and isolated or quarantined in a separate house or hospital for detention and treatment, and the care, provisions, and medical attendance shall be paid for by the county in which the infected person has a legal settlement, if the patient or legal guardian is unable to pay.

139A.13 RIGHTS OF ISOLATED OR QUARANTINED PERSONS.

Any person removed and isolated or quarantined in a separate house or hospital may, at the person's own expense, employ the health care provider of the person's choice, and may provide such supplies and commodities as the person may require.

139A.13A EMPLOYMENT PROTECTION.

1. An employer shall not discharge an employee, or take or fail to take action regarding an employee's promotion or proposed promotion, or take action to reduce an employee's wages or benefits for actual time worked, due to the compliance of an employee with a quarantine or isolation order or voluntary confinement request issued by the department, a local board, or the centers for disease control and prevention of the United States department of health and human services.
2. An employee whose employer violates this section may petition the court for imposition of a cease and desist order against the person's employer and for reinstatement to the person's previous position of employment. This section does not create a private cause of action for relief of money damages.

139A.14 SERVICES OR SUPPLIES -- AUTHORIZATION.

All services or supplies furnished to persons under this chapter must be authorized by the local board or an officer of the local board, and a written order designating the person employed to furnish such services or supplies, issued before the services or supplies are furnished, shall be attached to the bill when presented for audit and payment.

139A.15 FILING OF BILLS.

All bills incurred under this chapter in establishing, maintaining, and terminating isolation and quarantine, in providing a necessary house or hospital for isolation or quarantine, and in making terminal cleanings, shall be filed with the local board. The local board at its next regular meeting or special meeting called for this purpose shall examine and audit the bills and, if found correct, approve and certify the bills to the county board of supervisors for payment.

139A.16 ALLOWING CLAIMS.

All bills for supplies furnished and services rendered for persons removed and isolated or quarantined in a separate house or hospital, or for persons financially unable to provide their own sustenance and care during isolation or quarantine, shall be allowed and paid for only on a basis of the local market price for such provisions, services, and supplies in the locality furnished. A bill for the terminal cleaning of premises or effects shall not be allowed, unless the infected person or those liable for the person's support are financially unable to pay.

139A.17 APPROVAL AND PAYMENT OF CLAIMS.

The board of supervisors is not bound by the action of the local board in approving the bills, but shall pay the bills for a reasonable amount and within a reasonable time.

139A.18 REIMBURSEMENT FROM COUNTY.

If any person receives services or supplies under this chapter who does not have a legal settlement in the county in which the bills were incurred and paid, the amount paid shall be certified to the board of supervisors of the county in which the person claims settlement or owns property, and the board of supervisors of that county shall reimburse the county from which the claim is certified, in the full amount originally paid.

139A.19 CARE PROVIDER NOTIFICATION.

1. *a.* Notwithstanding any provision of this chapter to the contrary, if a care provider sustains an exposure from an individual while rendering health care services or other services, the individual to whom the care provider was exposed is deemed to consent to a test to determine if the individual has a contagious or infectious disease and is deemed to consent to notification of the care provider of the results of the test, upon submission of an exposure report by the care provider to the hospital or other person specified in this section to whom the individual is delivered by the care provider. The exposure report form may be incorporated into the Iowa prehospital care report, the Iowa prehospital advanced care report, or a similar report used by an ambulance, rescue, or first response service or law enforcement agency.

b. The hospital or other person specified in this section to whom the individual is delivered shall conduct the test. If the individual is delivered by the care provider to an institution administered by the Iowa department of corrections, the test shall be conducted by the staff physician of the institution. If the individual is delivered by the care provider to a jail, the test shall be conducted by the attending physician of the jail or the county medical examiner. The sample and test results shall only be identified by a number and shall not otherwise identify the individual tested.

c. A hospital, institutions administered by the department of corrections, and jails shall have written policies and procedures for notification of a care provider under this section. The policies and procedures shall include designation of a representative of the care provider to whom notification shall be provided and who shall, in turn, notify the care provider. The identity of the designated representative of the care provider shall not be revealed to the individual tested. The designated representative shall inform the hospital, institution administered by the department of corrections, or jail of those parties who received the notification, and following receipt of this information and upon request of the individual tested, the hospital, institution administered by the department

of corrections, or jail shall inform the individual of the parties to whom notification was provided.

d. Notwithstanding any other provision of law to the contrary, a care provider may transmit cautions regarding contagious or infectious disease information in the course of the care provider's duties over the police radio broadcasting system under chapter 693 or any other radio-based communications system if the information transmitted does not personally identify an individual.

2. If the individual tested is diagnosed or confirmed as having a contagious or infectious disease, the hospital or other person conducting the test shall notify the care provider or the designated representative of the care provider who shall then notify the care provider.

3. The notification to the care provider shall advise the care provider of possible exposure to a particular contagious or infectious disease and recommend that the care provider seek medical attention. The notification shall be provided as soon as is reasonably possible following determination that the individual has a contagious or infectious disease. The notification shall not include

the name of the individual tested for the contagious or infectious disease unless the individual consents. If the care provider who sustained an exposure determines the identity of the individual diagnosed or confirmed as having a contagious or infectious disease, the identity of the individual shall be confidential information and shall not be disclosed by the care provider to any other person unless a specific written release is obtained from the individual diagnosed with or confirmed as having a contagious or infectious disease.

4. This section does not require or permit, unless otherwise provided, a hospital, health care provider, or other person to administer a test for the express purpose of determining the presence of a contagious or infectious disease, except that testing may be performed if the individual consents and if the requirements of this section are satisfied.

5. This section does not preclude a hospital or a health care provider from providing notification to a care provider under circumstances in which the hospital's or health care provider's policy provides for notification of the hospital's or health care provider's own employees of exposure to a contagious or infectious disease that is not life-threatening if the notice does not reveal a patient's name, unless the patient consents.

6. A hospital, health care provider, or other person participating in good faith in complying with provisions authorized or required under this section is immune from any liability, civil or criminal, which might otherwise be incurred or imposed.

7. A hospital's or health care provider's duty of notification under this section is not continuing but is limited to a diagnosis of a contagious or infectious disease made in the course of admission, care, and treatment following the rendering of health care services or other services to which notification under this section applies.

8. A hospital, health care provider, or other person who is authorized to perform a test under this section who performs the test in compliance with this section or who fails to perform the test authorized under this section, is immune from any liability, civil or criminal, which might otherwise be incurred or imposed.

9. A hospital, health care provider, or other person who is authorized to perform a test under this section has no duty to perform the test authorized.

10. The department shall adopt rules pursuant to chapter 17A to administer this section. The department may determine by rule the contagious or infectious diseases for which testing is reasonable and appropriate and which may be administered under this section.

11. The employer of a care provider who sustained an exposure under this section shall pay the costs of testing for the individual who is the source of the exposure and of the testing of the care provider, if the exposure was sustained during the course of employment. However, the department shall pay the costs of testing for the individual who is the source of the significant exposure and of the testing of the care provider who renders direct aid without compensation.

139A.20 EXPOSING TO COMMUNICABLE DISEASE.

A person who knowingly exposes another to a communicable disease or who knowingly subjects another to a child or other legally incapacitated person who has contracted a communicable disease, with the intent that another person contract the communicable disease, shall be liable for all resulting damages and shall be punished as provided in this chapter.

139A.21 REPORTABLE POISONINGS AND ILLNESSES -- EMERGENCY INFORMATION SYSTEM.

1. If the results of an examination by a public, private, or hospital clinical laboratory of a specimen from a person in Iowa yield evidence of or are reactive for a reportable poisoning or a reportable illness from a toxic agent, including methemoglobinemia, the results shall be reported to the department on forms prescribed by the department. If the laboratory is located in Iowa, the person in charge of the laboratory shall report the results. If the laboratory is not in Iowa, the health care provider submitting the specimen shall report the results.

2. The health care provider attending a person infected with a reportable poisoning or a reportable illness from a toxic agent, including methemoglobinemia, shall immediately report the case to the department. The department shall publish and distribute instructions concerning the method of reporting. Reports shall be made in accordance with rules adopted by the department.

3. A person in charge of a poison control information center shall report to the department cases of reportable poisoning, received.

4. The department shall adopt rules designating reportable poisonings, including methemoglobinemia, and illnesses which must be reported under this section.

5. The department shall establish and maintain a central registry to collect and store data reported pursuant to this section.

6. The department shall timely provide copies of all reports of pesticide poisonings or illnesses received pursuant to this section to the secretary of agriculture who shall timely forward these reports and any reports of pesticide poisonings or illnesses received pursuant to section 206.14 to the registrant of a pesticide which is the subject of any reports.

7. The department shall adopt rules specifying the requirements for the operation of an emergency information system operated by a registrant pursuant to section 206.12, subsection 3, paragraph "c", which shall not exceed requirements adopted by a poison control center as defined in section 206.2. The rules shall specify the qualifications of individuals staffing an emergency information system and shall specify the maximum

amount of time that a registrant may take to provide the information to a poison control center or an attending physician treating a patient exposed to the registrant's product.

139A.22 PREVENTION OF TRANSMISSION OF HIV OR HBV TO PATIENTS.

1. A hospital shall adopt procedures requiring the establishment of protocols applicable on a case-by-case basis to a health care provider determined to be infected with HIV or HBV who ordinarily performs exposure-prone procedures as determined by an expert review panel, within the hospital setting. The protocols established shall be in accordance with the recommendations issued by the centers for disease control and prevention of the United States department of health and human services. The expert review panel may be an established committee of the hospital. The procedures may provide for referral of the health care provider to the expert review panel established by the department pursuant to subsection 3 for establishment of the protocols. The procedures shall require reporting noncompliance with the protocols by a health care provider to the licensing board with jurisdiction over the relevant health care providers.
2. A health care facility shall adopt procedures in accordance with recommendations issued by the centers for disease control and prevention of the United States department of health and human services, applicable to a health care provider determined to be infected with HIV or HBV who ordinarily performs or assists with exposure-prone procedures within the health care facility. The procedures shall require referral of the health care provider to the expert review panel established by the department pursuant to subsection 3.
3. The department shall establish an expert review panel to determine on a case-by-case basis under what circumstances, if any, a health care provider determined to be infected with HIV or HBV practicing outside the hospital setting or referred to the panel by a hospital or health care facility may perform exposure-prone procedures. If a health care provider determined to be infected with HIV or HBV does not comply with the determination of the expert review panel, the panel shall report the noncompliance to the licensing board with jurisdiction over the health care provider. A determination of an expert review panel pursuant to this section is a final agency action appealable pursuant to section 17A.19.
4. The health care provider determined to be infected with HIV or HBV, who works in a hospital setting, may elect either the expert review panel established by the hospital or the expert review panel established by the department for the purpose of making a determination of the circumstances under which the health care provider may perform exposure-prone procedures.
5. A health care provider determined to be infected with HIV or HBV shall not perform an exposure-prone procedure except as approved by the expert review panel established by the department pursuant to subsection 3, or in compliance with the protocol established by the hospital pursuant to subsection 1 or the procedures established by the health care facility pursuant to subsection 2.
6. The board of medicine, the board of physician assistants, the board of podiatry, the board of nursing, the dental board, and the board of optometry shall require that licensees comply with the recommendations issued by the centers for disease control and prevention of the United States department of health and human services for preventing transmission of human immunodeficiency virus and hepatitis B virus to patients during exposure-prone invasive procedures, with the recommendations of the expert review panel established pursuant to subsection 3, with hospital protocols

established pursuant to subsection 1, and with health care facility procedures established pursuant to subsection 2, as applicable.

7. Information relating to the HIV status of a health care provider is confidential and subject to the provisions of section 141A.9. A person who intentionally or recklessly makes an unauthorized disclosure of such information is subject to a civil penalty of one thousand dollars. The attorney general or the attorney general's designee may maintain a civil action to enforce this section. Proceedings maintained under this section shall provide for the anonymity of the health care provider and all documentation shall be maintained in a confidential manner. Information relating to the HBV status of a health care provider is confidential and shall not be accessible to the public. Information regulated by this section, however, may be disclosed to members of the expert review panel established by the department or a panel established by hospital protocol under this section. The information may also be disclosed to the appropriate licensing board by filing a report as required by this section. The licensing board shall consider the report a complaint subject to the confidentiality provisions of section 272C.6. A licensee, upon the filing of a formal charge or notice of hearing by the licensing board based on such a complaint, may seek a protective order from the board.

8. The expert review panel established by the department and individual members of the panel shall be immune from any liability, civil or criminal, for reasonable actions taken in the good faith performance of functions authorized or required by this section. A hospital, an expert review panel established by the hospital, and individual members of the panel shall be immune from any liability, civil or criminal, for reasonable actions taken in the good faith performance of functions authorized or required by this section. Complaints, investigations, reports, deliberations, and findings of the hospital and its panel with respect to a named health care provider suspected, alleged, or found to be in violation of the protocol required by this section constitute peer review records under section 147.135, and are subject to the specific confidentiality requirements and limitations of that section.

139A.23 CONTINGENT REPEAL.

If the provisions of Pub. L. No. 102-141 relating to requirements for prevention of transmission of HIV or HBV to patients in the performance of exposure-prone procedures are repealed, section 139A.22 is repealed.

139A.24 BLOOD DONATION OR SALE -- PENALTY.

A person suffering from a communicable disease dangerous to the public health who knowingly gives false information regarding the person's infected state on a blood plasma sale application to blood plasma-taking personnel commits a serious misdemeanor.

139A.25 PENALTIES.

1. Unless otherwise provided in this chapter, a person who knowingly violates any provision of this chapter, or of the rules of the department or a local board, or any lawful order, written or oral, of the department or board, or of their officers or authorized agents, is guilty of a simple misdemeanor.
2. Notwithstanding subsection 1, an individual who repeatedly fails to file any mandatory report specified in this chapter is subject to a report being made to the licensing board governing the professional activities of the individual. The department

shall notify the individual each time that the department determines that the individual has failed to file a required report. The department shall inform the individual in the notification that the individual may provide information to the department to explain or dispute the failure to report.

3. Notwithstanding subsection 1, a public, private, or hospital clinical laboratory that repeatedly fails to file a mandatory report specified in this chapter is subject to a civil penalty of not more than one thousand dollars per occurrence. The department shall not impose the penalty under this subsection without prior written notice and opportunity for hearing.

139A.26 MENINGOCOCCAL DISEASE VACCINATION INFORMATION FOR POSTSECONDARY STUDENTS.

1. Each institution of higher education that has an on-campus residence hall or dormitory shall provide vaccination information on meningococcal disease to each student enrolled in the institution. The vaccination information shall be contained on student health forms provided to each student by the institution, which forms shall include space for the student to indicate whether or not the student has received the vaccination against meningococcal disease. The vaccination information about meningococcal disease shall include any recommendations issued by the national centers for disease control and prevention regarding the disease. Vaccination information obtained under this section that is in the possession of an institution of higher education pursuant to this section shall not be considered a public record. Data obtained under this section shall be submitted annually to the department in a manner prescribed by the department and such that no individual person can be identified.
2. This section shall not be construed to require any institution of higher education to provide the vaccination against meningococcal disease to students.
3. This section shall not apply if the national centers for disease control and prevention no longer recommend the meningococcal disease vaccine.
4. This section does not create a private right of action.
5. The department shall adopt rules for administration of this section. The department shall review the requirements of this section at least every five years, and shall submit its recommendations for modification to, or continuation of, this section based upon new information about the disease or vaccination against the disease in a report that shall be submitted to the general assembly no later than January 15, 2010, with subsequent reports developed and submitted by January 15 at least every fifth year thereafter.

139A.27 THROUGH 139A.29 Reserved.

139A.30 CONFIDENTIAL REPORTS.

Reports to the department which include the identity of persons infected with a sexually transmitted disease or infection, and all such related information, records, and reports concerning the person, shall be confidential and shall not be accessible to the public. However, such reports, information, and records shall be confidential only to the extent necessary to prevent identification of persons named in such reports, information, and records; the other parts of such reports, information, and records shall be public records. The preceding sentence shall prevail over any inconsistent provision of this subchapter.

139A.31 REPORT TO DEPARTMENT.

Immediately after the first examination or treatment of any person infected with any sexually transmitted disease or infection, the health care provider who performed the examination or treatment shall transmit to the department a report stating the name of the infected person, the address of the infected person, the infected person's date of birth, the sex of the infected person, the race and ethnicity of the infected person, the infected person's marital status, the infected person's telephone number, if the infected person is female, whether the infected person is pregnant, the name and address of the laboratory that performed the test, the date the test was found to be positive and the collection date, and the name of the health care provider who performed the test. However, when a case occurs within the jurisdiction of a local health department, the report shall be made directly to the local health department which shall immediately forward the information to the department. Reports shall be made in accordance with rules adopted by the department. Reports shall be confidential. Any person filing a report of a sexually transmitted disease or infection who is acting reasonably and in good faith is immune from any liability, civil or criminal, which might otherwise be incurred or imposed as a result of such report.

139A.32 EXAMINATION RESULTS FROM LABORATORY -- REPORT.

A person in charge of a public, private, or hospital clinical laboratory shall report to the department, on forms prescribed by the department, results obtained in the examination of all specimens which yield evidence of or are reactive for those diseases defined as sexually transmitted diseases or infections, and listed in the Iowa administrative code. The report shall state the name of the infected person from whom the specimen was obtained, the address of the infected person, the infected person's date of birth, the sex of the infected person, the race and ethnicity of the infected person, the infected person's marital status, the infected person's telephone number, if the infected person is female, whether the infected person is pregnant, the name and address of the laboratory that performed the test, the laboratory results, the test employed, the date the test was found to be positive and the collection date, the name of the health care provider who performed the test, and the name and address of the person submitting the specimen.

139A.33 DETERMINATION OF SOURCE.

The local board or the department shall use every available means to determine the source and spread of any infectious case of sexually transmitted disease or infection which is reported.

139A.34 EXAMINATION OF PERSONS SUSPECTED.

The local board shall cause an examination to be made of every person reasonably suspected, on the basis of epidemiological investigation, of having any sexually transmitted disease or infection in the infectious stages to ascertain if such person is infected and, if infected, to cause such person to be treated. A person who is under the care and treatment of a health care provider for the suspected condition shall not be subjected to such examination. If a person suspected of having a sexually transmitted disease or infection refuses to submit to an examination voluntarily, application may be made by the local board to the district court for an order compelling the person to submit to examination and, if infected, to treatment. The person shall be treated until

certified as no longer infectious to the local board or to the department. If treatment is ordered by the district court, the attending health care provider shall certify that the person is no longer infectious.

139A.35 MINORS.

A minor shall have the legal capacity to act and give consent to provision of medical care or services to the minor for the prevention, diagnosis, or treatment of a sexually transmitted disease or infection by a hospital, clinic, or health care provider. Such medical care or services shall be provided by or under the supervision of a physician licensed to practice medicine and surgery or osteopathic medicine and surgery, a physician assistant, or an advanced registered nurse practitioner. Consent shall not be subject to later disaffirmance by reason of such minority. The consent of another person, including but not limited to the consent of a spouse, parent, custodian, or guardian, shall not be necessary.

139A.36 CERTIFICATE NOT TO BE ISSUED.

A certificate of freedom from sexually transmitted disease or infection shall not be issued to any person by any official health agency.

139A.37 PREGNANT WOMEN.

The department shall adopt rules which incorporate the prenatal guidelines established by the centers for disease control and prevention of the United States department of health and human services as the state guidelines for prenatal testing and care relative to infectious disease.

139A.38 MEDICAL TREATMENT OF NEWLY BORN.

A physician attending the birth of a child shall cause to be instilled into the eyes of the newly born infant a prophylactic solution approved by the department. This section shall not be construed to require treatment of the infant's eyes with a prophylactic solution if the infant's parent or legal guardian states that such treatment conflicts with the tenets and practices of a recognized religious denomination of which the parent or legal guardian is an adherent or member.

139A.39 RELIGIOUS EXCEPTIONS.

A provision of this chapter shall not be construed to require or compel any person to take or follow a course of medical treatment prescribed by law or a health care provider if the person is an adherent or member of a church or religious denomination and in accordance with the tenets or principles of the person's church or religious denomination the person opposes the specific course of medical treatment. However, such person while in an infectious stage of disease shall be subject to isolation and such other measures appropriate for the prevention of the spread of the disease to other persons.

139A.40 FILING FALSE REPORTS.

A person who knowingly makes a false statement in any of the reports required by this subchapter concerning persons infected with any sexually transmitted disease or infection, or who discloses the identity of such person, except as authorized by this subchapter, shall be punished as provided in section 139A.25.

139A.41 CHLAMYDIA AND GONORRHEA TREATMENT.

Notwithstanding any other provision of law to the contrary, a physician, physician assistant, or advanced registered nurse practitioner who diagnoses a sexually transmitted chlamydia or gonorrhea infection in an individual patient may prescribe, dispense, furnish, or otherwise provide prescription oral antibiotic drugs to that patient's sexual partner or partners without examination of that patient's partner or partners. If the infected individual patient is unwilling or unable to deliver such prescription drugs to a sexual partner or partners, a physician, physician assistant, or advanced registered nurse practitioner may dispense, furnish, or otherwise provide the prescription drugs to the department or local disease prevention investigation staff for delivery to the partner or partners.

CHAPTER 141A ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

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141A.1 DEFINITIONS.

As used in this chapter, unless the context otherwise requires:

1. *"AIDS"* means acquired immune deficiency syndrome as defined by the centers for disease control and prevention of the United States department of health and human services.
2. *"AIDS-related conditions"* means any condition resulting from the human immunodeficiency virus infection that meets the definition of AIDS as established by the centers for disease control and prevention of the United States department of health and human services.
3. *"Blinded epidemiological studies"* means studies in which specimens which were collected for other purposes are selected according to established criteria, are permanently stripped of personal identifiers, and are then tested.
4. *"Blood bank"* means a facility for the collection, processing, or storage of human blood or blood derivatives, including blood plasma, or from which or by means of which human blood or blood derivatives are distributed or otherwise made available.
5. *"Care provider"* means an individual who is trained and authorized by federal or state law to provide health care services or services of any kind in the course of the individual's official duties, for compensation or in a voluntary capacity, who is a health care provider, emergency medical care provider as defined in section 147A.1, fire fighter, or peace officer. *"Care provider"* also means an individual who renders emergency care or assistance in an emergency or due to an accident as described in section 613.17.
6. *"Department"* means the Iowa department of public health.
7. *"Good faith"* means objectively reasonable and not in violation of clearly established statutory rights or other rights of a person which a reasonable person would know or should have known.
8. *"Health care provider"* means a person licensed to practice medicine and surgery, osteopathic medicine and surgery, chiropractic, podiatry, nursing, dentistry, or optometry, or as a physician assistant, dental hygienist, or acupuncturist.
9. *"Health facility"* means a hospital, health care facility, clinic, blood bank, blood center, sperm bank, laboratory organ transplant center and procurement agency, or other health care institution.

10. "*HIV*" means the human immunodeficiency virus identified as the causative agent of AIDS.
11. "*HIV-related condition*" means any condition resulting from the human immunodeficiency virus infection.
12. "*HIV-related test*" means a diagnostic test conducted by a laboratory approved pursuant to the federal Clinical Laboratory Improvement Amendments for determining the presence of HIV or antibodies to HIV.
13. "*Infectious bodily fluids*" means bodily fluids capable of transmitting HIV infection as determined by the centers for disease control and prevention of the United States department of health and human services and adopted by rule of the department.
14. "*Legal guardian*" means a person appointed by a court pursuant to chapter 633 or an attorney in fact as defined in section 144B.1. In the case of a minor, "*legal guardian*" also means a parent or other person responsible for the care of the minor.
15. "*Nonblinded epidemiological studies*" means studies in which specimens are collected for the express purpose of testing for the HIV infection and persons included in the nonblinded study are selected according to established criteria.
16. "*Release of test results*" means a written authorization for disclosure of HIV-related test results which is signed and dated, and which specifies to whom disclosure is authorized and the time period during which the release is to be effective.
17. "*Sample*" means a human specimen obtained for the purpose of conducting an HIV-related test.
18. "*Significant exposure*" means the risk of contracting HIV infection by means of exposure to a person's infectious bodily fluids in a manner capable of transmitting HIV infection as determined by the centers for disease control and prevention of the United States department of health and human services and adopted by rule of the department.

141A.2 LEAD AGENCY.

1. The department is designated as the lead agency in the coordination and implementation of the Iowa comprehensive HIV plan.
2. The department shall adopt rules pursuant to chapter 17A to implement and enforce this chapter. The rules may include procedures for taking appropriate action with regard to health facilities or health care providers which violate this chapter or the rules adopted pursuant to this chapter.
3. The department shall adopt rules pursuant to chapter 17A which require that if a health care provider attending a person prior to the person's death determines that the person suffered from or was suspected of suffering from a contagious or infectious disease, the health care provider shall place with the remains written notification of the condition for the information of any person handling the body of the deceased person subsequent to the person's death. For purposes of this subsection, "*contagious or infectious disease*" means hepatitis in any form, meningococcal disease, tuberculosis, and any other disease including AIDS or HIV infection, determined to be life-threatening to a person exposed to the disease as established by rules adopted by the department based upon a determination by the state epidemiologist and in accordance with guidelines of the centers for disease control and prevention of the United States department of health and human services.
4. The department shall provide consultation services to all care providers, including paramedics, ambulance personnel, physicians, nurses, hospital personnel, first

responders, peace officers, and fire fighters, who provide care services to a person, and to all persons who attend dead bodies regarding standard precautions to prevent the transmission of contagious and infectious diseases.

5. The department shall coordinate efforts with local health officers to investigate sources of HIV infection and use every appropriate means to prevent the spread of the infection.

6. The department, with the approval of the state board of health, may conduct epidemiological blinded and nonblinded studies to determine the incidence and prevalence of HIV infection. Initiation of any new epidemiological studies shall be contingent upon the receipt of funding sufficient to cover all the costs associated with the studies. The informed consent, reporting, and counseling requirements of this chapter shall not apply to blinded studies.

141A.3 DUTIES OF THE DEPARTMENT.

1. All federal and state moneys appropriated to the department for HIV-related activities shall be utilized and distributed in a manner consistent with the guidelines established by the United States department of health and human services.

2. The department shall do all of the following:

a. Provide consultation services to agencies and organizations regarding appropriate policies for testing, education, confidentiality, and infection control.

b. Provide health information to the public regarding HIV infection, including information about how the infection is transmitted and how transmittal can be prevented. The department shall prepare and distribute information regarding HIV infection and prevention.

c. Provide consultation services concerning HIV infection in the workplace.

d. Implement HIV education risk-reduction programs for specific populations at high risk for infection.

e. Provide an informational brochure for patients who provide samples for purposes of performing an HIV test which, at a minimum, shall include a summary of the patient's rights and responsibilities under the law.

f. In cooperation with the department of education, recommend evidence-based, medically accurate HIV prevention curricula for use at the discretion of secondary and middle schools.

141A.4 TESTING AND EDUCATION.

1. HIV testing and education shall be offered to persons who are at risk for HIV infection including all of the following:

a. All persons testing positive for a sexually transmitted disease.

b. All persons having a history of injecting drug abuse.

c. Male and female sex workers and those who trade sex for drugs, money, or favors.

d. Sexual partners of HIV-infected persons.

e. Persons whose sexual partners are identified in paragraphs "a" through "d".

2. *a.* All pregnant women shall be tested for HIV infection as part of the routine panel of prenatal tests.

b. A pregnant woman shall be notified that HIV screening is recommended for all prenatal patients and that the pregnant woman will receive an HIV test as part of the routine panel of prenatal tests unless the pregnant woman objects to the test.

- c.* If a pregnant woman objects to and declines the test, the decision shall be documented in the pregnant woman's medical record.
- d.* Information about HIV prevention, risk reduction, and treatment opportunities to reduce the possible transmission of HIV to a fetus shall be made available to all pregnant women.

141A.5 PARTNER NOTIFICATION PROGRAM -- HIV.

1. The department shall maintain a partner notification program for persons known to have tested positive for HIV infection.
2. In administering the program, the department shall provide for the following:
 - a.* A person who tests positive for HIV infection shall receive post-test counseling, during which time the person shall be encouraged to refer for counseling and HIV testing any person with whom the person has had sexual relations or has shared drug injecting equipment.
 - b.* The physician or other health care provider attending the person may provide to the department any relevant information provided by the person regarding any person with whom the tested person has had sexual relations or has shared drug injecting equipment.
 - c.* (1) Devise a procedure, as a part of the partner notification program, to provide for the notification of an identifiable third party who is a sexual partner of or who shares drug injecting equipment with a person who has tested positive for HIV, by the department or a physician, when all of the following situations exist:
 - (a) A physician for the infected person is of the good faith opinion that the nature of the continuing contact poses an imminent danger of HIV infection transmission to the third party.
 - (b) When the physician believes in good faith that the infected person, despite strong encouragement, has not and will not warn the third party and will not participate in the voluntary partner notification program.
 - (2) Notwithstanding subsection 3, the department or a physician may reveal the identity of a person who has tested positive for HIV infection pursuant to this subsection only to the extent necessary to protect a third party from the direct threat of transmission. This subsection shall not be interpreted to create a duty to warn third parties of the danger of exposure to HIV through contact with a person who tests positive for HIV infection.
 - (3) The department shall adopt rules pursuant to chapter 17A to implement this paragraph "c". The rules shall provide a detailed procedure by which the department or a physician may directly notify an endangered third party.
3. In making contact the department shall not disclose the identity of the person who provided the names of the persons to be contacted and shall protect the confidentiality of persons contacted.
4. The department may delegate its partner notification duties under this section to local health authorities unless the local authority refuses or neglects to conduct the partner notification program in a manner deemed to be effective by the department.
5. In addition to the provisions for partner notification provided under this section and notwithstanding any provision to the contrary, a county medical examiner or deputy medical examiner performing official duties pursuant to sections 331.801 through 331.805 or the state medical examiner or deputy medical examiner performing official duties pursuant to chapter 691, who determines through an investigation that a deceased person was infected with HIV, may notify directly, or request that the

department notify, the immediate family of the deceased or any person known to have had a significant exposure from the deceased of the finding.

141A.6 HIV-RELATED CONDITIONS -- CONSENT, TESTING, AND REPORTING -- PENALTY.

1. Prior to undergoing an HIV-related test, information shall be available to the subject of the test concerning testing and any means of obtaining additional information regarding HIV infection and risk reduction. If an individual signs a general consent form for the performance of medical tests or procedures, the signing of an additional consent form for the specific purpose of consenting to an HIV-related test is not required during the time in which the general consent form is in effect. If an individual has not signed a general consent form for the performance of medical tests and procedures or the consent form is no longer in effect, a health care provider shall obtain oral or written consent prior to performing an HIV-related test. If an individual is unable to provide consent, the individual's legal guardian may provide consent. If the individual's legal guardian cannot be located or is unavailable, a health care provider may authorize the test when the test results are necessary for diagnostic purposes to provide appropriate urgent medical care.
2. Within seven days of the receipt of a test result indicating HIV infection which has been confirmed as positive according to prevailing medical technology or immediately after the initial examination or treatment of an individual infected with HIV, the physician or other health care provider at whose request the test was performed or who performed the initial examination or treatment shall make a report to the department on a form provided by the department.
3. Within seven days of diagnosing a person as having AIDS or an AIDS-related condition, the diagnosing physician shall make a report to the department on a form provided by the department.
4. Within seven days of the death of a person with HIV infection, the attending physician shall make a report to the department on a form provided by the department.
5. Within seven days of the receipt of a test result indicating HIV infection which has been confirmed as positive according to prevailing medical technology, the director of a blood bank shall make a report to the department on a form provided by the department.
6. Within seven days of the receipt of a test result that is indicative of HIV, the director of a clinical laboratory shall make a report to the department on a form provided by the department.
7. The forms provided by the department shall require inclusion of all of the following information:
 - a.* The name of the patient.
 - b.* The address of the patient.
 - c.* The patient's date of birth.
 - d.* The gender of the patient.
 - e.* The race and ethnicity of the patient.
 - f.* The patient's marital status.
 - g.* The patient's telephone number.
 - h.* If an HIV-related test was performed, the name and address of the laboratory or blood bank.

- i.* If an HIV-related test was performed, the date the test was found to be positive and the collection date.
 - j.* If an HIV-related test was performed, the name of the physician or health care provider who performed the test.
 - k.* If the patient is female, whether the patient is pregnant.
8. An individual who repeatedly fails to file the report required under this section is subject to a report being made to the licensing board governing the professional activities of the individual. The department shall notify the individual each time the department determines that the individual has failed to file a required report. The department shall inform the individual in the notification that the individual may provide information to the department to explain or dispute the failure to report.
9. A public, private, or hospital clinical laboratory that repeatedly fails to make the report required under this section is subject to a civil penalty of not more than one thousand dollars per occurrence. The department shall not impose the penalty under this subsection without prior written notice and opportunity for hearing.

141A.7 TEST RESULTS -- COUNSELING -- APPLICATION FOR SERVICES.

1. At any time that the subject of an HIV-related test is informed of confirmed positive test results, counseling concerning the emotional and physical health effects shall be initiated. Particular attention shall be given to explaining the need for the precautions necessary to avoid transmitting the virus. The subject shall be given information concerning additional counseling. If the legal guardian of the subject of the test provides consent to the test pursuant to section 141A.6, the provisions of this subsection shall apply to the legal guardian.
2. Notwithstanding subsection 1, the provisions of this section do not apply to any of the following:
- a.* The performance by a health care provider or health facility of an HIV-related test when the health care provider or health facility procures, processes, distributes, or uses a human body part donated for a purpose specified under the revised uniform anatomical gift Act as provided in chapter 142C, or semen provided prior to July 1, 1988, for the purpose of artificial insemination, or donations of blood, and such test is necessary to ensure medical acceptability of such gift or semen for the purposes intended.
 - b.* A person engaged in the business of insurance who is subject to section 505.16.
 - c.* The performance by a health care provider or health facility of an HIV-related test when the subject of the test is deceased and a documented significant exposure has occurred.
 - d.* The performance by a health care provider or health facility of an HIV-related test when the subject of the test is unable to provide consent and the health care provider or health care facility provides consent for the patient pursuant to section 141A.6.
3. A person may apply for voluntary treatment, contraceptive services, or screening or treatment for HIV infection and other sexually transmitted diseases directly to a licensed physician and surgeon, an osteopathic physician and surgeon, or a family planning clinic. Notwithstanding any other provision of law, however, a minor shall be informed prior to testing that, upon confirmation according to prevailing medical technology of a positive HIV-related test result, the minor's legal guardian is required to be informed by the testing facility. Testing facilities where minors are tested shall have available a program to assist minors and legal guardians with the notification process which emphasizes the

need for family support and assists in making available the resources necessary to accomplish that goal. However, a testing facility which is precluded by federal statute, regulation, or centers for disease control and prevention guidelines from informing the legal guardian is exempt from the notification requirement. The minor shall give written consent to these procedures and to receive the services, screening, or treatment. Such consent is not subject to later disaffirmance by reason of minority.

141A.8 CARE PROVIDER NOTIFICATION.

1. *a.* Notwithstanding any provision of this chapter to the contrary, if a care provider sustains a significant exposure from an individual, the individual to whom the care provider was exposed is deemed to consent to a test to determine the presence of HIV infection in that individual and is deemed to consent to notification of the care provider of the HIV test results of the individual, upon submission of a significant exposure report by the care provider as provided by rule.

b. The hospital or clinic in which the exposure occurred or any other person specified in this section to whom the individual is delivered shall conduct the test. If the individual is delivered by the care provider to an institution administered by the Iowa department of corrections, the test shall be conducted by the staff physician of the institution. If the individual is delivered by the care provider to a jail, the test shall be conducted by the attending physician of the jail or the county medical examiner. The sample and test results shall only be identified by a number.

c. A hospital, institutions administered by the department of corrections, and jails shall have written policies and procedures for notification of a care provider under this section. The policies and procedures shall include designation of a representative of the care provider to whom notification shall be provided and who shall, in turn, notify the care provider. The identity of the designated representative of the care provider shall not be revealed to the individual tested. The designated representative shall inform the hospital, institution administered by the department of corrections, or jail of those parties who received the notification, and following receipt of this information and upon request of the individual tested, the hospital, institution administered by the department of corrections, or jail shall inform the individual of the parties to whom notification was provided.

2. *a.* If the test results are positive, the hospital or other person performing the test shall notify the subject of the test and ensure the performance of counseling and reporting requirements of this chapter in the same manner as for an individual from whom actual consent was obtained. The report to the department required pursuant to section 141A.6 shall include the name of the individual tested.

b. If the HIV test results of the subject of the test are positive, the hospital or other person performing the test shall notify the care provider or the designated representative of the care provider who shall then notify the care provider who sustained the exposure.

c. The notification shall be provided as soon as is reasonably possible following determination that the HIV test results of the subject of the test are positive. The notification shall not include the name of the individual tested for HIV infection unless the individual provides a specific written release. If the care provider who sustained the significant exposure determines the identity of the individual tested, the identity of the individual shall be confidential information and shall not be disclosed by the care

provider to any other person unless a specific written release is obtained from the individual tested.

3. This section does not preclude a hospital or health care provider from providing notification to a care provider under circumstances in which the hospital's or health care provider's policy provides for notification of the hospital's or health care provider's own employees of exposure to HIV infection if the notice does not reveal a patient's name, unless the patient consents.

4. A hospital, health care provider, or other person participating in good faith in making a report under the notification provisions of this section, under procedures similar to this section for notification of its own employees upon filing of a significant exposure report, or in failing to make a report under this section, is immune from any liability, civil or criminal, which might otherwise be incurred or imposed.

5. A hospital's or health care provider's duty to notify under this section is not continuing but is limited to the diagnosis of HIV infection made in the course of admission, care, and treatment following the rendering of health care services or other services to the individual with the infection to which notification under this section applies.

6. Notwithstanding subsection 5, if, following discharge from or completion of care or treatment by a hospital, an individual for whom a significant exposure report was submitted but which report did not result in notification, wishes to provide information regarding the individual's HIV infection status to the care provider who submitted the report, the hospital shall provide a procedure for notifying the care provider.

7. A hospital, health care provider, or other person who is authorized to perform an HIV test under this section, who performs the HIV test in compliance with this section or who fails to perform an HIV test authorized under this section, is immune from any liability, civil or criminal, which might otherwise be incurred or imposed.

8. A hospital, health care provider, or other person who is authorized to perform a test under this section has no duty to perform the HIV test authorized.

9. The employer of a care provider who sustained a significant exposure under this section shall pay the costs of HIV testing for the individual who is the source of the significant exposure and of the testing and counseling of the care provider, if the significant exposure was sustained during the course of employment. However, the department shall assist an individual who is the source of the significant exposure in finding resources to pay for the cost of the HIV test, and shall assist a care provider who renders direct aid without compensation in finding resources to pay for the cost of the testing and counseling.

141A.9 CONFIDENTIALITY OF INFORMATION.

1. Any information, including reports and records, obtained, submitted, and maintained pursuant to this chapter is strictly confidential medical information. The information shall not be released, shared with an agency or institution, or made public upon subpoena, search warrant, discovery proceedings, or by any other means except as provided in this chapter. A person shall not be compelled to disclose the identity of any person upon whom an HIV-related test is performed, or the results of the test in a manner which permits identification of the subject of the test, except to persons entitled to that information under this chapter.

2. HIV-related test results shall be made available for release to the following individuals or under the following circumstances:

- a.* To the subject of the test or the subject's legal guardian subject to the provisions of section 141A.7, subsection 3, when applicable.
- b.* To any person who secures a written release of test results executed by the subject of the test or the subject's legal guardian.
- c.* To an authorized agent or employee of a health facility or health care provider, if the health facility or health care provider ordered or participated in the testing or is otherwise authorized to obtain the test results, the agent or employee provides patient care or handles or processes samples, and the agent or employee has a medical need to know such information.
- d.* To a health care provider providing care to the subject of the test when knowledge of the test results is necessary to provide care or treatment.
- e.* To the department in accordance with reporting requirements for an HIV-related condition.
- f.* To a health facility or health care provider which procures, processes, distributes, or uses a human body part from a deceased person with respect to medical information regarding that person, or semen provided prior to July 1, 1988, for the purpose of artificial insemination.
- g.* To a person allowed access to an HIV-related test result by a court order which is issued in compliance with the following provisions:
 - (1) A court has found that the person seeking the test results has demonstrated a compelling need for the test results which need cannot be accommodated by other means. In assessing compelling need, the court shall weigh the need for disclosure against the privacy interest of the test subject and the public interest which may be disserved by disclosure due to its deterrent effect on future testing or due to its effect in leading to discrimination.
 - (2) Pleadings pertaining to disclosure of test results shall substitute a pseudonym for the true name of the subject of the test. The disclosure to the parties of the subject's true name shall be communicated confidentially in documents not filed with the court.
 - (3) Before granting an order, the court shall provide the person whose test results are in question with notice and a reasonable opportunity to participate in the proceedings if the person is not already a party.
 - (4) Court proceedings as to disclosure of test results shall be conducted in camera unless the subject of the test agrees to a hearing in open court or unless the court determines that a public hearing is necessary to the public interest and the proper administration of justice.
 - (5) Upon the issuance of an order to disclose test results, the court shall impose appropriate safeguards against unauthorized disclosure, which shall specify the persons who may gain access to the information, the purposes for which the information shall be used, and appropriate prohibitions on future disclosure.
- h.* To an employer, if the test is authorized to be required under any other provision of law.
- i.* Pursuant to section 915.43, to a convicted or alleged sexual assault offender; the physician or other health care provider who orders the test of a convicted or alleged offender; the victim; the parent, guardian, or custodian of the victim if the victim is a minor; the physician of the victim if requested by the victim; the victim counselor or person requested by the victim to provide counseling regarding the HIV-related test and results; the victim's spouse; persons with whom the victim has engaged in vaginal, anal, or oral intercourse subsequent to the sexual assault; members of the victim's family

within the third degree of consanguinity; and the county attorney who may use the results as evidence in the prosecution of sexual assault under chapter 915, subchapter IV, or prosecution of the offense of criminal transmission of HIV under chapter 709C. For the purposes of this paragraph, "victim" means victim as defined in section 915.40.

j. To employees of state correctional institutions subject to the jurisdiction of the department of corrections, employees of secure facilities for juveniles subject to the department of human services, and employees of city and county jails, if the employees have direct supervision over inmates of those facilities or institutions in the exercise of the duties prescribed pursuant to section 80.9B.

3. Release may be made of medical or epidemiological information for statistical purposes in a manner such that no individual person can be identified.
4. Release may be made of medical or epidemiological information to the extent necessary to enforce the provisions of this chapter and related rules concerning the treatment, control, and investigation of HIV infection by public health officials.
5. Release may be made of medical or epidemiological information to medical personnel to the extent necessary to protect the health or life of the named party.
6. Release may be made of test results concerning a patient pursuant to procedures established under section 141A.5, subsection 2, paragraph "c".
7. Medical information secured pursuant to subsection 1 may be shared between employees of the department who shall use the information collected only for the purposes of carrying out their official duties in preventing the spread of the disease or the spread of other reportable diseases as defined in section 139A.2.

141A.10 IMMUNITIES.

1. A person making a report in good faith pursuant to this chapter is immune from any liability, civil or criminal, which might otherwise be incurred or imposed as a result of the report.
2. A health care provider attending a person who tests positive for the HIV infection has no duty to disclose to or to warn third parties of the dangers of exposure to HIV infection through contact with that person and is immune from any liability, civil or criminal, for failure to disclose to or warn third parties of the condition of that person.

141A.11 REMEDIES.

1. A person aggrieved by a violation of this chapter shall have a right of civil action for damages in district court.
2. A care provider who intentionally or recklessly makes an unauthorized disclosure under this chapter is subject to a civil penalty of one thousand dollars.
3. A person who violates a confidentiality requirement of section 141A.5 is guilty of an aggravated misdemeanor.
4. A civil action under this chapter is barred unless the action is commenced within two years after the cause of action accrues.
5. The attorney general may maintain a civil action to enforce this chapter.
6. This chapter does not limit the rights of the subject of an HIV-related test to recover damages or other relief under any other applicable law.
7. This chapter shall not be construed to impose civil liability or criminal sanctions for disclosure of HIV-related test results in accordance with any reporting requirement for a diagnosed case of AIDS or a related condition by the department or the centers for

disease control and prevention of the United States department of health and human services.

CHAPTER 1
REPORTABLE DISEASES, POISONINGS AND CONDITIONS, AND
QUARANTINE AND ISOLATION

641—1.1(139A) Definitions. For the purpose of these rules, the following definitions shall apply:

“Acute or chronic respiratory conditions due to fumes, vapors or dusts” means acute chemical bronchitis; any acute, subacute, or chronic respiratory condition due to inhalation of a chemical fume or vapor; or pneumoconioses not specifically listed elsewhere in these rules. (ICD-10 codes J63.0 to J64, J66, and J68.0 to J68.9) *“Acute or chronic respiratory conditions due to fumes, vapors or dusts”* excludes those respiratory conditions related to tobacco smoke exposure.

“Agriculturally related injury” means any nonhousehold injury to a farmer, farm worker, farm family member, or other individual, which occurred on a farm, or in the course of handling, producing, processing, transporting or warehousing farm commodities.

“AIDS” means AIDS as defined in Iowa Code section 141A.1.

“Area quarantine” means prohibiting ingress to and egress from a building or buildings, structure or structures, or other definable physical location, or portion thereof, to prevent or contain the spread of a suspected or confirmed quarantinable disease or to prevent or contain exposure to a suspected or known chemical, biological, radioactive, or other hazardous or toxic agent.

“Business” means and includes every trade, occupation, or profession.

“Care provider” means an individual who is trained and authorized by federal or state law to provide health care services or services of any kind in the course of the individual’s official duties, for compensation or in a voluntary capacity, who is a health care provider, emergency medical care provider as defined in Iowa Code section 147A.1, firefighter, or peace officer. *“Care provider”* also means an individual who renders emergency care or assistance in an emergency or due to an accident as described in Iowa Code section 613.17.

“Case” means an individual who has confirmatory evidence of disease.

“Clinical laboratory” means any laboratory performing analyses on specimens taken from the body of a person in order to assess that person’s health status.

“Communicable disease” means any disease spread from person to person or animal to person.

“Congenital or inherited disorder” means congenital or inherited disorder as defined in Iowa Code section 136A.2.

“Contagious or infectious disease” means hepatitis in any form, meningococcal disease, tuberculosis, and any other disease, with the exception of AIDS or HIV infection as defined in Iowa Code section 141A.1, determined to be life-threatening to a person exposed to the disease based upon a determination by the state public health medical director and epidemiologist and in accordance with guidelines of the Centers for Disease Control and Prevention of the United States Department of Health and Human Services.

“Department” means the Iowa department of public health.

“Designated officer” means a person who is designated by a department, agency, division, or service organization to act as an infection control liaison officer.

“Director” means the director of the Iowa department of public health.

“Exposure” means the risk of contracting disease.

“Fetal death” means an unintended death occurring after a gestation period of 20 completed weeks, or an unintended death of a fetus with a weight of 350 or more grams. *“Fetal death”* is synonymous with stillbirth.

“HBV” means hepatitis B virus.

“Health care facility” means a health care facility as defined in Iowa Code section 135C.1, an ambulatory surgical center, or a clinic.

“Health care provider” means a person licensed to practice medicine and surgery, osteopathic medicine and surgery, osteopathy, chiropractic, podiatry, nursing, dentistry, optometry, or licensed as a physician assistant, dental hygienist, or acupuncturist.

“HIV” means HIV as defined in Iowa Code section 141A.1.

“*Hospital*” means hospital as defined in Iowa Code section 135B.1.

“*Hypersensitivity pneumonitis*” means a disease in which the air sacs (alveoli) of the lungs become inflamed when certain dusts are inhaled to which the person is sensitized or allergic. “Hypersensitivity pneumonitis” includes but is not limited to farmer’s lung, silo filler’s disease, and toxic organic dust syndrome.

“*IDSS*” means the Iowa disease surveillance system, a secure Web-based statewide disease reporting and surveillance system.

“*Infectious disease*” means a disease caused by the entrance into the body of organisms, including but not limited to bacteria, protozoans, fungi, prions, or viruses which grow and multiply.

“*Infectious tuberculosis*” means pulmonary or laryngeal tuberculosis as evidenced by:

1. Isolation of *M. tuberculosis* complex (positive culture) from a clinical specimen or positive nucleic acid amplification test, or

2. Both radiographic evidence of tuberculosis, such as an abnormal chest X-ray, and clinical evidence, such as a positive skin test or whole blood assay test for tuberculosis infection, coughing, sputum production, fever, or other symptoms compatible with infectious tuberculosis that lead a physician to diagnose infectious tuberculosis according to currently acceptable standards of medical practice and to initiate treatment for tuberculosis.

“*Injury*” means physical damage or harm to the body as the result of an act or event.

“*Investigation*” means an inquiry conducted to determine the specific source, mode of transmission, and cause of a disease or suspected disease occurrence and to determine the specific incidence, prevalence, and extent of the disease in the affected population. “Investigation” may also include the application of scientific methods and analysis to institute appropriate control measures.

“*Isolation*” means the separation of persons or animals presumably or actually infected with a communicable disease, or that are disease carriers, for the usual period of communicability of that disease. Isolation shall be in such places, marked by placards if necessary, and under such conditions to prevent the direct or indirect conveyance of the infectious agent or contagion to susceptible persons.

“*Local board*” means the local board of health.

“*Local department*” means the local health department.

“*Noncommunicable respiratory illnesses*” means an illness indicating prolonged exposure or overexposure to asbestos, silica, silicates, aluminum, graphite, bauxite, beryllium, cotton dust or other textile material, or coal dust. “Noncommunicable respiratory illnesses” includes, but is not limited to asbestosis, coal worker’s pneumoconiosis, and silicosis.

“*Occupationally related asthma, bronchitis or respiratory hypersensitivity reaction*” means any extrinsic asthma or acute chemical pneumonitis due to exposure to toxic agents in the workplace. (ICD-10 codes J67.0 to J67.9)

“*Pesticide*” means (1) any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating directly or indirectly any insects, rodents, nematodes, fungi, weeds, and other forms of plant or animal life or viruses, except viruses on or in living persons, which the Iowa secretary of agriculture shall declare to be a pest; and (2) any substances intended for use as a plant growth regulator, defoliant, or desiccant. Pesticides include active and inert ingredients of herbicides, insecticides, rodenticides, repellants, fumigants, fungicides, wood treatment products, and disinfectants as well as adjuvants that are added to a pesticide formulation to improve or change properties such as deposition, persistence, or mixing ability.

“*Pesticide poisoning*” means any acute or subacute systemic, ophthalmologic, or dermatologic illness or injury resulting from or suspected of resulting from inhalation or ingestion of, dermal exposure to, or ocular contact with a pesticide. Laboratory confirmation is not required.

“*Placard*” means a warning sign to be erected and displayed on the periphery of a quarantine area, forbidding entry to or exit from the area.

“*Poison control or poison information center*” means any organization or program which has as one of its primary objectives the provision of toxicologic and pharmacologic information and referral services to the public and to health care providers (other than pharmacists) in response to inquiries about actual or potential poisonings.

“*Public health disaster*” means an incident as defined in Iowa Code section 135.140.

“*Quarantinable disease*” means any communicable disease which presents a risk of serious harm to public health and which may require isolation or quarantine to prevent its spread. “Quarantinable disease” includes but is not limited to cholera; diphtheria; infectious tuberculosis; plague; smallpox; yellow fever; viral hemorrhagic fevers, including Lassa, Marburg, Ebola, Crimean-Congo, South American, and others not yet isolated or named; novel influenza; and severe acute respiratory syndrome (SARS).

“*Quarantine*” means the limitation of freedom of movement of persons or animals that have been exposed to a quarantinable disease within specified limits marked by placards for a period of time equal to the longest usual incubation period of the disease in such manner as to prevent the spread of a quarantinable disease which affects people.

“*Reportable cancers*” means those cancers included in the National Cancer Institute’s Surveillance, Epidemiology and End Results (SEER) Program.

“*Reportable disease*” means any disease designated by this chapter.

“*Severe skin disorder*” means those dermatoses, burns, and other severe skin disorders which result in death or which require hospitalization or other multiple courses of medical therapy.

“*Sexually transmitted disease or infection*” means a disease or infection as identified by this chapter that is transmitted through sexual practices. “Sexually transmitted disease or infection” includes, but is not limited to, acquired immunodeficiency syndrome (AIDS), chlamydia, gonorrhea, hepatitis B and hepatitis C, human immunodeficiency virus (HIV), human papillomavirus, and syphilis.

“*Suspected case*” means an individual that presents with clinical signs or symptoms indicative of a reportable or quarantinable disease.

“*Toxic agent*” means any noxious substance in solid, liquid or gaseous form capable of producing illness in humans including, but not limited to, pesticides, heavy metals, organic and inorganic dusts and organic solvents. Airborne toxic agents may be in the form of dusts, fumes, vapors, mists, gases or smoke.

“*Toxic hepatitis*” means any acute or subacute necrosis of the liver or other unspecified chemical hepatitis caused by exposure to nonmedicinal toxic agents other than ethyl alcohol including, but not limited to, carbon tetrachloride, chloroform, tetrachloroethane, trichloroethylene, phosphorus, trinitrotoluene (TNT), chloronaphthalenes, methylenedianilines, ethylene dibromide, and organic solvents. (ICD-10 codes K71.0 to K71.9)

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.2(139A) Purpose and authority.

1.2(1) Purpose. The purpose of this chapter is to establish rules that identify diseases, poisonings and conditions, and incidents that are to be reported to the department in accordance with Iowa Code chapters 135, 136A, 139A, 141A, and 144. These rules also establish the information to be reported, how and when to report, and who is to report. This chapter provides for disease investigation and disease control through preventive measures including but not limited to quarantine and isolation.

1.2(2) Authority. The director is the principal officer of the state to administer disease, poisoning and condition, and incident reporting and control. The State Health Registry of Iowa, administered by the Department of Epidemiology of the College of Public Health at the University of Iowa, is a public health authority for purposes of collecting cancer data in accordance with this chapter.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

REPORTABLE COMMUNICABLE AND INFECTIOUS DISEASES

641—1.3(139A,141A) Reportable communicable and infectious diseases. Reportable communicable and infectious diseases are those listed in Appendix A. The director may also designate any disease, poisoning or condition or syndrome temporarily reportable for the purpose of a special investigation.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.4(135,139A) Reporting of reportable communicable and infectious diseases. Each case of a reportable disease is required to be reported to the Iowa Department of Public Health, Lucas State Office Building, 321 E. 12th Street, Des Moines, Iowa 50319-0075, in a manner specified by this chapter.

1.4(1) Who is required to report communicable and infectious diseases.

a. Health care providers, hospitals, clinical laboratories, and other health care facilities are required to report cases of reportable communicable and infectious diseases.

b. School nurses are required to report suspected cases of reportable diseases occurring among the children supervised.

c. School officials, through the principal or superintendent as appropriate, are required to report when there is no school nurse.

d. Laboratories are required to report cases of reportable diseases and results obtained in the examination of all specimens which yield evidence of or are reactive for sexually transmitted diseases.

e. Poison control and poison information centers are required to report inquiries about cases of reportable diseases received by them.

f. Medical examiners are required to report their investigatory findings of any death which was caused by or otherwise involved a reportable disease.

g. Occupational nurses are required to report cases of reportable diseases.

h. Hospitals, health care providers and clinical laboratories outside the state of Iowa shall immediately report any confirmed or suspect case of a reportable disease, poisoning or condition in an Iowa resident.

1.4(2) What to report. Each report shall contain all of the following information:

a. The patient's name.

b. The patient's address.

c. The patient's date of birth.

d. The sex of the patient.

e. The race and ethnicity of the patient.

f. The patient's marital status.

g. The patient's telephone number.

h. The name and address of the laboratory.

i. The date the test was found to be positive and the collection date.

j. The name and address of the health care provider who performed the test

k. If the patient is female, whether the patient is pregnant.

l. The name of the reportable disease.

1.4(3) How to report.

a. *Immediate reporting by telephone of diseases identified in Appendix A as immediately reportable.* A health care provider and a public, private, or hospital clinical laboratory shall immediately report any confirmed or suspected case of a disease identified in Appendix A as immediately reportable to the department's disease notification hotline at 1-800-362-2736. The report shall include all information required by 1.4(2) and the following:

(1) The stage of the disease process.

(2) Clinical status.

(3) Any treatment provided for the disease.

(4) All household and other known contacts.

(5) Whether household and other known contacts have been examined and the results of such examinations.

b. *Other diseases that carry serious consequences or spread rapidly.* A health care facility, health care provider and a public, private, or hospital clinical laboratory shall immediately report any confirmed or suspected case of a common source epidemic or disease outbreak of unusual numbers by telephone to the department's 24/7 disease reporting telephone hotline at 1-800-362-2736.

c. *Reporting of other reportable diseases.* Cases of other reportable communicable or infectious diseases not included in 1.4(3) "a" shall be reported to the department in accordance with Appendix A by mail, telephone, facsimile, or other secure electronic means. The preferred method is secure Web-based

reporting when available. If the department determines that reporting by mail hinders the application of organized control measures to protect the public health, the department may require that the reportable disease be reported by telephone, facsimile or secure Web-based reporting.

1.4(4) Contagious or infectious disease notification at time of death. The purpose of this subrule is to establish contagious or infectious disease notification requirements for the information of any person handling a dead body.

a. A health care provider attending a person prior to the person's death shall, at the time of death, place with the body a written notice which specifies or signifies either "known contagious or infectious disease" or "suspected contagious or infectious disease."

b. The health care facility in which the health care provider is working shall be responsible for establishing written procedures and implementing the specific internal practices necessary to satisfy this notification requirement.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

REPORTABLE POISONINGS AND CONDITIONS—NONCOMMUNICABLE

641—1.5(139A,135) Reportable poisonings and conditions. Reportable poisonings and conditions are those listed in Appendix B. The director may also designate any disease, poisoning or condition or syndrome temporarily reportable for the purpose of a special investigation.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.6(135,139A) Reporting poisonings and conditions.

1.6(1) Who is required to report.

a. Health care providers, hospitals, and clinical laboratories and other health care facilities are required to report cases of reportable poisonings and conditions. Health care providers are exempted from reporting blood lead testing if the laboratory performing the analysis provides the report containing the required information to the department.

b. School nurses are required to report suspected cases of a reportable poisoning or condition occurring among the children supervised.

c. School officials, through the principal or superintendent as appropriate, are required to report when there is no school nurse.

d. Poison control and poison information centers are required to report inquiries about cases of a reportable poisoning or condition received by them.

e. Medical examiners are required to report their investigatory findings of any death which was caused by or otherwise involved a reportable poisoning or condition.

f. Occupational nurses are required to report cases of reportable poisonings and conditions.

g. Hospitals, health care providers and clinical laboratories outside the state of Iowa shall immediately report any confirmed or suspected case of a reportable poisoning or condition in an Iowa resident.

1.6(2) What to report. Each report shall contain all of the following information:

a. The patient's name.

b. The patient's address.

c. The patient's date of birth.

d. The sex of the patient.

e. The race and ethnicity of the patient.

f. The patient's marital status.

g. The patient's telephone number.

h. The name and address of the laboratory.

i. The collection date.

j. The analytical result.

k. In the case of blood lead testing, whether the sample is a capillary or venous blood sample.

l. For conditions not identified by a laboratory analysis, the date that the condition was diagnosed.

m. The name and address of the health care provider who performed the test.

- n.* If the patient is female, whether the patient is pregnant.
- o.* In the case of occupational conditions, the name of the patient's employer.

1.6(3) How to report.

a. Blood lead testing. All analytical results greater than or equal to 20 micrograms per deciliter ($\mu\text{g}/\text{dL}$) in a child under the age of six years or a pregnant woman shall be reported to the department immediately by telephone at 1-800-972-2026. All other analytical results shall be reported to the department at least weekly in an electronic format specified by the department.

b. Each instance of carbon monoxide poisoning shall be reported to the department immediately by telephone at 1-800-972-2026.

c. Reportable poisonings and conditions other than blood lead testing and carbon monoxide poisoning shall be reported to the department in accordance with Appendix B.

d. Occupational nurses shall submit cases of occupationally related reportable poisonings or conditions on report forms provided by the department.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

INVESTIGATION

641—1.7(135,139A) Investigation of reportable diseases. A health care provider and a public, private, or hospital clinical laboratory shall assist in a disease investigation conducted by the department, a local board, or a local department.

1.7(1) A health care provider and a clinical laboratory shall provide the department, local board, or local department with all information necessary to conduct the investigation, including but not limited to medical records; exposure histories; medical histories; contact information; and test results necessary to the investigation, including positive, pending, and negative test results.

1.7(2) Issuance of investigatory subpoenas.

a. The department may upon the written request of a local board of health, the state public health medical director and epidemiologist or designee, or the state public health veterinarian or designee, subpoena records, reports, or any other evidence necessary to conduct a disease investigation. The subpoena shall be signed by the division director of the division of acute disease prevention and emergency response or the division director's designee following review and approval of the written request for subpoena.

b. A written request for a subpoena shall contain the following:

- (1) The name and address of the person, facility, or entity to which the subpoena will be directed;
- (2) A specific description of the records, reports, or other evidence requested; and
- (3) An explanation of why the documents sought to be subpoenaed are necessary for the department to conduct the disease investigation.

c. Each subpoena shall contain:

- (1) The name and address of the person, facility, or entity to which the subpoena is directed;
- (2) A description of the records, reports, or other evidence requested;
- (3) The date, time, and location for production, inspection, or copying;
- (4) The time within which a motion to quash or modify the subpoena must be filed;
- (5) The signature, address, and telephone number of the division director;
- (6) The date of issuance; and
- (7) A return of service.

d. Process to challenge a subpoena.

(1) Any person who is aggrieved or adversely affected by compliance with the subpoena and who desires to challenge the subpoena must, within five days after service of the subpoena, or before the time specified for compliance if such time is less than five days, file with the department a motion to quash or modify the subpoena. The motion shall describe the reasons why the subpoena should be quashed or modified, and may be accompanied by legal briefs or factual affidavits.

(2) Upon receipt of a timely motion to quash or modify a subpoena, the department may request an administrative law judge to issue a decision. Oral argument may be scheduled at the discretion of the

administrative law judge. The administrative law judge may quash or modify the subpoena, deny the motion, or issue an appropriate protective order.

(3) A person aggrieved by a ruling of an administrative law judge who desires to challenge that ruling must appeal the ruling to the department by serving on the department director, either in person or by certified mail, a notice of appeal within ten days after the service of the decision of the administrative law judge. The department director's decision is final for purposes of judicial review.

e. Subpoenas issued under this subrule and requests, motions, and pleadings related to the issuance of subpoenas are confidential pursuant to Iowa Code sections 139A.3 and 22.7.
[ARC 8231B, IAB 10/7/09, effective 11/11/09]

ISOLATION AND QUARANTINE

641—1.8(139A) Isolation and quarantine. Isolation and quarantine should be consistent with guidelines provided by the Centers for Disease Control and Prevention's 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007; <http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007.pdf>.
[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.9(135,139A) Quarantine and isolation.

1.9(1) Examination, testing, and treatment of quarantinable diseases.

a. A health care provider who attends an individual with a suspected or active quarantinable disease shall make all reasonable efforts in accordance with guidance from a local health department or the department to examine or cause all household and other known contacts of the individual to be examined by a physician. The physician shall promptly report to the department the results of such examination. If the individual refuses or is unable to undergo examination, the health care provider shall promptly report such information to the department.

b. When required by the department, all contacts not examined by a physician, including all adult and minor contacts, shall submit to a diagnostic test or tests. If any suspicious abnormality is found, steps satisfactory to the department shall be taken to refer the individual promptly to a physician or appropriate medical facility for further evaluation and, if necessary, treatment. The referring health care provider or facility shall notify the receiving health care provider or facility of the suspicious abnormality. When requested by the department, a physician shall report the results of the examination of a contact to the case or suspected case or incident.

c. Upon order of the department or local board of health, an individual with a suspected or active quarantinable disease shall not attend the workplace or school and shall not be present at other public places until the individual receives the approval of the department or a local board of health to engage in such activity. Upon order of the department or local board of health, employers, schools and other public places shall exclude an individual with a suspected or active quarantinable disease. An individual may also be excluded from other premises or facilities if the department or a local board of health determines the premises or facilities cannot be maintained in a manner adequate to protect others against the spread of the disease.

d. A person diagnosed with or clinically suspected of having infectious tuberculosis shall complete voluntary treatment until, in the opinion of the attending physician or the state public health medical director and epidemiologist, the person's tuberculosis is cured or such person is no longer a threat to public health. If such person refuses to complete the course of voluntary treatment, the department or local board of health may issue an order compelling mandatory treatment. Such order shall include the identity of the person subject to the mandatory treatment order, a description of the treatment ordered, the medical basis upon which the treatment is ordered, and a description of the potential medical and legal consequences of violating such order. A person who violates a mandatory treatment order may be subject to the penalties provided in Iowa Code section 135.38 or 137.21 and may be placed under mandatory quarantine or isolation in accordance with the provisions of this chapter.

e. A person diagnosed with extrapulmonary tuberculosis or clinically suspected of having infectious tuberculosis who fails to comply with a physician's recommendation for diagnostic testing

may be ordered to undergo diagnostic testing by the department or local board of health. Such order shall include the identity of the person subject to mandatory diagnostic testing, a description of the diagnostic testing ordered, the medical basis upon which the diagnostic testing is ordered, and a description of the potential medical and legal consequences of violating such order. A person who violates a mandatory diagnostic testing order may be subject to the penalties provided in Iowa Code section 135.38 or 137.21 and may be placed under mandatory quarantine or isolation in accordance with the provisions of this chapter.

1.9(2) General provisions.

a. Voluntary confinement. Prior to instituting mandatory isolation or quarantine pursuant to this rule, the department or a local board of health may request that an individual or group of individuals voluntarily confine themselves to a private home or other facility.

b. Quarantine and isolation. The department and local boards of health are authorized to impose and enforce quarantine and isolation restrictions. Quarantine and isolation shall rarely be imposed by the department or by local boards of health. If a quarantinable disease occurs in Iowa, individuals with a suspected or active quarantinable disease and contacts to the case may be quarantined or isolated as the particular situation requires. Any quarantine or isolation imposed by the department or a local board of health shall be established and enforced in accordance with this rule.

1.9(3) Conditions and principles. The department and local boards of health shall adhere to all of the following conditions and principles when isolating or quarantining individuals or a group of individuals:

a. The isolation or quarantine shall be by the least restrictive means necessary to prevent the spread of a communicable or possibly communicable disease to others and may include, but not be limited to, confinement to private homes, other private premises, or public premises.

b. Isolated individuals shall be confined separately from quarantined individuals.

c. The health status of isolated or quarantined individuals shall be monitored regularly to determine if the individuals require further or continued isolation or quarantine.

d. If a quarantined individual subsequently becomes infected or is reasonably believed to have become infected with a communicable or possibly communicable disease, the individual shall be promptly removed to isolation.

e. Isolated or quarantined individuals shall be immediately released when the department or local board of health determines that the individuals pose no substantial risk of transmitting a communicable or possibly communicable disease.

f. The needs of isolated or quarantined individuals shall be addressed in a systematic and competent fashion including, but not limited to, providing adequate food; clothing; shelter; means of communicating with those in and outside of isolation or quarantine; medication; and competent medical care.

g. The premises used for isolation or quarantine shall be maintained in a safe and hygienic manner and shall be designed to minimize the likelihood of further transmission of infection or other harm to isolated or quarantined individuals.

h. To the extent possible, cultural and religious beliefs shall be considered in addressing the needs of individuals in isolation or quarantine premises and in establishing and maintaining the premises.

1.9(4) Isolation and quarantine premises.

a. Sites of isolation or quarantine shall be prominently placarded with isolation or quarantine signs prescribed and furnished by the department and posted on all sides of the building wherever access is possible.

b. An individual subject to isolation or quarantine shall obey the rules and orders of the department or the local board of health and shall not go beyond the isolation or quarantine premises.

c. The department or a local board of health may authorize physicians, health care workers, or others access to individuals in isolation or quarantine as necessary to meet the needs of isolated or quarantined individuals.

d. No individual, other than an individual authorized by the department or a local board of health, shall enter isolation or quarantine premises. If the department has requested the assistance of

law enforcement in enforcing the isolation or quarantine, the department shall provide law enforcement personnel with a list of individuals authorized to enter the isolation or quarantine premises.

e. Any individual entering an isolation or quarantine premises with or without authorization of the department or a local board of health may be isolated or quarantined pursuant to this rule.

1.9(5) *Isolation and quarantine by local boards of health.*

a. A local board of health may:

- (1) Isolate individuals who are presumably or actually infected with a quarantinable disease;
- (2) Quarantine individuals who have been exposed to a quarantinable disease;
- (3) Establish and maintain places of isolation and quarantine; and
- (4) Adopt emergency rules and issue orders as necessary to establish, maintain, and enforce isolation or quarantine.

b. Isolation and quarantine undertaken by a local board of health shall be accomplished according to the rules and regulations of the local board of health so long as such rules are not inconsistent with this chapter.

1.9(6) *Isolation and quarantine by the Iowa department of public health.*

a. Authority.

(1) The department, through the director, the department's medical director, or the director's or medical director's designee, may:

1. Isolate individuals or groups of individuals who are presumably or actually infected with a quarantinable disease; and

2. Quarantine individuals or groups of individuals who have been exposed to a quarantinable disease, including individuals who are unable or unwilling to undergo examination, testing, vaccination, or treatment, pursuant to Iowa Code section 135.144(9).

(2) The department may:

1. Establish and maintain places of isolation and quarantine; and

2. Adopt emergency rules and issue orders as necessary to establish, maintain, and enforce isolation or quarantine.

(3) Isolation and quarantine undertaken by the department, including isolation and quarantine undertaken by the department in the event of a public health disaster, shall be established pursuant to paragraph 1.9(6) "b" or "c."

b. Temporary isolation and quarantine without notice. The department may temporarily isolate or quarantine an individual or groups of individuals through an oral order, without notice, only if delay in imposing the isolation or quarantine would significantly jeopardize the department's ability to prevent or limit the transmission of a communicable or possibly communicable disease to others. If the department imposes temporary isolation or quarantine of an individual or groups of individuals through an oral order, the department shall issue a written order as soon as is reasonably possible and in all cases within 24 hours of issuance of the oral order if continued isolation or quarantine is necessary to prevent or limit the transmission of a communicable or possibly communicable disease.

c. Written order. The department may isolate or quarantine an individual or groups of individuals through a written order issued pursuant to this rule.

(1) The written order shall include all of the following:

1. The identity of the individual, individuals, or groups of individuals subject to isolation or quarantine.

2. The premises subject to isolation or quarantine.

3. The date and time at which isolation or quarantine commences.

4. The suspected communicable disease.

5. A description of the less restrictive alternatives that were attempted and were unsuccessful, or the less restrictive alternatives that were considered and rejected, and the reasons such alternatives were rejected.

6. A statement of compliance with the conditions and principles for isolation and quarantine specified in subrule 1.9(3).

7. The legal authority under which the order is requested.

8. The medical basis upon which isolation or quarantine is justified.

9. A statement advising the individual, individuals, or groups of individuals of the right to appeal the written order pursuant to subrule 1.9(7) and the rights of individuals and groups of individuals subject to quarantine and isolation as listed in subrule 1.9(8).

10. A copy of this chapter and the relevant definitions.

(2) A copy of the written order shall be provided to the individual to be isolated or quarantined within 24 hours of issuance of the order in accordance with any applicable process authorized by the Iowa Rules of Civil Procedure. If the order applies to a group or groups of individuals and it is impractical to provide individual copies, the order may be posted in a conspicuous place in the isolation or quarantine premises.

1.9(7) *Appeal from order imposing isolation or quarantine.*

a. Contested case. The subject of a department order imposing isolation or quarantine may appeal a written order and has the right to a contested case hearing regarding such appeal. The subject of a department order imposing isolation or quarantine may appeal the order by submitting a written appeal within ten days of receipt of the written order. The appeal shall be addressed to the Department of Public Health, Division of Epidemiology, Emergency Medical Services, and Disaster Operations, Lucas State Office Building, Des Moines, Iowa 50319-0075. Unless stayed by order of the director or a district court, the written order for quarantine or isolation shall remain in force and effect until the appeal is finally determined and disposed of upon its merits.

b. Presiding officer. The presiding officer in a contested case shall be the director or the director's designee. The director or the director's designee may be assisted by an administrative law judge in conducting the contested case hearing. The decision of the director or the director's designee shall be the department's final decision and is subject to judicial review in accordance with the provisions of Iowa Code chapter 17A.

c. Proceeding. The contested case hearing shall be conducted in accordance with the provisions contained at 641—Chapter 173. The hearing shall be held as soon as is practicable, and in no case later than ten days from the date of receipt of the appeal. The hearing may be held by telephonic or other electronic means if necessary to prevent additional exposure to the communicable or possibly communicable disease. In extraordinary circumstances and for good cause shown, the department may apply to continue the hearing date for up to ten additional days on a petition filed pursuant to this rule. The presiding officer may use discretion in granting a continuance giving due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence.

d. Judicial review. The aggrieved party to the final decision of the department may petition for judicial review of that action pursuant to Iowa Code chapter 17A. Petitions for judicial review shall be filed within 30 days after the decision becomes final.

e. Immediate judicial review of department order. The department acknowledges that in certain circumstances the subject or subjects of a department order may desire immediate judicial review of a department order in lieu of proceeding with the contested case process. The department recognizes that the procedural step of pursuing exhaustion of administrative remedies may be inadequate for purposes of Iowa Code section 17A.19, and the department may consent to immediate jurisdiction of the district court when requested by the subject or subjects of a department order and justice so requires. Unless stayed by order of the director or a district court, the written order for quarantine or isolation shall remain in force and effect until the judicial review is finally determined and disposed of upon its merits.

1.9(8) *Rights of individuals and groups of individuals subject to isolation or quarantine.* Any individual or group of individuals subject to isolation or quarantine shall have the following rights:

a. The right to be represented by legal counsel.

b. The right to be provided with prior notice of the date, time, and location of any hearing.

c. The right to participate in any hearing. The hearing may be held by telephonic or other electronic means if necessary to prevent additional exposure to the communicable or possibly communicable disease.

d. The right to respond and present evidence and argument on the individual's own behalf in any hearing.

e. The right to cross-examine witnesses who testify against the individual.

f. The right to view and copy all records in the possession of the department which relate to the subject of the written order.

1.9(9) Consolidation of claims. In any proceeding brought pursuant to this rule, to promote the fair and efficient operation of justice and having given due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence, the department or a court may order the consolidation of individual claims into group claims, if all of the following conditions exist:

a. The number of individuals involved or to be affected is so large that individual participation is impractical.

b. There are questions of law or fact common to the individual claims or rights to be determined.

c. The group claims or rights to be determined are typical of the affected individuals' claims or rights.

d. The entire group will be adequately represented in the consolidation.

1.9(10) Implementation and enforcement of isolation and quarantine.

a. Jurisdictional issues. The department has primary jurisdiction to isolate or quarantine individuals or groups of individuals if the communicable disease outbreak has affected more than one county or has multicounty, statewide, or interstate public health implications. When imposing isolation or quarantine, the department shall coordinate with the local health department as appropriate. If isolation or quarantine is imposed by the department, a local board of health or local health department may not alter, amend, modify, or rescind the isolation or quarantine order.

b. Assistance of local boards of health and local health departments. If isolation or quarantine is imposed by the department, the local boards of health and the local health departments in the affected areas shall assist in the implementation of the isolation or quarantine order.

c. Assistance of law enforcement. Pursuant to Iowa Code section 135.35, all peace officers of the state shall enforce and execute a lawful department order for isolation or quarantine within their respective jurisdictions. The department shall take all reasonable measures to minimize the risk of exposure to peace officers and others assisting with enforcement of an isolation or quarantine order.

d. Penalty. Pursuant to Iowa Code section 135.38, any individual who knowingly violates a lawful department order for isolation or quarantine, whether written or oral, shall be guilty of a simple misdemeanor. The court-ordered sentence may include a fine of up to \$500 and imprisonment not to exceed 30 days.

e. Enforcement action. The department may file a civil action in Polk County district court or in the district court for the county in which the individual resides or is located to enforce a department order for isolation or quarantine. Such action shall be filed in accordance with the Iowa Rules of Civil Procedure.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.10 and 1.11 Reserved.

641—1.12(135,137,139A) Quarantine and isolation—model rule for local boards.

1.12(1) Applicability. The provisions of rule 641—1.12(135,137,139A) are applicable in jurisdictions in which a local board has adopted this rule by reference in accordance with Iowa Code section 137.6. This rule shall not be construed to require a local board to adopt this model rule.

1.12(2) Definitions.

"Board" means [insert the name of the city, county, or district board of health].

"Department" means the Iowa department of public health.

"Isolation" means the separation of persons or animals presumably or actually infected with a communicable disease, or that are disease carriers, for the usual period of communicability of that

disease. Isolation shall be in such places, marked by placards if necessary, and under such conditions to prevent the direct or indirect conveyance of the infectious agent or contagion to susceptible individuals.

“*Quarantinable disease*” means any communicable disease which presents a risk of serious harm to public health and which may require isolation or quarantine to prevent its spread. “*Quarantinable disease*” includes but is not limited to cholera; diphtheria; infectious tuberculosis; plague; smallpox; yellow fever; viral hemorrhagic fevers, including Lassa, Marburg, Ebola, Crimean-Congo, South American, and others not yet isolated or named; novel influenza; and severe acute respiratory syndrome (SARS).

“*Quarantine*” means the limitation of freedom of movement of persons or animals that have been exposed to a communicable disease, within specified limits marked by placards, for a period of time equal to the longest usual incubation period of the disease. The limitation of movement shall be in such manner as to prevent the spread of a communicable disease.

1.12(3) General provisions.

a. Voluntary confinement. Prior to instituting mandatory isolation or quarantine pursuant to this rule, the board may request that an individual or group of individuals voluntarily confine themselves to a private home or other facility.

b. Quarantine and isolation. The board is authorized to impose and enforce quarantine and isolation restrictions. Quarantine and isolation shall rarely be imposed by the board. If a quarantinable disease occurs in Iowa, individuals with a suspected or active quarantinable disease and contacts to the case may be quarantined or isolated as the particular situation requires. Any quarantine or isolation imposed by the board shall be established and enforced in accordance with this rule.

c. The local board of health shall notify, consult and work cooperatively with the Iowa department of agriculture and land stewardship and the state veterinarian office on issues relating to isolation and quarantine of animals.

1.12(4) Conditions and principles. The board shall adhere to all of the following conditions and principles when isolating or quarantining individuals or a group of individuals:

a. The isolation or quarantine shall be by the least restrictive means necessary to prevent the spread of a communicable or possibly communicable disease to others and may include, but is not limited to, confinement to private homes, other private premises, or public premises.

b. Isolated individuals shall be confined separately from quarantined individuals.

c. The health status of isolated or quarantined individuals shall be monitored regularly to determine if the individuals require further or continued isolation or quarantine.

d. If a quarantined individual subsequently becomes infected or is reasonably believed to have become infected with a communicable or possibly communicable disease, the individual shall be promptly removed to isolation.

e. Isolated or quarantined individuals shall be immediately released when the board determines that the individuals pose no substantial risk of transmitting a communicable or possibly communicable disease.

f. The needs of isolated or quarantined individuals shall be addressed in a systematic and competent fashion including, but not limited to, providing adequate food; clothing; shelter; means of communicating with those in and outside of isolation or quarantine; medication; and competent medical care.

g. The premises used for isolation or quarantine shall be maintained in a safe and hygienic manner and shall be designed to minimize the likelihood of further transmission of infection or other harm to isolated or quarantined individuals.

h. To the extent possible, cultural and religious beliefs shall be considered in addressing the needs of individuals in isolation and quarantine premises and in establishing and maintaining the premises.

1.12(5) Isolation and quarantine premises.

a. Sites of isolation or quarantine shall be prominently placarded with isolation or quarantine signs prescribed and furnished by the department and posted on all sides of the building wherever access is possible.

b. An individual subject to isolation or quarantine shall obey the rules and orders of the board and shall not go beyond the isolation or quarantine premises.

c. The department or the board may authorize physicians, health care workers, or others access to individuals in isolation or quarantine as necessary to meet the needs of isolated or quarantined individuals.

d. No individual, other than an individual authorized by the department or the board, shall enter an isolation or quarantine premises. If the department has requested the assistance of law enforcement in enforcing the isolation or quarantine, the department shall provide law enforcement personnel with a list of individuals authorized to enter the isolation or quarantine premises.

e. Any individual entering an isolation or quarantine premises with or without authorization of the department or the board may be isolated or quarantined pursuant to this rule.

1.12(6) Isolation and quarantine.

a. Authority. The board may:

- (1) Isolate individuals who are presumably or actually infected with a quarantinable disease;
- (2) Quarantine individuals who have been exposed to a quarantinable disease;
- (3) Establish and maintain places of isolation and quarantine; and
- (4) Adopt emergency rules and issue orders as necessary to establish, maintain, and enforce isolation or quarantine.

b. Isolation and quarantine undertaken by the board shall be accomplished in accordance with this rule.

c. Temporary isolation and quarantine without notice. The board may temporarily isolate or quarantine an individual or groups of individuals through an oral order, without notice, only if delay in imposing the isolation or quarantine would significantly jeopardize the board's ability to prevent or limit the transmission of a communicable or possibly communicable disease to others. If the board imposes temporary isolation or quarantine of an individual or groups of individuals through an oral order, the board shall issue a written order as soon as is reasonably possible and in all cases within 24 hours of issuance of the oral order if continued isolation or quarantine is necessary to prevent or limit the transmission of a communicable or possibly communicable disease.

d. Written order. The board may isolate or quarantine an individual or groups of individuals through a written order issued pursuant to this rule.

(1) The written order shall include all of the following:

1. The identity of the individual, individuals, or groups of individuals subject to isolation or quarantine.

2. The premises subject to isolation or quarantine.

3. The date and time at which isolation or quarantine commences.

4. The suspected communicable disease.

5. A description of the less restrictive alternatives that were attempted and were unsuccessful, or the less restrictive alternatives that were considered and rejected, and the reasons such alternatives were rejected.

6. A statement of compliance with the conditions and principles for isolation and quarantine specified in subrule 1.12(4).

7. The legal authority under which the order is imposed.

8. The medical basis upon which isolation or quarantine is justified.

9. A statement advising the individual, individuals, or groups of individuals of the right to appeal the written order pursuant to subrule 1.12(7) and the rights of individuals and groups of individuals subject to quarantine and isolation as listed in subrule 1.12(8).

10. A copy of this rule and the relevant definitions.

(2) A copy of the written order shall be provided to the individual to be isolated or quarantined within 24 hours of issuance of the order in accordance with any applicable process authorized by the Iowa Rules of Civil Procedure. If the order applies to a group or groups of individuals and it is impractical to provide individual copies, the order may be posted in a conspicuous place in the isolation or quarantine premises.

1.12(7) Appeal from order imposing isolation or quarantine.

a. Appeal. The subject of a board order imposing isolation or quarantine may appeal a written order by submitting a written appeal within ten days of receipt of the written order. The appeal shall be addressed to [insert name of board and board address]. Unless stayed by order of the board or a district court, the written order for quarantine or isolation shall remain in force and effect until the appeal is finally determined and disposed of upon its merits.

b. Proceeding. The appeal proceeding shall be conducted in accordance with this rule [or insert specific board rule governing appeal proceedings]. The proceeding shall be held as soon as is practicable, and in no case later than ten days from the date of receipt of the appeal. The hearing may be held by telephonic or other electronic means if necessary to prevent additional exposure to the communicable or possibly communicable disease. In extraordinary circumstances and for good cause shown, the board may continue the proceeding date for up to ten days, giving due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence. At the appeal proceeding, the subject of the appeal shall have the right to introduce evidence on all issues relevant to the order. The board, by majority vote, may modify, withdraw, or order compliance with the order under appeal.

c. Judicial review. The aggrieved party to the final decision of the board may petition for judicial review of that action by filing an action in the appropriate district court. Petitions for judicial review shall be filed within 30 days after the decision becomes final.

d. Immediate judicial review of board order. The board acknowledges that in certain circumstances the subject or subjects of a board order may desire immediate judicial review of a board order in lieu of proceeding with the board's appeal process. The board may consent to immediate jurisdiction of the district court when requested by the subject or subjects of a board order and justice so requires. Unless stayed by order of the board or a district court, the written order for quarantine or isolation shall remain in force and effect until the judicial review is finally determined and disposed of upon its merits.

1.12(8) Rights of individuals and groups of individuals subject to isolation or quarantine. Any individual or group of individuals subject to isolation or quarantine shall have the following rights:

- a.* The right to be represented by legal counsel.
- b.* The right to be provided with prior notice of the date, time, and location of any hearing.
- c.* The right to participate in any hearing. The hearing may be held by telephonic or other electronic means if necessary to prevent additional exposure to the communicable or possibly communicable disease.
- d.* The right to respond and present evidence and argument on the individual's own behalf in any hearing.
- e.* The right to cross-examine witnesses who testify against the individual.
- f.* The right to view and copy all records in the possession of the board which relate to the subject of the written order.

1.12(9) Consolidation of claims. In any proceeding brought pursuant to this rule, to promote the fair and efficient operation of justice and having given due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence, the board or a court may order the consolidation of individual claims into group claims, if all of the following conditions exist:

- a.* The number of individuals involved or to be affected is large enough that consolidation would be the best use of resources.
- b.* There are questions of law or fact common to the individual claims or rights to be determined.
- c.* The group claims or rights to be determined are typical of the affected individuals' claims or rights.
- d.* The entire group will be adequately represented in the consolidation.

1.12(10) Implementation and enforcement of isolation and quarantine.

a. Jurisdictional issues. The department has primary jurisdiction to isolate or quarantine individuals or groups of individuals if the communicable disease outbreak has affected more than one

county or has multicounty, statewide, or interstate public health implications. If isolation or quarantine is imposed by the department, the board may not alter, amend, modify, or rescind the isolation or quarantine order.

b. Assistance of local boards of health and local health departments. If isolation or quarantine is imposed by the department, the local boards of health and the local health departments in the affected areas shall assist in the implementation of the isolation or quarantine order.

c. Penalty. Pursuant to Iowa Code sections 137.21 and 139A.25(1), any individual who violates a lawful board order for isolation or quarantine, whether written or oral, shall be guilty of a simple misdemeanor. The court-ordered sentence may include a fine of up to \$500 and imprisonment not to exceed 30 days.

d. Enforcement action. The board, through the office of the county attorney, may file a civil action in the appropriate district court to enforce a board order for isolation or quarantine. Such action shall be filed in accordance with the Iowa Rules of Civil Procedure.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.13(135,139A) Area quarantine.

1.13(1) General provisions. The department and local boards of health are authorized to impose and enforce area quarantine in accordance with this rule. Area quarantine shall rarely be imposed by the department or by local boards of health.

1.13(2) Conditions and principles. The department and local boards of health shall adhere to all of the following conditions and principles when imposing and enforcing area quarantine:

a. Area quarantine shall be imposed by the least restrictive means necessary to prevent or contain the spread of a suspected or confirmed quarantinable disease or suspected or known hazardous or toxic agent.

b. Area quarantine shall be immediately terminated when the department or a local board of health determines that no substantial risk of exposure to a quarantinable disease or hazardous or toxic agent continues to exist.

c. The geographic boundaries of an area quarantine shall be established by risk assessment procedures including medical and scientific analysis of the quarantinable disease or hazardous or toxic agent, the location of the affected area, the risk of spread or contamination, and other relevant information.

1.13(3) Area quarantine sites.

a. Sites of area quarantine shall be prominently identified to restrict ingress to and egress from the area, to the extent practicable. The department or a local board of health may placard or otherwise identify the site, or may request the assistance of law enforcement in identifying the site.

b. No individual, other than an individual authorized by the department or a local board of health, shall enter a building, structure, or other physical location subject to area quarantine. The department or a local board of health may authorize public health officials, environmental specialists, health care providers, or others access to an area quarantine site as necessary to conduct public health investigations, to decontaminate the site, or for other public health purposes. Notwithstanding any provision in this chapter to the contrary, law enforcement, fire service, and emergency medical service providers may enter an area quarantine site to provide emergency response services or to conduct emergency law enforcement investigations or other emergency activities without authorization by the department or a local board of health. If the department has requested the assistance of law enforcement in enforcing the area quarantine, the department shall provide law enforcement personnel with a list of individuals authorized to enter the area quarantine site.

c. An individual authorized to enter an area quarantine site may be required to wear personal protective equipment as appropriate.

d. No individual, other than an individual authorized by the department or a local board of health, shall remove any item or object from a building, structure, or other physical location subject to area quarantine.

e. An individual entering an area quarantine site without authorization of the department or a local board of health may be isolated or quarantined pursuant to rule 641—1.9(135,139A) and may be found guilty of a simple misdemeanor.

1.13(4) Area quarantine by local boards of health or the department of public health.

a. Authority.

(1) The department, through the director, the department's medical director, or the director or medical director's designee, may impose area quarantine through oral or written order. Prior to imposing area quarantine, the department shall attempt to notify the local board or boards of health in the affected geographic area. If attempts to notify the local boards of health are initially unsuccessful, the department shall continue to make regular notification attempts until successful.

(2) A local board of health may impose area quarantine through oral or written order. Prior to imposing area quarantine, a local board of health shall attempt to notify the department by contacting the director, medical director, or department duty officer by telephone. If attempts to notify the department are initially unsuccessful, the local board of health shall continue to make regular notification attempts until successful.

b. Temporary area quarantine without notice. The department or a local board of health may temporarily impose area quarantine through an oral order, without notice, only if delay in imposing area quarantine would significantly jeopardize the department's or local board's ability to prevent or contain the spread of a suspected or confirmed quarantinable disease or to prevent or contain exposure to a suspected or known hazardous or toxic agent. If the department or local board imposes temporary area quarantine through an oral order, a written order shall be issued as soon as is reasonably possible and in all cases within 24 hours of issuance of the oral order if continued area quarantine is necessary.

c. Written order. The department or local board may impose area quarantine through a written order issued pursuant to this rule.

(1) The written order shall include all of the following:

1. The building or buildings, structure or structures, or other definable physical location, or portion thereof, subject to area quarantine.

2. The date and time at which area quarantine commences and the date and time at which the area quarantine shall be terminated, if known.

3. The suspected or confirmed quarantinable disease or the chemical, biological, radioactive, or other hazardous or toxic agent.

4. A statement of compliance with the conditions and principles for area quarantine specified in subrule 1.13(2).

5. The legal authority under which the order is imposed.

6. The medical or scientific basis upon which area quarantine is justified.

7. A statement advising the owner or owners of the building or buildings, structure or structures, or other definable physical location subject to area quarantine of the right to appeal the written order pursuant to subrule 1.13(5) and the rights of owners of sites subject to area quarantine pursuant to subrule 1.13(6).

8. A copy of 641—Chapter 1 and the relevant provisions of this rule.

(2) A copy of the written order shall be provided to the owner or owners of the building or buildings, structure or structures, or other definable physical location subject to area quarantine within 24 hours of issuance of the order in accordance with any applicable process authorized by the Iowa Rules of Civil Procedure; or, if the order applies to a group of owners and it is impractical to provide individual notice to each owner, the written order shall be posted in a conspicuous place at the site of area quarantine.

1.13(5) Appeal from order imposing area quarantine.

a. Contested case. The subject of a department order imposing area quarantine may appeal a written order and has the right to a contested case hearing regarding such appeal. The subject of a department order imposing area quarantine may appeal the order by submitting a written appeal within 10 days of receipt or other notice of the written order. The appeal shall be addressed to the Local Board of Health or to the Department of Public Health, Division of Acute Disease Prevention and Emergency Response, Lucas State Office Building, Des Moines, Iowa 50319-0075. Unless stayed by order of the

director or a district court, the written order for area quarantine shall remain in force and effect until the appeal is finally determined and disposed of upon its merits.

b. Presiding officer. The presiding officer in a contested case shall be the director or the director's designee. The director or the director's designee may be assisted by an administrative law judge in conducting the contested case hearing. The decision of the director or the director's designee shall be the agency's final decision and is subject to judicial review in accordance with the provisions of Iowa Code chapter 17A.

c. Proceeding. The contested case hearing shall be conducted in accordance with the provisions contained at 641—Chapter 173. The hearing shall be held as soon as is practicable, and in no case later than 10 days from the date of receipt of the appeal. In extraordinary circumstances and for good cause shown, the department may apply to continue the hearing date on a petition filed pursuant to this paragraph for up to 10 days, which continuance the presiding officer may grant in the presiding officer's discretion giving due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence.

d. Judicial review. The aggrieved party to the final decision of the department may petition for judicial review of that action pursuant to Iowa Code chapter 17A. Petitions for judicial review shall be filed within 30 days after the decision becomes final.

e. Immediate judicial review of department order. The department or local board acknowledges that in certain circumstances the subject or subjects of a department order may desire immediate judicial review of a department order in lieu of proceeding with the contested case process. The department recognizes that the procedural step of pursuing exhaustion of administrative remedies may be inadequate for purposes of Iowa Code section 17A.19, and the department may consent to immediate jurisdiction of the district court when requested by the subject or subjects of a department order and justice so requires. Unless stayed by order of the director or a district court, the written order for area quarantine shall remain in force and effect until the judicial review is finally determined and disposed of upon its merits.

1.13(6) *Rights of owners of sites subject to area quarantine.* An owner of a building, structure, or other physical location subject to area quarantine shall have the following rights:

- a.* The right to be represented by legal counsel.
- b.* The right to be provided with prior notice of the date, time, and location of any hearing.
- c.* The right to participate in any hearing.
- d.* The right to respond and present evidence and argument on the owner's own behalf in any hearing.
- e.* The right to cross-examine witnesses who testify against the owner or individual.
- f.* The right to view and copy all records in the possession of the department which relate to the subject of the written order.

1.13(7) *Consolidation of claims.* In any proceeding brought pursuant to this rule, to promote the fair and efficient operation of justice and having given due regard to the rights of the affected individuals, the protection of the public's health, and the availability of necessary witnesses and evidence, the department or a court may order the consolidation of individual claims into group claims, if all of the following conditions exist:

- a.* The number of individuals involved or who may be affected is so large that individual participation is impractical.
- b.* There are questions of law or fact common to the individual claims or rights to be determined.
- c.* The group claims or rights to be determined are typical of the affected individuals' claims or rights.
- d.* The entire group will be adequately represented in the consolidation.

1.13(8) *Implementation and enforcement of area quarantine.*

a. Jurisdictional issues. The department has primary jurisdiction to impose area quarantine if the quarantinable disease or hazardous or toxic agent has affected more than one county and implicates multicounty or statewide public health concerns. If area quarantine is imposed by the department, a local board of health or local health department may not alter, amend, modify, or rescind the area quarantine order.

b. Assistance of local boards of health and local health departments. If area quarantine is imposed by the department, the local boards of health and the local health departments in the affected areas shall assist in the implementation of the area quarantine.

c. Assistance of law enforcement. Pursuant to Iowa Code section 135.35, all peace officers of the state shall enforce and execute a lawful department order for area quarantine within their respective jurisdictions. The department shall take all reasonable measures to minimize the risk of individual exposure of peace officers and others assisting with enforcement of an area quarantine order.

d. Emergency response, investigation, and decontamination—authority of other agencies. Emergency response, investigation, and decontamination activities in and around an area quarantine site shall be conducted by law enforcement, fire service, emergency medical service providers, or other appropriate federal, state, or local officials in accordance with federal and state law and accepted procedures and protocols for emergency response, investigation, and decontamination. This rule shall not be construed to limit the authority of law enforcement, fire service, emergency medical service providers, or other federal, state, or local officials to conduct emergency response, investigation, or decontamination activities to the extent authorized by federal and state law and accepted procedures and protocols.

e. Penalty. Pursuant to Iowa Code section 135.38, any individual who knowingly violates a lawful department order for area quarantine, whether written or oral, shall be guilty of a simple misdemeanor. The court-ordered sentence may include a fine of up to \$500 and imprisonment not to exceed 30 days.

f. Enforcement action. To enforce a department order for quarantine, the department may file a civil action in Polk County District Court or in the district court for the county in which the area quarantine will be enforced. Such action shall be filed in accordance with the Iowa Rules of Civil Procedure.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

SPECIFIC NONCOMMUNICABLE CONDITIONS

641—1.14(139A) Cancer. Each occurrence of a reportable cancer that is diagnosed or treated in an Iowa resident or occurs in a nonresident who is diagnosed or treated in an Iowa facility shall be reported to the State Health Registry of Iowa, administered by the Department of Epidemiology of the College of Public Health at the University of Iowa, by mail, telephone or electronic means.

1.14(1) Who is required to report. Occurrences of reportable cancers shall be reported by registrars employed by the State Health Registry of Iowa, registrars employed by health care facilities, and health care providers involved in the diagnosis, care, or treatment of individuals with a reportable cancer.

1.14(2) What to report. The content of the reports shall include, but not be limited to, follow-up data and demographic, diagnostic, treatment, and other medical information. Tissue samples may also be submitted under the authority of this rule.

1.14(3) How to report. For these particular diseases, physicians and other health practitioners should not send a report to the department.

a. The department has delegated to the State Health Registry of Iowa the responsibility for collecting these data through review of records from hospitals, radiation treatment centers, outpatient surgical facilities, oncology clinics, pathology laboratories, and physician offices.

b. Prior to collecting the data from an office or facility, the State Health Registry of Iowa shall work with the office or facility to develop a process for abstracting records which is agreeable to the office or facility.

c. Where applicable, reportable cancers shall be reported on forms developed and distributed by the State Health Registry of Iowa.

d. Data will be supplemented with information obtained from records from hospitals, radiation treatment centers, outpatient surgical centers, oncology clinics, pathology laboratories, and physician offices through an abstracting process developed by the State Health Registry of Iowa.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.15(144) Congenital and inherited disorders. Each occurrence of a congenital and inherited disorder that is diagnosed or treated in an Iowa resident or occurs in a nonresident who is diagnosed or treated in an Iowa facility is a reportable condition, and records of these congenital and inherited disorders shall be abstracted and maintained in a central registry. Congenital and inherited disorder surveillance shall be performed in order to determine the occurrence and trends of congenital and inherited disorders, to conduct thorough and complete epidemiological surveys, to assist in the planning for and provision of services to children with congenital and inherited disorders and their families, and to identify environmental and genetic risk factors for congenital and inherited disorders.

1.15(1) *Who is required to report.* Occurrences of reportable congenital and inherited disorders shall be reported by registrars employed by the Iowa Registry for Congenital and Inherited Disorders, registrars employed by health care facilities, and health care providers involved in the diagnosis, care, or treatment of individuals with reportable congenital and inherited disorders.

1.15(2) *What to report.* The content of the reports shall include, but not be limited to, follow-up data and demographic, diagnostic, treatment, and other medical information. Tissue samples may also be submitted under the authority of this rule.

1.15(3) *How to report.*

a. The department has delegated to the Iowa Registry for Congenital and Inherited Disorders the responsibility for collecting these data through review of records from hospitals, radiation treatment centers, outpatient surgical facilities, oncology clinics, pathology laboratories, and physician offices.

b. Prior to collecting the data from an office or facility, the Iowa Registry for Congenital and Inherited Disorders shall work with the office or facility to develop a process for abstracting records.

1.15(4) *Fetal death (stillbirth).* Each occurrence of a fetal death that occurs in an Iowa resident or occurs in a nonresident who is identified in an Iowa facility is a reportable condition.

a. Providers shall complete the fetal death certificate supplied by the department.

b. Fetal death certificates are to be filed with the department's bureau of vital records within seven days.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

641—1.16(139A) Agriculturally related injury.

1.16(1) *Who is required to report.*

a. Health care providers are required to report all cases of agriculturally related injury attended by them.

b. Clinics, hospitals and other health care facilities are required to report all cases of agriculturally related injury treated at their facility.

c. Health care providers who reside and health care facilities that are located outside the state of Iowa shall report all cases of agriculturally related injury of an Iowa resident that are attended or treated by them.

d. Medical examiners are required to report their investigatory findings of any death occurring within the state of Iowa which was caused by or otherwise involved a reportable agriculturally related injury.

1.16(2) *What to report.* Each report shall contain all of the following information:

a. The patient's name.

b. The patient's address.

c. The patient's date of birth.

d. The sex of the patient.

e. The race and ethnicity of the patient.

f. The patient's marital status.

g. The patient's telephone number.

h. If the patient is female, whether the patient is pregnant.

i. In the case of occupational conditions, the name of the patient's employer.

j. The date that the injury occurred.

k. The name and address of the health care provider who diagnosed and treated the injury, and the name of the reporting site, clinic, or hospital.

l. Injury diagnosis and description, including diagnostic and external cause of injury codes utilizing the international classification of diseases (ICD) coding system.

m. Severity of injury.

1.16(3) How to report.

a. All data shall be reported to the department at least quarterly using formats approved by the department. Reports, using the Iowa Agricultural Injury Report Form found at www.idph.state.ia.us, may be submitted by facsimile to (515)281-4529, or by mail to the Iowa Department of Public Health, Bureau of Lead Poisoning Prevention, Occupational Safety and Health Surveillance Program, Lucas State Office Building, 321 E. 12th Street, Des Moines, Iowa 50319-0075. Information may also be reported by telephone to 1-800-972-2026 during normal office hours.

b. Trauma centers may report using the Iowa Trauma Patient Registry COLLECTOR software by indicating “Yes” for farm and agriculturally related injury. For more information about using the Iowa Trauma Patient Registry for reporting, contact the Iowa Department of Public Health Bureau of Emergency Medical Services at 1-800-728-3367.

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

CONFIDENTIALITY

641—1.17(139A,22) Confidentiality.

1.17(1) A report or other information provided to or maintained by the department, a local board, or a local department which identifies a person infected with or exposed to a reportable or other disease or health condition is confidential and shall not be accessible to the public.

1.17(2) The identity of a business named in a report or investigation is confidential and shall not be accessible to the public. If information contained in a report or other information provided to or maintained by the department, a local board, or a local department concerns a business, information disclosing the identity of the business may be released to the public when the state public health medical director and epidemiologist or the director determines such a release of information necessary for the protection of the public.

1.17(3) Reportable disease records and information, with the exception of AIDS and HIV records, which identify a person or a business named in a report, may be disclosed under the following limited circumstances:

a. By and between department employees and agents who have a need for the record in the performance of their duties.

b. By and between department employees and agents and local boards of health and local health departments as necessary to conduct an investigation.

c. By and between department employees and agents and health care providers, laboratories, and hospitals as necessary to conduct an investigation.

d. By and between department employees and agents and employees and agents of federal, state, and local agencies as necessary to conduct an investigation.

e. Reportable disease information may be included in a quarantine or isolation order or placard as necessary to prevent the spread of a quarantinable disease.

f. Pursuant to rule 641—175.9(17A,22) or 641—175.10(17A,22).

[ARC 8231B, IAB 10/7/09, effective 11/11/09]

These rules are intended to implement Iowa Code chapters 135, 136A, 139A, 141A and 144.

APPENDIX A
Iowa Department of Public Health
Table of Reportable Communicable and Infectious Diseases

Report cases of the diseases listed in the following table to the department within the time frame specified in the When to Report column and by the reporting method in the How to Report column.

To report diseases immediately, use the 24/7 disease reporting telephone hotline: 1-800-362-2736.

IMMEDIATELY report diseases, syndromes, poisonings and conditions of any kind suspected or caused by a biological, chemical, or radiological agent or toxin when there is reasonable suspicion that the disease, syndrome, poisoning or condition may be the result of a deliberate act such as terrorism.

IMMEDIATELY report to the department outbreaks of any kind, diseases that occur in unusual numbers or circumstances, unusual syndromes, or uncommon diseases. Outbreaks may be infectious, environmental or occupational in origin and include food-borne outbreaks or illness secondary to chemical exposure (e.g., pesticides, anhydrous ammonia).

Report diseases by:

Entering into the Iowa Disease Surveillance System (IDSS): For IDSS-related questions, call the Center for Acute Disease Epidemiology (CADE) at 1-800-362-2736.

Fax: (515)281-5698

Mail:

Iowa Department of Public Health
 Center for Acute Disease Epidemiology
 Lucas State Office Building
 321 E. 12th Street
 Des Moines, Iowa 50319

Isolates shall be sent to:

University Hygienic Laboratory
 102 Oakdale Campus, H101 OH
 Iowa City, Iowa 52242

For specimen submission questions, call (319)335-4500 or go to <http://www.uhl.uiowa.edu/>.

Diseases	When to Report	How to Report
Acquired immune deficiency syndrome (AIDS) and AIDS-defining conditions	7 days	Report by mail <ul style="list-style-type: none"> • Health care providers: use the Pediatric or Adult Confidential Case Report Form • Laboratories: send copy of lab report or the Iowa Confidential Report of Sexually Transmitted Disease & HIV Infection. Mark envelope "Attention 03" For HIV/AIDS-related questions, call (515)242-5141
Anthrax	1 day	Phone, IDSS, or fax

Diseases	When to Report	How to Report
Arboviral disease (includes West Nile Disease, St. Louis, LaCrosse, WEE, EEE, VEE encephalitis)	3 days	Phone, IDSS, fax or mail
Botulism	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Brucellosis (Burcella)	3 days	Phone, IDSS, fax or mail
Campylobacteriosis (Campylobacter)	3 days	Phone, IDSS, fax or mail
Chlamydia	3 days	Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection
Cholera	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Cryptosporidiosis	3 days	Phone, IDSS, fax or mail
Cyclospora	3 days	Phone, IDSS, fax or mail
Diphtheria	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Enterococcus invasive disease	3 days	Laboratories send isolate to the UHL
Escherichia coli shiga toxin-producing and related diseases (includes HUS and TTP)	3 days	Phone, IDSS, fax or mail Laboratories send isolate to the UHL
Giardiasis (Giardia)	3 days	Phone, IDSS, fax or mail
Gonorrhea	3 days	Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection
Group A Streptococcus invasive disease	3 days	Send isolate to the UHL
Haemophilus influenza type B invasive disease	Immediately	24/7 disease reporting telephone hotline: 800-362-2736 Laboratories send isolate to the UHL
Hansen's disease (leprosy)	3 days	Phone, IDSS, fax or mail
Hantavirus syndromes	3 days	Phone, IDSS, fax or mail
Hepatitis A	1 day	Phone, IDSS or fax
Hepatitis B, C, D, E	3 days	Phone, IDSS, fax or mail
Human immunodeficiency virus (HIV) cases Death of a person with HIV Perinatally exposed newborn and child (newborn and child who was born to an HIV-infected mother)	7 days	Report by mail <ul style="list-style-type: none"> Health care providers: use the Pediatric or Adult Confidential Case Report Form Laboratories: send copy of lab report or the Iowa Confidential Report of Sexually Transmitted Disease & HIV Infection. Mark envelope "Attention 03" For HIV/AIDS-related questions, call (515)242-5141
Legionellosis (Legionella)	3 days	Phone, IDSS, fax or mail
Listeria monocytogenes invasive disease	1 day	Phone, IDSS, or fax Laboratories send isolate to the UHL
Lyme disease	3 days	Phone, IDSS, fax or mail
Malaria	3 days	Phone, IDSS, fax or mail
Measles (rubeola)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Meningococcal invasive disease	Immediately	24/7 disease reporting telephone hotline: 800-362-2736 Laboratories send isolate to the UHL
Mumps	3 days	Phone, IDSS, fax or mail
Pertussis	3 days	Phone, IDSS, fax or mail

Diseases	When to Report	How to Report
Plague	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Poliomyelitis	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Psittacosis	3 days	Phone, IDSS, fax or mail
Rabies, animal	3 days	Phone, IDSS, fax or mail
Rabies, human	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Rocky Mountain spotted fever	3 days	Phone, IDSS, fax or mail
Rubella (including congenital)	1 day	Phone, IDSS, fax or mail
Salmonellosis (Salmonella)	3 days	Phone, IDSS, fax or mail Laboratories send isolate to the UHL
Severe acute respiratory syndrome (SARS)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Shigellosis (Shigella)	3 days	Phone, IDSS, fax or mail Laboratories send isolate to the UHL
Smallpox	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Staphylococcus aureus invasive disease: Methicillin-resistant invasive disease (number of S. aureus isolates should be reported to the department quarterly)	3 days	Laboratories send isolate to the UHL Mail the number of staphylococcus isolated quarterly to UHL
Vancomycin-resistant S. aureus	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Streptococcus pneumoniae invasive disease	3 days	Laboratories send isolate to the UHL
Syphilis	3 days	Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection
Tetanus	3 days	Phone, IDSS, fax or mail
Toxic Shock Syndrome	3 days	Phone, IDSS, fax or mail
Trichinosis	3 days	Phone, IDSS, fax or mail
Tuberculosis	3 days	Phone, IDSS, fax or mail
Typhoid fever	1 day	Phone, IDSS or fax
Yellow fever	Immediately	24/7 disease reporting telephone hotline: 800-362-2736

APPENDIX B
Iowa Department of Public Health
Table of Reportable Poisonings and Conditions

Report cases of the poisonings and conditions listed in the following table to the department within the time frame specified in the When to Report column and by the reporting method in the How to Report column.

To report diseases immediately, use the 24/7 disease reporting telephone hotline: 1-800-362-2736.

IMMEDIATELY report diseases, syndromes, poisonings and conditions of any kind suspected or caused by a biological, chemical, or radiological agent or toxin when there is reasonable suspicion that the disease, syndrome, poisoning or condition may be the result of a deliberate act such as terrorism.

IMMEDIATELY report to the department outbreaks of any kind, diseases that occur in unusual numbers or circumstances, unusual syndromes, or uncommon diseases. Outbreaks may be infectious, environmental or occupational in origin and include food-borne outbreaks or illness secondary to chemical exposure (e.g., pesticides, anhydrous ammonia).

Mailing address:

**Bureau of Lead Poisoning Prevention Division of Environmental Health
Iowa Department of Public Health
321 East 12th Street
Des Moines Iowa 50319-0075**

Telephone: 1-800-972-2026

Fax: (515)281-4529

Poisoning or Condition	Cases to Report	When to Report	How to Report
Arsenic poisoning	Blood arsenic values equal to or greater than 70 µg/L Urine arsenic values equal to or greater than 100 µg/L of urinary creatinine	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Blood lead testing	All analytical results greater than or equal to 20 micrograms per deciliter (µg/dL) in a child under the age of 6 years or a pregnant woman	Daily	By telephone: 800-972-2026
	All other analytical values for all blood lead analyses	Weekly	Electronic format specified by the department
Cadmium poisoning	Blood cadmium values equal to or greater than 5 µg/L Urine cadmium values equal to or greater than 3 µg/g	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Carbon monoxide (CO) poisoning	Blood carbon monoxide level equal to or greater than 10% carboxyhemoglobin or its equivalent with a breath analyzer test, or a clinical diagnosis of CO poisoning regardless of any test results	Daily	By telephone: 800-972-2026

Poisoning or Condition	Cases to Report	When to Report	How to Report
Hypersensitivity pneumonitis	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Mercury poisoning	Blood mercury values equal to or greater than 2.8 µg/dL Urine mercury values equal to or greater than 20 µg/L	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Methemoglobinemia	Blood analyses showing greater than 5% of total hemoglobin present as methemoglobin	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Noncommunicable respiratory illness	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Occupationally related asthma, bronchitis or respiratory hypersensitivity reaction	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Pesticide poisoning (including pesticide-related contact dermatitis)	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Severe skin disorder	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.
Toxic hepatitis	All cases	Weekly	Format specified by department. Web-based reporting if available. Alternatives include by mail, telephone, and facsimile.

[Filed November 20, 1970; amended August 31, 1971]

[Filed emergency 8/15/77—published 9/7/77, effective 8/15/77]

[Filed 11/10/77, Notice 10/5/77—published 11/30/77, effective 1/4/78]

[Filed 4/3/81, Notice 2/18/81—published 4/29/81, effective 6/5/81]

[Filed 2/12/82, Notice 10/28/81—published 3/3/82, effective 4/7/82]

[Filed 11/18/83, Notice 8/31/83—published 12/7/83, effective 1/13/84]

[Filed 8/14/85, Notice 4/24/85—published 9/11/85, effective 10/16/85]

[Filed emergency 7/10/87—published 7/29/87, effective 7/10/87]

[Filed 11/17/88, Notice 6/1/88—published 12/14/88, effective 1/18/89]

[Filed 5/10/89, Notice 4/5/89—published 5/31/89, effective 7/5/89]

[Filed 11/9/89, Notice 10/4/89—published 11/29/89, effective 1/3/90]

[Filed 9/24/90, Notice 8/8/90—published 10/17/90, effective 11/21/90]

[Filed 7/17/92, Notice 4/1/92—published 8/5/92, effective 9/9/92]

[Filed 11/6/92, Notice 9/16/92—published 11/25/92, effective 1/1/93]

[Filed 7/16/93, Notice 4/28/93—published 8/4/93, effective 9/8/93]

[Filed emergency 1/11/96 after Notice 11/8/95—published 1/31/96, effective 1/12/96]

[Filed 3/15/96, Notice 1/31/96—published 4/10/96, effective 5/15/96]

[Filed 7/10/98, Notice 5/6/98—published 7/29/98, effective 9/2/98]

[Filed 11/10/98, Notice 9/23/98—published 12/2/98, effective 1/6/99]

[Filed 5/10/01, Notice 4/4/01—published 5/30/01, effective 7/4/01]

[Filed emergency 9/14/01—published 10/3/01, effective 9/14/01]

[Filed 11/19/01, Notice 10/3/01—published 12/12/01, effective 1/16/02]◇

[Filed 1/16/04, Notice 12/10/03—published 2/4/04, effective 3/10/04]

[Filed 1/13/05, Notice 11/24/04—published 2/2/05, effective 3/9/05]

[Filed 5/12/05, Notice 3/30/05—published 6/8/05, effective 7/13/05]

[Filed 1/10/07, Notice 11/22/06—published 1/31/07, effective 3/7/07]

[Filed 11/14/07, Notice 10/10/07—published 12/5/07, effective 1/9/08]

[Filed ARC 8231B (Notice ARC 7966B, IAB 7/15/09), IAB 10/7/09, effective 11/11/09]

CHAPTER 11
HUMAN IMMUNODEFICIENCY VIRUS (HIV) INFECTION AND
ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)

641—11.1(139A,141A) Definitions. For the purpose of rules 641—11.1(139A,141A) to 641—11.34(915), the following definitions shall apply:

“*AIDS*” means acquired immune deficiency syndrome as defined by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

“*AIDS-related condition*” means any condition resulting from HIV infection that meets the definition of AIDS as established by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

“*Blood bank*” means a facility for the collection, processing, or storage of human blood or blood derivatives, or from which or by means of which human blood or blood derivatives are distributed or otherwise made available.

“*CDC*” means the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

“*CLIA*” means Clinical Laboratory Improvement Amendments as administered by the Centers for Medicare and Medicaid Services of the U.S. Department of Health and Human Services.

“*Clinical laboratory*” means a facility for the microbiological, serological, chemical, hematological, radiobioassay, cytological, immunohematological, pathological or other examination of materials derived from the human body for the purpose of providing information for the diagnosis, prevention, or treatment of any disease or assessment of a medical condition.

“*Confirmed positive test*” means a reactive result or detectable quantity on any HIV-related test, including an antibody test, an antigen test, a culture, a nucleic acid amplification test, or other test or combination of tests, that is considered to be confirmatory according to prevailing medical technology and algorithms or guidance from CDC. When the confirmed positive test involves more than one test, all test results should be included in any reports to the department.

“*Department*” means the Iowa department of public health.

“*Director of a plasma center, blood bank, clinical laboratory, or public health laboratory*” means the person responsible for direction and operation of the facility, the medical director, or the person designated by the director or medical director to ensure compliance with applicable regulations and requirements.

“*Emergency medical services personnel*” means “emergency medical care provider” as defined in 641—131.1(147A).

“*Health care facility*” means a health care facility as defined in Iowa Code section 135C.1, an ambulatory surgical center, or a clinic.

“*Health care provider*” means a person licensed to practice medicine and surgery, osteopathic medicine and surgery, chiropractic, podiatry, nursing, dentistry, or optometry, or licensed as a physician assistant, dental hygienist, or acupuncturist.

“*Health facility*” means a hospital, health care facility, clinic, blood bank, blood center, sperm bank, laboratory organ transplant center and procurement agency, or other health care institution.

“*HIV*” means the human immunodeficiency virus identified as the causative agent of AIDS.

“*HIV infection*” means having acquired the human immunodeficiency virus.

“*HIV-related test*” means a diagnostic test conducted by a laboratory approved pursuant to CLIA for determining the presence of HIV or antibodies to HIV.

“*Laboratory*” means a clinical or public health laboratory, a plasma center, or a blood bank inside or outside the boundaries of Iowa.

“*Physician*” means a person currently licensed pursuant to Iowa Code chapter 148.

“*Plasma center*” means a facility that conducts plasmapheresis.

“*Plasmapheresis*” means the removal of blood from a human being to obtain plasma with the subsequent reinfusion of the remaining formed elements into the donor, but excludes such a procedure performed for the purpose of improving the health of the donor.

“Public health laboratory” means a laboratory operated by an agency of city, county or state government for the purpose of supporting disease control activities.

“Sexually transmitted disease or infection” means “sexually transmitted disease or infection” as defined in 641—1.1(139A).

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.2(141A) HIV testing—obtaining consent—voluntary HIV-related tests for adults who are not pregnant.

11.2(1) Prior to conducting a voluntary HIV-related test on an adult, the health care provider requesting the test shall provide information to the subject of the test concerning HIV testing and where to obtain additional information regarding HIV infection and risk reduction.

11.2(2) All adults who are able must give consent for an HIV test, but a separate written consent solely for the purpose of HIV testing shall not be required. If an adult signs a general consent form for the performance of medical tests or procedures, the signing of an additional consent form for the purpose of consenting to an HIV-related test is not required during the time in which the general consent form is in effect. If an adult has not signed a general consent form for the performance of medical tests and procedures, or if the consent form is no longer in effect, a health care provider shall obtain oral or written consent prior to performing the HIV-related test.

11.2(3) If an adult is unable to give consent, the adult’s legal guardian may provide oral or written consent. If the adult’s legal guardian cannot be located or is unavailable, a health care provider may authorize the HIV-related test when the test results are necessary for diagnostic purposes to provide appropriate urgent medical care.

11.2(4) Once an adult has been informed of a confirmed positive HIV-related test, no HIV-specific consent for medical procedures and tests shall be required for subsequent medical procedures and tests involved in the care or treatment of the adult with HIV infection.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.3(139A,141A) HIV testing—obtaining consent—voluntary HIV-related tests for minors who are not pregnant.

11.3(1) A minor shall have the legal capacity to act and give consent to the provision of medical care or services for the prevention, diagnosis, or treatment of HIV by a hospital, clinic, or health care provider. Consent shall not be subject to later disaffirmance by reason of such minority. The consent of another person, including but not limited to the consent of a spouse, parent, custodian, or guardian, shall not be necessary.

11.3(2) Prior to conducting a voluntary HIV-related test on a minor, the health care provider requesting the test shall provide information to the subject of the test concerning HIV testing and where to obtain additional information regarding HIV infection and risk reduction.

11.3(3) A minor shall be informed prior to testing that, upon confirmation according to prevailing medical technology of a positive HIV-related test result, the minor’s legal guardian is required to be informed by the health facility conducting the test. Health facilities where minors are tested shall have available a program to notify the legal guardian of a newly diagnosed minor. The notification process shall emphasize the need for family support and shall assist in making available the resources necessary to accomplish that goal. However, a health facility which is precluded by federal statute, regulation, or CDC guidelines from informing the legal guardian is exempt from the notification requirement.

11.3(4) Prior to the test, a minor shall give written consent for performance of the HIV-related test and to the notification of the legal guardian should the test be confirmed as positive.

11.3(5) If a minor is unable to provide consent for an HIV-related test, the minor’s legal guardian may provide oral or written consent for the minor. If the minor’s legal guardian cannot be located or is unavailable, a health care provider may authorize the HIV-related test when the test results are necessary for diagnostic purposes to provide appropriate urgent medical care.

11.3(6) Once a minor has been informed of a confirmed positive HIV-related test and the legal guardian has been notified, no HIV-specific consent for medical procedures and tests shall be required for subsequent medical procedures and tests involved in the care or treatment of a minor with HIV infection. [ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.4(141A) HIV testing—obtaining consent—voluntary HIV-related tests for pregnant women.

11.4(1) All pregnant women, including minors, shall be tested for HIV infection as part of the routine panel of prenatal tests. The health care provider requesting the test shall notify a pregnant woman that HIV screening is recommended for all prenatal patients and that the pregnant woman will receive an HIV test as part of the routine panel of prenatal tests unless the pregnant woman objects to the test. No written or oral consent shall be required.

11.4(2) The testing shall occur as early as possible during each pregnancy.

11.4(3) The health care provider requesting the test shall make information about HIV prevention, risk reduction, and treatment opportunities to reduce the possible transmission of HIV to a fetus available to all pregnant women.

11.4(4) A pregnant woman who is a minor shall be informed prior to testing that, upon confirmation according to prevailing medical technology of a positive HIV-related test result, the minor's legal guardian is required to be informed by the health facility conducting the test. Health facilities where minors are tested shall have available a program to notify the legal guardian of a newly diagnosed minor. The notification process shall emphasize the need for family support and shall assist in making available the resources necessary to accomplish that goal. However, a health facility which is precluded by federal statute, regulation, or CDC guidelines from informing the legal guardian is exempt from the notification requirement.

11.4(5) If a pregnant woman objects to and declines the test, the decision shall be documented in the pregnant woman's medical record by the health care provider. A health care provider shall encourage women who decline the test early in prenatal care to be tested at a subsequent visit.

11.4(6) Once a pregnant woman has been informed of a confirmed positive HIV-related test and, if the pregnant woman is a minor, the legal guardian has been notified, no HIV-specific consent for medical procedures and tests shall be required for subsequent medical procedures and tests involved in the care or treatment of a pregnant woman with HIV infection. [ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.5(141A) HIV test results—post-test counseling.

11.5(1) At any time that the subject of an HIV-related test is informed of a confirmed positive test result, the health care provider who requested the test or other designated personnel shall initiate counseling concerning the emotional and physical health effects of HIV infection. Particular attention shall be given to explaining the need for the precautions necessary to avoid transmitting the virus. The subject of the test shall be given information concerning where to obtain additional counseling. If a legal guardian of the subject of the test provided consent to the test, the counseling shall be given to the legal guardian.

11.5(2) Post-test counseling requirements do not apply to any of the following:

a. The performance of an HIV-related test by a health care provider or health facility when the health care provider or health facility procures, processes, distributes, or uses a human body part donated for a purpose specified under the revised uniform anatomical gift Act as provided in Iowa Code chapter 142C, or semen provided prior to July 1, 1988, for the purpose of artificial insemination, or donations of blood, and such test is necessary to ensure medical acceptability of such gift or semen for the purposes intended.

b. A person engaged in the business of insurance who is subject to Iowa Code section 505.15.

c. The performance of an HIV-related test by a health care provider or health facility when the subject of the test is deceased and a documented significant exposure has occurred.

d. The performance of an HIV-related test by a health care provider or health facility when the subject of the test is unable to provide consent and the health care provider or health facility provided consent for the subject of the test.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.6(141A) Reporting of diagnoses and HIV-related tests, events, and conditions to the department.

11.6(1) The following constitute reportable events related to HIV infection:

a. A test result indicating HIV infection, including:

(1) Confirmed positive results on any HIV-related test or combination of tests, including antibody tests, antigen tests, cultures, and nucleic acid amplification tests.

(2) A positive result or report of a detectable quantity on any other HIV detection (non-antibody) tests, and results of all viral loads, including nondetectable levels.

b. AIDS and AIDS-related conditions, including all levels of CD4+ T-lymphocyte counts.

c. Birth of an infant to an HIV-infected mother (perinatal exposure) or any (positive, negative, or undetectable) non-antibody detection test (antigen test, viral culture, viral load, or qualitative nucleic acid amplification test) on an infant 18 months of age or younger.

d. Death resulting from an AIDS-related condition, or death of a person with HIV infection.

11.6(2) Within seven days of the receipt of a person's confirmed positive test result indicating HIV infection, the director of a plasma center, blood bank, clinical laboratory or public health laboratory that performed the test or that requested the confirmatory test shall make a report to the department on a form provided by the department.

11.6(3) Within seven days of the receipt of a test result indicating HIV infection, which has been confirmed as positive according to prevailing medical technology, or immediately after the initial examination or treatment of a person infected with HIV, the physician or other health care provider at whose request the test was performed or who performed the initial examination or treatment shall make a report to the department on a form provided by the department.

11.6(4) Within seven days of diagnosing a person as having AIDS or an AIDS-related condition, the diagnosing physician shall make a report to the department on a form provided by the department.

11.6(5) Within seven days of the death of a person with HIV infection, the attending physician shall make a report to the department on a form provided by the department.

11.6(6) Within seven days of the birth of an infant to an HIV-infected mother or a receipt of a laboratory result (positive, negative, or undetectable) of a non-antibody detection test (antigen test, viral culture, viral load, or qualitative nucleic acid amplification test) on an infant 18 months of age or younger, the attending physician shall make a report to the department on a form provided by the department.

11.6(7) The report shall include:

a. The person's name, address, date of birth, gender, race and ethnicity, marital status, and telephone number.

b. The name, address and telephone number of the plasma center, blood bank, clinical laboratory or public health laboratory that performed or requested the test, if a test was performed.

c. The address of the physician or other health care provider who requested the test.

d. If the person is female, whether the person is pregnant.

11.6(8) All persons who experience a reportable event while receiving services in the state, regardless of state of residence, shall be reported.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.7(141A) Penalties.

11.7(1) A director of a plasma center, blood bank, clinical laboratory or public health laboratory or a physician or other health care provider who repeatedly fails to file the report required pursuant to these rules is subject to a report being made to the licensing board governing the professional activities of the individual. The department shall notify the individual each time the department determines that the individual has failed to file a required report. The department shall inform the individual in the

notification that the individual may provide information to the department to explain or dispute the failure to report.

11.7(2) A public, private, or hospital clinical laboratory that repeatedly fails to make the report required under these rules is subject to a civil penalty of not more than \$1,000 per occurrence. The department shall not impose the penalty without prior written notice and opportunity for hearing.
[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.8(141A) Immunity. An individual who makes a report in good faith pursuant to these rules is immune from any liability, civil or criminal, which might otherwise be incurred or imposed as a result of the report.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

Rules 641—11.1(139A,141A) to 641—11.8(141A) are intended to implement Iowa Code sections 139A.35, 141A.4, 141A.6, 141A.7 and 141A.10.

641—11.9 and 11.10 Reserved.

TRAINING PROGRAMS

641—11.11(135) Purpose. The purpose of this rule is to describe the required content of AIDS training programs and to identify the groups of personnel involved.

11.11(1) Nonemergency personnel. Within six months of their initial employment, all supervisory and patient care personnel of any agency listed below shall complete a minimum of two hours of training concerning AIDS-related conditions and the prevention of HIV infection:

- a. A licensed hospice,
- b. A homemaker-home health aide provider agency which receives state homemaker-home health aide funds, or
- c. An agency which provides respite care services and receives state funds for respite care services.

11.11(2) Content. Training programs must address the following topics:

- a. HIV disease processes,
- b. Signs and symptoms,
- c. Transmission,
- d. High-risk activities,
- e. Prevention recommendations, and
- f. Standard precautions as defined by the CDC and the Occupational Safety and Health Administration of the U.S. Department of Labor.

11.11(3) Emergency and law enforcement personnel. All emergency medical services personnel, firefighters, and law enforcement personnel shall complete a minimum of two hours of training concerning AIDS-related conditions and the prevention of HIV infection.

11.11(4) Content. Training programs must address the following topics:

- a. HIV disease processes,
- b. Signs and symptoms,
- c. Transmission,
- d. High-risk activities,
- e. Prevention recommendations, and
- f. Standard precautions as defined by the CDC and the Occupational Safety and Health Administration of the U.S. Department of Labor.

This rule is intended to implement Iowa Code section 135.11.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.12 to 11.14 Reserved.

PARTNER NOTIFICATION SERVICES AND DIRECT NOTIFICATION OF AN IDENTIFIABLE THIRD PARTY

641—11.15(139A,141A) Purpose. The purpose of rules 641—11.15(139A,141A) to 641—11.18(141A) is to establish a voluntary partner notification program, including a procedure to allow a physician or the department to notify an identifiable third party of an HIV-infected person directly that the party has been exposed to HIV when the HIV-infected person will not participate in the voluntary partner notification program.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.16(139A,141A) Definitions. For the purpose of rules 641—11.15(139A,141A) to 641—11.18(141A), the following definitions shall apply:

“Identifiable third party” means a sexual partner of or a person who shares drug injecting equipment with a person who has been diagnosed with HIV infection.

“Partner notification” means services provided to a person who has tested positive for a sexually transmitted disease or infection or to the person’s sexual or needle-sharing partners or social contacts. These services include, but are not limited to, counseling about the nature of the disease, modes of transmission, and risk reduction techniques; treatment or linkage to medical care and treatment; assessment for and referral to social or medical services; elicitation of exposed partners’ names and contact information; testing for other diseases or conditions; and provision of or referral to other prevention services.

“Significant exposure” means “significant exposure” as defined in 641—11.22(139A).

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.17(139A,141A) Partner notification services by the department.

11.17(1) The department shall maintain a partner notification program for persons known to have tested positive for sexually transmitted diseases or infections. In administering the program, the department shall provide for the following:

a. A physician or other health care provider shall encourage a person who tests positive for a sexually transmitted disease or infection to refer for counseling and testing any party with whom the newly diagnosed person has had sexual relations or has shared drug injecting equipment.

b. The physician or other health care provider attending the person who tests positive for a sexually transmitted disease or infection may provide to the department any relevant information provided by the tested person regarding any party with whom the tested person has had sexual relations or has shared drug injecting equipment.

11.17(2) When making contact with partners of a person with a sexually transmitted disease or infection, the department shall not disclose the identity of the person who provided the names of the partners and shall protect the confidentiality of the partners who are contacted.

11.17(3) The department may delegate its partner notification duties under subrule 11.17(1) for persons who have tested positive for HIV infection to a local health authority unless the authority refuses or neglects to conduct the partner notification program in a manner deemed to be effective by the department.

11.17(4) The department may delegate its partner notification duties under subrule 11.17(1) for persons who have tested positive for sexually transmitted diseases other than HIV infection to a local health authority or a physician or other health care provider unless the authority or physician or other health care provider refuses or neglects to conduct the partner notification program in a manner deemed to be effective by the department.

11.17(5) In addition to the provisions for partner notification provided under these rules and notwithstanding any provision to the contrary, a county medical examiner or deputy medical examiner performing official duties pursuant to Iowa Code sections 331.801 through 331.805 or the state medical examiner or deputy medical examiner performing official duties pursuant to Iowa Code chapter 691 who determines through an investigation that a deceased person was infected with HIV may notify

directly, or request that the department notify, the immediate family of the deceased or any person known to have had a significant exposure from the deceased of the finding.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.18(141A) Direct notification of an identifiable third party by a physician or the department.

11.18(1) Direct notification shall be used when an HIV-infected person is having continuing contact with a sexual or needle-sharing partner who is unaware of the person's infection and when both of the following situations exist:

a. A physician for the HIV-infected person is of the good-faith opinion that the nature of the continuing contact through sexual intercourse or the sharing of drug injecting equipment poses an imminent danger of HIV transmission to the third party.

b. When the physician believes in good faith that the HIV-infected person, despite strong encouragement, has not and will not warn the third party and will not participate in the voluntary partner notification program.

11.18(2) The department or a physician may reveal the identity of an HIV-infected person pursuant to this rule only to the extent necessary to protect a third party from the direct threat of transmission. Notification of a person pursuant to this rule shall be made confidentially. Nothing in this rule shall be interpreted to create a duty to warn third parties of the danger of exposure to HIV through contact with an HIV-infected person.

11.18(3) When the physician is of the good-faith opinion and belief that third-party notification should be performed, notification of a person pursuant to this rule shall be made:

a. Directly by the physician in accordance with subrules 11.18(4), 11.18(5) and 11.18(7), or

b. By the department at the request of the physician in accordance with subrules 11.18(6) and 11.18(7).

11.18(4) Notification by the physician. Prior to notification of a third party by an HIV-infected person's physician, the physician shall make reasonable efforts to inform, in writing, the HIV-infected person. The written information shall state that, due to the nature of the person's continuing contact through sexual intercourse or the sharing of drug injecting equipment with the third party and the physician's belief that the HIV-infected person, despite strong encouragement, has not and will not warn the third party and will not participate in the voluntary partner notification program, the physician is forced to take action to provide notification to the third party. The physician, when reasonably possible, shall provide the following information to the HIV-infected person:

a. The nature of the disclosure and the reason for the disclosure.

b. The anticipated date of disclosure.

c. The name of the party or parties to whom disclosure is to be made.

NOTE: Reasonable efforts to inform, in writing, the HIV-infected person shall be deemed satisfied when the physician delivers the written notice in person or directs a written notice to the HIV-infected person's last-known address by restricted certified mail, return receipt requested, at least five days prior to the anticipated date of disclosure to the third party.

11.18(5) When performed by the HIV-infected person's physician, notification of the third party and any disclosure concerning the purpose of that notification shall be made in person. However, initial contact with the third party may be made by telephone, mail, or other electronic means to arrange the meeting with the physician at the earliest opportunity to discuss an important health matter. The nature of the health matter to be discussed shall not be revealed in the telephone call, letter, or other electronic message.

11.18(6) Notification by the department.

a. The physician attending the HIV-infected person shall provide by telephone to the department any relevant information provided by the HIV-infected person regarding any party with whom the HIV-infected person has had sexual relations or has shared drug injecting equipment. The information may include the third party's name, address, telephone number, and any other locating information

known to the physician. The department shall use the information in accordance with procedures established for the voluntary partner notification program.

b. Notification of the third party and any disclosure concerning the purpose of that notification shall be made in person. However, initial contact with the third party may be made by telephone, mail, or other electronic means to arrange the meeting with the department representative. The nature of the matter to be discussed shall not be revealed in the telephone call, letter, or other electronic message.

11.18(7) Confidentiality. The HIV-infected person's physician and the department shall protect the confidentiality of the third party and the HIV-infected person. The identity of the HIV-infected person shall remain confidential unless it is necessary to reveal it to the third party so that the third party may avoid exposure to HIV. If the identity of the HIV-infected person is revealed, the third party shall be presented with a statement in writing at the time of disclosure which includes the following or substantially similar language: "Confidential information revealing the identity of a person infected with HIV has been disclosed to you. The confidentiality of this information is protected by state law. State law prohibits you from making any further disclosure of the information without the specific written consent of the person to whom it pertains. Any breach of the required confidential treatment of this information subjects you to legal action and civil liability for monetary damages. A general authorization for the release of medical or other information is not sufficient for this purpose."

11.18(8) Immunity. A health care provider attending an HIV-infected person has no duty to disclose to or to warn third parties of the dangers of exposure to HIV through contact with the HIV-infected person and is immune from any liability, civil or criminal, for failure to disclose to or warn third parties of the condition of the HIV-infected person.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

Rules 641—11.15(139A,141A) to 641—11.18(141A) are intended to implement Iowa Code sections 139A.33 and 141A.5.

641—11.19 and 11.20 Reserved.

CARE PROVIDERS EXPOSED TO CONTAGIOUS OR INFECTIOUS DISEASES

641—11.21(139A) Purpose. The purpose of these rules is to implement Iowa Code section 139A.19, relating to care providers who are exposed to contagious or infectious diseases.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.22(139A) Definitions. For the purpose of rules 641—11.21(139A) to 641—11.26(139A), the following definitions shall apply:

"*AIDS*" means acquired immune deficiency syndrome as defined by CDC.

"*Blood-borne viral hepatitis*" means hepatitis B or hepatitis C.

"*Care provider*" means an individual who is trained and authorized by federal or state law to provide health care services or services of any kind in the course of the individual's official duties, for compensation or in a voluntary capacity, who is a health care provider, emergency medical care provider as defined in Iowa Code section 147A.1, firefighter, or peace officer. "Care provider" also means an individual who renders emergency care or assistance in an emergency or due to an accident as described in Iowa Code section 613.17.

"*CDC*" means the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

"*Certification of a significant exposure report*" means the determination by an authorized infection preventionist, occupational health professional, or other personnel trained in infection control or infectious disease medicine and designated by a facility to review significant exposure reports that the incident described by the exposed care provider meets the definition of a significant exposure as defined in this rule.

"*Contagious or infectious disease*" means blood-borne viral hepatitis, meningococcal disease, AIDS or HIV, tuberculosis, and any other disease determined to be life-threatening to a person exposed to the

disease as established by the department based upon a determination by the state epidemiologist and in accordance with guidelines from CDC.

“Department of corrections” means the Iowa department of corrections.

“Designated representative” means a person who is designated by a department, agency, division, or service organization to act on behalf of the exposed care provider as a liaison with the facility that received the source patient when the exposure occurred in the field or during patient transport.

“Exposure” means a specific eye, mouth, other mucous membrane, nonintact skin, or parenteral contact with blood or other potentially infectious bodily fluids.

“HBV” means hepatitis B virus.

“Health care facility” means a health care facility as defined in Iowa Code section 135C.1, an ambulatory surgical center, or a clinic.

“Health care provider” means a person licensed to practice medicine and surgery, osteopathic medicine and surgery, chiropractic, podiatry, nursing, dentistry, optometry, or as a physician assistant, dental hygienist, or acupuncturist.

“HIV” means the human immunodeficiency virus identified as the causative agent of AIDS.

“Home health services” means health care services provided by a care provider in a patient’s home or other residence.

“Infectious bodily fluids” means bodily fluids capable of transmitting HIV as listed in “Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health-Care and Public-Safety Workers,” found in Morbidity and Mortality Weekly Report, dated June 23, 1989, Volume 38, Number S-6, published by the U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control, Atlanta, Georgia 30333, or subsequent CDC statements on this topic. To prevent HIV and blood-borne viral hepatitis disease transmission, this reference indicates that standard precautions should be followed for exposure to the following infectious bodily fluids: blood, amniotic fluid, pericardial fluid, peritoneal fluid, pleural fluid, synovial fluid, cerebrospinal fluid, semen, vaginal secretions, and saliva contaminated with blood. HIV and blood-borne viral hepatitis disease transmission has not occurred from feces, nasal secretions, sputum, sweat, tears, urine, vomitus, and saliva when it is not contaminated with blood.

“Respite care services” means health care services provided by a care provider in a patient’s home or other residence on a short-term, temporary basis as relief to those who are caring for family members.

“Significant exposure” means a situation in which there is a risk of contracting disease through exposure to a patient’s infectious bodily fluids in a manner capable of transmitting an infectious agent as determined by CDC. Exposure includes contact with blood or other infectious bodily fluids to which standard precautions apply through percutaneous inoculation or contact with an open wound, nonintact skin, or mucous membranes during the performance of normal job duties. Significant exposures include:

1. Transmission of blood, bloody fluids, or other infectious bodily fluids of the source patient onto a mucous membrane (mouth, nose, or eyes) of the care provider.
2. Transmission of blood, bloody fluids, or other infectious bodily fluids of the source patient onto an open wound or lesion with significant breakdown in the skin barrier, including a needle puncture with a needle contaminated with blood, bloody fluids, or other infectious bodily fluids.

“Significant exposure report” means the Report of Exposure to HIV or Other Infectious Disease form provided by the department. This is the only form authorized to be used to document a significant exposure to infectious bodily fluids such that the source patient is deemed to consent to a test to determine if the patient has a contagious or infectious disease, and is deemed to consent to notification of the care provider of the results of the test, pursuant to Iowa Code section 139A.19.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.23(139A,141A) Exposures in non-clinical settings.

11.23(1) If a care provider sustains a significant exposure from a patient while rendering health care or other services, other than home-health or respite care services, outside of a health care facility or hospital, the care provider shall file a significant exposure report as soon as reasonably possible following the exposure. When the exposure occurred outside a clinical setting, a care provider who has sustained

a significant exposure should file this report with the infection control, occupational health, or other designated office of the facility to which the patient was transported.

11.23(2) The source patient to whom the care provider was exposed is deemed to consent to a test to determine if the patient has a contagious or infectious disease and is deemed to consent to notification of the care provider or the designated representative of the results of the test, upon submission of a significant exposure report and certification of the significant exposure by an authorized infection preventionist, occupational health professional, or other professional trained in infectious disease control. No further consent from the source patient is required. However, the source patient shall be notified that an exposure has occurred and shall be told which specific tests are being performed to determine the presence of contagious or infectious diseases. If the source patient is a minor, the minor shall be informed prior to an HIV-related test that, upon positive confirmation of an HIV-related test result, the minor's legal guardian shall be informed of the positive result, pursuant to Iowa Code section 141A.7(3).

11.23(3) Hospitals, clinics, or other health care facilities, institutions administered by the department of corrections, and jails shall have written policies and procedures for reviewing and certifying significant exposure report forms, testing a source patient, and notifying a care provider who sustained a significant exposure while rendering health care services or other services to the source patient when the source patient is delivered to the facility and the exposure occurred prior to the delivery. The policies and procedures shall include the possibility for the care provider to designate a representative to whom notification shall be provided and who shall, in turn, notify the care provider. The identity of the designated representative of the care provider shall not be revealed to the source patient. The designated representative shall inform the hospital, clinic, or other health care facility, institution administered by the department of corrections, or jail of those parties who received the notification and, following receipt of this information and upon request of the source patient, the hospital, clinic, or other health care facility, institution administered by the department of corrections, or jail shall inform the source patient of the parties to whom notification was provided.

11.23(4) The hospital, clinic, or other health care facility to whom the source patient is delivered shall conduct the test. If the source patient is delivered to an institution administered by the department of corrections, the test shall be conducted by the staff physician of the institution. If the source patient is delivered to a jail, the test shall be conducted by the attending physician of the jail or the county medical examiner. If the source patient was deemed to consent upon certification of a significant exposure report, the sample and test results shall only be identified by a number.

11.23(5) If a test result is positive, the hospital, clinic, or other health care facility, or other person performing the test shall notify the source patient and make any required reports to the department pursuant to Iowa Code sections 139A.3 and 141A.6. The report to the department shall include the name of the source patient.

11.23(6) If a source patient is diagnosed or confirmed as having a contagious or infectious disease, the hospital, clinic, or other health care facility, or other person performing the test shall notify the care provider or the designated representative of the care provider who shall then notify the care provider. If the source patient is a minor and is diagnosed with HIV infection, the hospital, clinic, or other health care facility, or other person performing the test shall notify the legal guardian of the minor.

11.23(7) The notification shall advise the care provider of possible exposure to a particular contagious or infectious disease and recommend that the provider seek medical attention. The notification shall be provided as soon as reasonably possible following determination that the source patient has a contagious or infectious disease. The notification shall not include the name of the source patient unless the patient consents. If the care provider who sustained a significant exposure determines the identity of a source patient who has been diagnosed or confirmed as having a contagious or infectious disease, the identity of the source patient shall be confidential information and shall not be disclosed by the care provider to any other person unless a specific written release is obtained from the source patient.

11.23(8) This rule does not preclude a hospital, clinic, other health care facility, or a health care provider from providing notification to a care provider under circumstances in which the hospital's,

clinic's, other health care facility's, or health care provider's policy provides for notification of the hospital's, clinic's, other health care facility's, or health care provider's own employees of exposure to a contagious or infectious disease that is not life-threatening if the notice does not reveal a source patient's name, unless the patient consents.

11.23(9) The infection control, occupational health, or other designated office of the facility shall maintain a record of all significant exposure reports it receives and shall retain each report for a period of five years.

11.23(10) The report form "Report of Exposure to HIV or Other Infectious Disease" is a confidential record pursuant to Iowa Code section 141A.9.

11.23(11) The employer of a care provider who sustained a significant exposure shall pay the cost of testing for the source patient and for the testing of the care provider, if the significant exposure was sustained during the course of employment. However, the department shall assist a source patient and an exposed care provider in finding resources to pay for the costs of the testing when a care provider was exposed while rendering direct aid without compensation.

11.23(12) A hospital's, clinic's, other health care facility's, or health care provider's duty to notify under these rules is not continuing. It is limited to the diagnosis of a contagious or infectious disease made in the course of admission, care, and treatment following the rendering of health care services or other services to a patient who was the source of the significant exposure.

11.23(13) Notwithstanding subrule 11.23(12), the hospital, clinic, or other health care facility may notify the exposed care provider if, following discharge from or completion of care or treatment by the hospital, clinic, or other health care facility, the patient who was the source of the significant exposure, and for whom a significant exposure report was submitted that did not result in notification of the exposed care provider, wishes to provide information regarding the source patient's contagious or infectious disease status to the exposed care provider.

11.23(14) Notwithstanding any other provision of law to the contrary, a care provider may transmit cautions regarding contagious or infectious disease information, with the exception of AIDS or HIV pursuant to Iowa Code section 80.9B, in the course of the care provider's duties over the police radio broadcasting system under Iowa Code chapter 693 or any other radio-based communications system if the information transmitted does not personally identify an individual.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.24(139A,141A) Exposures in clinical settings.

11.24(1) If a care provider sustains a significant exposure from a patient while rendering health care services or other services within a hospital, clinic, or other health care facility, or while delivering home-health or respite care services, the care provider shall file a report as soon as reasonably possible following the exposure. A care provider who has sustained a significant exposure should file the report with the infection control, occupational health, or other office designated by the facility in which the exposure occurred, or by the facility which has oversight for the delivery of home-health or respite care services.

a. If a general consent form was signed and in effect at the time of the significant exposure and the source patient is an adult, a significant exposure report form shall not be required to document the significant exposure. The health care facility or hospital may use an employee incident report or other similar form for this purpose. The source patient to whom the care provider was exposed is deemed to consent to a test to determine if the patient has a contagious or infectious disease and is deemed to consent to notification of the care provider or the designated representative of the results of the test, upon submission and review of an employee incident report and certification of the significant exposure by an authorized infection preventionist, occupational health professional, or other professional trained in infectious disease control. No further consent from the source patient is required. However, a source patient shall be notified that an exposure has occurred and shall be told which specific tests are being performed. Prior to conducting an HIV-related test, the health care facility or hospital shall provide information to the source patient concerning testing and a means of obtaining additional information regarding HIV infection and risk reduction pursuant to Iowa Code section 141A.6.

b. If no consent form was signed or in effect at the time of the exposure, or if the source patient is a minor, the source patient is deemed to consent to a test to determine if the patient has a contagious or infectious disease and is deemed to consent to notification of the care provider or the designated representative of the results of the test upon submission of a significant exposure report form and certification of the significant exposure by an authorized infection preventionist, occupational health professional, or other professional trained in infectious disease control. Source patients shall be notified that an exposure has occurred and shall be told which specific tests are being performed to determine the presence of contagious or infectious diseases. If the source patient is a minor, the minor shall be informed prior to an HIV-related test that, upon positive confirmation of an HIV-related test result, the minor's legal guardian shall be informed of the positive result, pursuant to Iowa Code section 141A.7(3).

11.24(2) Hospitals, clinics, or other health care facilities, institutions administered by the department of corrections, and jails shall have written policies and procedures for reviewing and certifying significant exposure report forms or other employee incident report forms, testing a source patient, and notifying a care provider who sustained a significant exposure while rendering health care services or other services to a patient during the admission, care, or treatment of the patient at the facility, or while delivering home-health or respite care services.

11.24(3) The hospital, clinic, or other health care facility where exposure occurred or which has oversight for the delivery of home-health or respite care services shall conduct the test. If a general consent form was signed and in effect and the source patient is an adult, the sample and test results shall be identified by name. If the source patient was deemed to consent to a test and to notification of the care provider upon certification of a significant exposure report pursuant to subrule 11.24(1) because no general consent was signed and in effect at the time of the exposure or because the source patient is a minor, the sample and test results shall be identified only by a number.

11.24(4) If a test result is positive, the hospital, clinic, or other health care facility or other person performing the test shall notify the source patient and make any required reports to the department pursuant to Iowa Code sections 139A.3 and 141A.6. The reports to the department shall include the name of the source patient.

11.24(5) If a source patient is diagnosed or confirmed as having a contagious or infectious disease, the hospital, clinic, or other health care facility or other person performing the test shall notify the care provider or the designated representative of the care provider who shall then notify the care provider. If the source patient is a minor and is diagnosed with HIV infection, the hospital, clinic, or other health care facility or other person performing the test shall notify the legal guardian of the minor.

11.24(6) The notification shall advise the care provider of possible exposure to a particular contagious or infectious disease and recommend that the provider seek medical attention. The notification shall be provided as soon as reasonably possible following determination that the source patient has a contagious or infectious disease.

11.24(7) This rule does not preclude a hospital, clinic, other health care facility, or a health care provider from providing notification to a care provider under circumstances in which the hospital's, clinic's, other health care facility's, or health care provider's policy provides for notification of the hospital's, clinic's, other health care facility's, or health care provider's own employees of exposure to a contagious or infectious disease that is not life-threatening if the notice does not reveal a source patient's name, unless the patient consents.

11.24(8) The infection control, occupational health, or other designated office of the facility shall maintain a record of all significant exposure reports it receives and shall retain each report for a period of five years.

11.24(9) The report form "Report of Exposure to HIV or Other Infectious Disease" is a confidential record pursuant to Iowa Code section 141A.9.

11.24(10) The employer of a care provider who sustained a significant exposure shall pay the cost of testing for the source patient and for the testing of the care provider, if the significant exposure was sustained during the course of employment.

11.24(11) A hospital's, clinic's, other health care facility's, or health care provider's duty to notify under these rules is not continuing. It is limited to the diagnosis of a contagious or infectious disease made in the course of admission, care, and treatment following the rendering of health care services or other services to the patient who was the source of the significant exposure.

11.24(12) Notwithstanding subrule 11.24(11), the hospital, clinic, or other health care facility may notify the exposed care provider if, following discharge from or completion of care or treatment by the hospital, clinic, or other health care facility, the patient who was the source of the significant exposure, and for whom a significant exposure report was submitted that did not result in notification of the exposed care provider, wishes to provide information regarding the source patient's contagious or infectious disease status to the exposed care provider.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.25(139A) Immunity. Hospitals, clinics, health care providers, or other persons participating in good faith in complying with provisions authorized or required under these rules are immune from any liability, civil or criminal, which may otherwise be incurred or imposed.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.26(139A) Duty to test. A hospital, clinic, other health care facility, health care provider, or other person who is authorized to perform a test under these rules has no duty to perform the test authorized.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

Rules 641—11.21(139A) to 641—11.26(139A) are intended to implement Iowa Code section 139A.19.

641—11.27 to 11.29 Reserved.

HIV-RELATED TEST FOR CONVICTED OR ALLEGED SEXUAL-ASSAULT OFFENDERS AND VICTIMS

641—11.30(915) Purpose. The purpose of these rules is to describe procedures to follow for testing of a convicted or alleged offender for HIV pursuant to Iowa Code chapter 915, and to establish procedures to follow for providing counseling, health care, and support services to the victim.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.31(915) Definitions. For the purpose of rules 641—11.30(915) to 641—11.34(915), the following definitions shall apply:

"AIDS" means acquired immune deficiency syndrome as defined by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

"Alleged offender" means a person who has been charged with the commission of a sexual assault or a juvenile who has been charged in juvenile court with being a delinquent as a result of actions that would constitute a sexual assault.

"Authorized representative" means an individual who is authorized by the victim to request an HIV-related test of a convicted or alleged offender and who is any of the following:

1. The parent, guardian, or custodian of the victim if the victim is a minor.
2. The physician of the victim.
3. The victim counselor or person requested by the victim who is authorized to provide the counseling regarding the HIV-related test and results.

4. The victim's spouse.

5. The victim's legal counsel.

"Convicted offender" means a person convicted of a sexual assault or a juvenile who has been adjudicated delinquent for an act of sexual assault.

"Department" means the Iowa department of public health.

"Department of corrections" means the Iowa department of corrections.

"Division" means the crime victim assistance division of the office of the attorney general.

"HIV" means the human immunodeficiency virus identified as the causative agent of AIDS.

“*HIV-related test*” means a diagnostic test conducted by a laboratory approved pursuant to CLIA for determining the presence of HIV or antibodies to HIV.

“*Petitioner*” means a person who is the victim of a sexual assault which resulted in alleged significant exposure, or the parent, guardian, or custodian of a victim if the victim is a minor, for whom the county attorney files a petition with the district court to require the convicted offender to undergo an HIV-related test.

“*Sexual assault*” means sexual abuse as defined in Iowa Code section 709.1, or any other sexual offense by which a victim has allegedly had sufficient contact with a convicted or an alleged offender to be deemed a significant exposure.

“*Significant exposure*” means contact of the victim’s ruptured or broken skin or mucous membranes with the blood or bodily fluids, other than tears, saliva, or perspiration, of the convicted or alleged offender. “Significant exposure” is presumed to have occurred when there is a showing that there was penetration of the convicted or alleged offender’s penis into the victim’s vagina or anus, contact between the mouth and genitalia, or contact between the genitalia of the convicted or alleged offender and the genitalia or anus of the victim.

“*Victim*” means a petitioner or a person who is the victim of a sexual assault which resulted in significant exposure, or the parent, guardian, or custodian of such a victim if the victim is a minor, for whom the victim or the peace officer files an application for a search warrant to require the alleged offender to undergo an HIV-related test. “Victim” includes an alleged victim.

“*Victim counselor*” means a person who is engaged by a crime victim center as defined in Iowa Code section 915.20A, who is certified as a counselor by the crime victim center, and who has completed at least 20 hours of training provided by the Iowa coalition against sexual assault or a similar agency.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.32(915) HIV-related test—convicted or alleged sexual assault offender.

11.32(1) Unless a petitioner chooses to be represented by private counsel, the county attorney shall represent the victim’s interest in all proceedings under Iowa Code chapter 915.

11.32(2) If a person is convicted of sexual assault or adjudicated delinquent for an act of sexual assault, the county attorney, if requested by the petitioner, shall petition the court for an order requiring the convicted offender to submit to an HIV-related test, provided that all of the following conditions are met:

a. The sexual assault for which the offender was convicted or adjudicated delinquent included sufficient contact between the victim and the convicted offender to be deemed a significant exposure pursuant to 641—11.31(915).

b. The authorized representative of the petitioner, the county attorney, or the court sought to obtain written informed consent to the testing from the convicted offender.

c. Written informed consent was not provided by the convicted offender.

11.32(3) If a person is an alleged offender, the county attorney, if requested by the victim, shall make application to the court for the issuance of a search warrant, in accordance with Iowa Code chapter 808, for the purpose of requiring the alleged offender to submit to an HIV-related test, if all of the following conditions are met:

a. The application states that the victim believes that the sexual assault for which the alleged offender is charged included sufficient contact between the victim and the alleged offender to be deemed a significant exposure pursuant to 641—11.31(915) and states the factual basis for the belief that a significant exposure exists.

b. The authorized representative of the victim, the county attorney, or the court sought to obtain written informed consent to the testing from the alleged offender.

c. Written informed consent was not provided by the alleged offender.

11.32(4) Upon receipt of the petition or application, the court shall:

a. Prior to the scheduling of a hearing, refer the victim for counseling by a victim counselor or a person requested by the victim who is authorized to provide the counseling regarding the nature,

reliability and significance of the HIV-related test and of any test results of the convicted or alleged offender.

b. Schedule a hearing to be held as soon as is practicable.

c. Cause written notice to be served on the convicted or alleged offender who is the subject of the proceeding, in accordance with the Iowa Rules of Civil Procedure relating to the service of original notice, or if the convicted or alleged offender is represented by legal counsel, provide written notice to the convicted or alleged offender and the convicted or alleged offender's legal counsel.

d. Provide for the appointment of legal counsel for a convicted or alleged offender if the convicted or alleged offender desires but is financially unable to employ counsel.

e. Furnish legal counsel with copies of the petition or application, written informed consent, if obtained, and copies of all other documents related to the petition or application, including, but not limited to, the charges and orders.

11.32(5) A hearing under this rule shall be conducted in an informal manner consistent with orderly procedure and in accordance with the Iowa Rules of Evidence.

a. The hearing shall be limited in scope to the review of questions of fact only as to the issue of whether the sexual assault for which the offender was convicted or adjudicated delinquent or for which the alleged offender was charged provided sufficient contact between the victim and the convicted or alleged offender to be deemed a significant exposure, and to questions of law.

b. In determining whether the contact should be deemed a significant exposure for a convicted offender, the court shall base the determination on the testimony presented during the proceedings on the sexual assault charge, the minutes of the testimony or other evidence included in the court record, or if a plea of guilty was entered, based upon the complaint or upon testimony provided during the hearing. In determining whether the contact should be deemed a significant exposure for an alleged offender, the court shall base the determination on the application and the factual basis provided in the application for the belief of the applicant that a significant exposure exists.

c. The victim may testify at the hearing, but shall not be compelled to testify. The court shall not consider the refusal of a victim to testify at the hearing as material to the court's decision regarding issuance of an order or search warrant requiring testing.

d. The hearing shall be in camera unless the convicted or alleged offender and the petitioner or victim agree to a hearing in open court and the court approves. The report of the hearing proceedings shall be sealed and no report of the proceeding shall be released to the public, except with the permission of all parties and the approval of the court.

e. Stenographic notes or electronic or mechanical recording shall be taken of all court hearings unless waived by the parties.

11.32(6) Following the hearing, the court shall require a convicted or alleged offender to undergo an HIV-related test only if the petitioner or victim proves all of the following by a preponderance of evidence.

a. The sexual assault constituted a significant exposure.

b. An authorized representative of the petitioner or victim, the county attorney, or the court sought to obtain written informed consent from the convicted or alleged offender.

c. Written informed consent was not provided by the convicted or alleged offender.

11.32(7) A convicted or alleged offender who is required to undergo an HIV-related test may appeal to the court for review of questions of law only, but may appeal questions of fact if the findings of fact are clearly erroneous.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.33(915) Medical examination costs. The cost of a medical examination for the purpose of gathering evidence and the cost of treatment for the purpose of preventing venereal disease shall be paid from the victim compensation fund as established in Iowa Code chapter 915. Information is available from the department of justice, crime victim assistance program, telephone (515)281-5044.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.34(915) Testing, reporting, and counseling—penalties.

11.34(1) The physician or other practitioner who orders the testing for HIV of a convicted or alleged offender under Iowa Code chapter 915 shall disclose the results of the test to the convicted or alleged offender and to the victim counselor or a person requested by the victim who is authorized to provide the counseling regarding the HIV-related test and results, who shall disclose the results to the petitioner.

11.34(2) Prior to ordering an HIV-related test on a convicted or alleged offender, the physician or practitioner shall provide information to the subject of the test concerning testing and where to obtain additional information on HIV transmission and risk reduction, pursuant to Iowa Code section 141A.6. The department may be contacted for brochures that may assist in meeting the requirements of Iowa Code section 141A.6.

11.34(3) At any time that the subject of an HIV-related test is informed of confirmed positive test results, the physician or other practitioner who ordered the test shall initiate counseling concerning the emotional and physical health effects of HIV infection, as required under Iowa Code section 141A.7, and shall make any required reports to the department pursuant to Iowa Code section 141A.6.

a. The physician or other practitioner shall encourage an HIV-infected person to participate in the voluntary partner notification program pursuant to rule 641—11.17(139A,141A).

b. The physician or other practitioner may provide to the department any relevant information provided by the HIV-infected person regarding any party with whom the HIV-infected person has had sexual relations or has shared drug injecting equipment.

11.34(4) Subsequent testing arising out of the same incident of exposure shall be conducted in accordance with the procedural and confidentiality requirements of 641—11.30(915) to 641—11.34(915).

11.34(5) Results of a test performed under 641—11.30(915) to 641—11.34(915), except as provided in subrule 11.34(6), shall be disclosed only to the physician or other practitioner who ordered the test of the convicted or alleged offender; the convicted or alleged offender; the victim, the victim counselor or person requested by the victim who is authorized to provide the counseling regarding the HIV-related test and results; the physician of the victim if requested by the victim; the parent, guardian, or custodian of the victim, if the victim is a minor; and the county attorney who filed the petition for the HIV-related testing under 641—11.30(915) to 641—11.34(915), who may use the results to file charges of criminal transmission of HIV. Results of a test performed under these rules shall not be disclosed to any other person without the written informed consent of the convicted or alleged offender. A person to whom the results of a test have been disclosed under 641—11.30(915) to 641—11.34(915) is subject to the confidentiality provision of Iowa Code section 141A.9, and shall not disclose the results to another person except as authorized by Iowa Code section 141A.9.

11.34(6) If HIV-related testing is ordered under 641—11.30(915) to 641—11.34(915), the court shall also order periodic testing of the convicted offender during the period of incarceration, probation, or parole or of the alleged offender during a period of six months following the initial test if the physician or other practitioner who ordered the initial test of the convicted or alleged offender certifies that, based upon prevailing scientific opinion regarding the maximum period during which the results of an HIV-related test may be negative for a person after being HIV-infected, additional testing is necessary to determine whether the convicted or alleged offender was HIV-infected at the time the sexual assault or alleged sexual assault was perpetrated. The results of the subsequent periodic tests conducted pursuant to subrule 11.34(6) shall be released only to the physician or other practitioner who ordered the test of the convicted or alleged offender; the convicted or alleged offender; the victim counselor or person requested by the victim to provide the counseling regarding the HIV-related test and results, who shall disclose the results to the petitioner; the physician of the victim if requested by the victim; and the county attorney, who may use the results as evidence in the prosecution of the sexual assault or in the prosecution of the offense of criminal transmission of HIV.

11.34(7) The court shall not consider the disclosure of an alleged offender's serologic status to an alleged victim, prior to conviction, as a basis for a reduced plea or reduced sentence.

11.34(8) The fact that HIV-related tests were performed under 641—11.30(915) to 641—11.34(915) and the results of the tests shall not be included in the convicted offender's medical or criminal record unless otherwise included in department of corrections records.

11.34(9) The fact that HIV-related tests were performed under 641—11.30(915) to 641—11.34(915) and the results of the tests shall not be used as a basis for further prosecution of a convicted offender in relation to the incident which is the subject of the testing, to enhance punishments, or to influence sentencing.

11.34(10) If the serologic status of a convicted offender, which is conveyed to the victim, is based upon an HIV-related test other than a test which is authorized as a result of the procedures established in 641—11.30(915) to 641—11.34(915), legal protections which attach to such testing shall be the same as those which attach to an initial test under 641—11.30(915) to 641—11.34(915), and the rights to a predischarge hearing and to appeal provided under Iowa Code chapter 915 shall apply.

11.34(11) HIV-related testing required under 641—11.30(915) to 641—11.34(915) shall be conducted by the state hygienic laboratory.

11.34(12) Notwithstanding the provision of these rules requiring initial testing, if a petition is filed with the court under Iowa Code section 915.42 requesting an order for testing and the order is granted, and if a test has previously been performed on the convicted offender while under the control of the department of corrections, the test results shall be provided in lieu of the performance of an initial test of the convicted offender, in accordance with 641—11.30(915) to 641—11.34(915).

11.34(13) Test results shall not be disclosed to a convicted offender who elects against disclosure.

11.34(14) In addition to the counseling received by a victim, referral to appropriate health care and support services shall be provided.

11.34(15) In addition to persons to whom disclosure of the results of a convicted or alleged offender's HIV-related test results is authorized under these rules, the victim may also disclose the results to the victim's spouse, persons with whom the victim has engaged in vaginal, anal, or oral intercourse subsequent to the sexual assault, or members of the victim's family within the third degree of consanguinity.

11.34(16) A person to whom disclosure of a convicted offender's HIV-related test results is authorized under these rules shall not disclose the results to any other person for whom disclosure is not authorized under these rules. A person who intentionally or recklessly makes an unauthorized disclosure in violation of this subrule is subject to a civil penalty of \$1,000. The attorney general or the attorney general's designee may maintain a civil action to enforce these rules. Proceedings maintained under this subrule shall provide for the anonymity of the tested subject, and all documentation shall be maintained in a confidential manner.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

Rules 641—11.30(915) to 641—11.34(915) are intended to implement Iowa Code sections 915.40 to 915.43.

641—11.35 to 11.39 Reserved.

AIDS DRUG ASSISTANCE PROGRAM (ADAP)

641—11.40(141A) Definitions. For purposes of rules 641—11.40(141A) to 641—11.49(141A), the following definitions shall apply:

"ADAP advisory committee" means the committee appointed by the bureau of HIV, STD, and hepatitis to provide advice and technical assistance to the department regarding ADAP.

"ADAP formulary" means the list of drugs approved for use in ADAP by the bureau upon recommendation of the ADAP advisory committee.

"AIDS" means acquired immune deficiency syndrome as defined by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services.

“AIDS drug assistance program” or *“ADAP”* means the Iowa AIDS drug assistance program administered by the bureau of HIV, STD, and hepatitis within the department and includes two components, the medication assistance program and the health insurance assistance program.

“Bureau” means the bureau of HIV, STD, and hepatitis within the department.

“Deductible” means an amount of money that an insured person must pay out of pocket before any benefits from the health insurance policy can be used.

“Department” means the Iowa department of public health.

“Director” means the director of the Iowa department of public health.

“Health insurance assistance program” means a component of ADAP that purchases health insurance and pays insurance premiums, copayments for medications, and deductibles for eligible enrollees in ADAP.

“HIV” means the human immunodeficiency virus identified as the causative agent of AIDS.

“Household” means a group of individuals residing together who are related by birth, marriage, or adoption; or an individual who does not reside with any other individual to whom the individual is related by birth, marriage, or adoption.

“Medication assistance program” means a component of ADAP that provides medications directly to eligible enrollees in ADAP.

“Modified adjusted gross income” or *“MAGI”* means the calculation of income based upon applicable Internal Revenue Code and regulations of the Centers for Medicare and Medicaid Services of the U.S. Department of Health and Human Services.

“Payer of last resort” means a requirement to coordinate services and seek payment from all other sources before Ryan White funds are used.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.41(141A) Purpose. The AIDS drug assistance program is a state-administered program that provides certain HIV/AIDS medications to eligible low-income individuals diagnosed with HIV if adequate funding is available for administration of the program. There are two components to the Iowa AIDS drug assistance program: the medication assistance program and the health insurance assistance program. The AIDS drug assistance program is authorized under Part B of Title XXVI of the Public Health Service (PHS) Act, as amended by the Ryan White HIV/AIDS Treatment Extension Act of 2009 (Public Law 111-87). This legislation requires that the Ryan White program, including the AIDS drug assistance program, be the payer of last resort for HIV-related services. ADAP is not an entitlement program and does not create a right to assistance. In the event that funding is exhausted or terminated or there are changes in state or federal guidelines, programs, or regulations that impact funding available to ADAP, the department reserves the right to close enrollment, cease to provide medication assistance or health insurance assistance, or alter eligibility criteria until such time that funding is again sufficient.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.42(141A) Ensuring payer of last resort. To ensure that ADAP is the payer of last resort, the Iowa Medicaid enterprise shall grant the department access to client information for persons enrolled in Medicaid.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.43(141A) Eligibility requirements.

11.43(1) An applicant is eligible to participate in the ADAP medication assistance program if the applicant:

- a. Applies for enrollment in ADAP on a form provided by the department;
- b. Has no health insurance to cover the cost of the drugs that are or may become available from ADAP;
- c. Is currently being prescribed a drug on the ADAP formulary;
- d. Has an annual MAGI that is less than or equal to 200 percent of the poverty level as determined by the most recent federal poverty guidelines published annually by the U.S. Department of Health and

Human Services for the size of the household (this income shall be determined after a \$500 work-related allowance is deducted from the monthly salary of an employed person with HIV/AIDS);

e. Has a medical diagnosis of HIV infection or AIDS or is an unborn infant or an infant under 18 months of age who has an HIV-infected mother; and

f. Is a resident of Iowa.

11.43(2) An applicant is eligible to participate in the ADAP health insurance assistance program if the applicant:

a. Applies for enrollment in ADAP on a form provided by the department;

b. Has creditable health insurance coverage;

c. Is currently being prescribed a drug on the ADAP formulary;

d. Has an annual MAGI that is less than or equal to 400 percent of the poverty level as determined by the most recent federal poverty guidelines published annually by the U.S. Department of Health and Human Services for the size of the household;

e. Has a medical diagnosis of HIV infection or AIDS or is an unborn infant or an infant under 18 months of age who has an HIV-infected mother; and

f. Is a resident of Iowa.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.44(141A) Enrollment process.

11.44(1) The department shall review each completed application and shall determine enrollment based upon applicant eligibility, the date on which the application was completed, and the availability of funds. When the department determines that an applicant is eligible for enrollment, the applicant may be enrolled for six months commencing with the date of the determination or may be enrolled for a shorter time period at the discretion of the department.

11.44(2) An applicant shall provide the department with all requested information and shall execute any consent forms or releases of information necessary for the department to verify eligibility.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.45(141A) Discontinuation of services.

11.45(1) The department shall review eligibility semiannually after enrollment unless one of the following events occurs within the six-month period to end eligibility:

a. The enrolled individual dies;

b. The enrolled individual is determined eligible and enrolled to fully receive medical services through a third-party payer and is able to fully pay the insurance deductibles and copayments;

c. The enrolled individual's annual MAGI increases to an amount above the respective ADAP component's income guidelines;

d. The enrolled individual establishes residency outside the state of Iowa;

e. The enrolled individual does not request drugs over a 90-day period; or

f. The enrolled individual is placed in an institution such as a nursing home, state prison, or jail for more than 30 days.

11.45(2) An applicant must submit renewal documentation on a semiannual basis, accompanied by all information requested by the department.

[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.46(141A) Distribution requirements.

11.46(1) Enrolled individuals shall be eligible to receive financial assistance only for drugs that:

a. Have received Food and Drug Administration approval to treat HIV or prevent the deterioration of health due to HIV, coinfections, or opportunistic infections; and

b. Are on the ADAP formulary.

11.46(2) The primary care provider shall write each drug prescription for an applicant or enrolled individual.

11.46(3) The enrolled individual must obtain the approved drug from the department's contracted pharmacy unless an exception to this requirement is granted by the department.
[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.47(141A) ADAP waiting list.

11.47(1) If an applicant is eligible for ADAP and sufficient funds are available to provide services to the applicant, the department shall enroll the applicant. If the applicant is eligible for ADAP and sufficient funds are not available to provide services to the applicant, the department shall place the applicant's name on the ADAP waiting list in the order provided for in this rule.

11.47(2) The department shall place names on the waiting list in chronological order based upon the date of receipt of a completed application by the department.

11.47(3) To verify that applicants on the waiting list continue to meet ADAP eligibility requirements, the department shall require applicants on the waiting list to submit reapplication forms semiannually.

11.47(4) The department shall remove applicants from the waiting list in the chronological order in which their completed applications were approved, provided all updates were received by the department.
[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.48(141A) Appeals. The department shall cause an applicant to be notified of the department's decision to approve or deny an application or to place an applicant on the ADAP waiting list. In the event an applicant is dissatisfied with the department's decision, the applicant may submit a formal appeal in writing to the ADAP advisory committee. Such request shall be delivered in person or shall be mailed by certified mail, return receipt requested, to ADAP Advisory Committee, Iowa Department of Public Health, Lucas State Office Building, 321 E. 12th Street, Des Moines, Iowa 50319. Upon receipt of such an appeal, the ADAP advisory committee shall review the case and issue a written determination within 15 days of receipt of the request. The decision shall refer to the applicant by initials or other nonidentifying means. The ADAP advisory committee's decision shall be final and binding. This appeal process does not constitute a contested case proceeding as defined in Iowa Code chapter 17A.
[ARC 1215C, IAB 12/11/13, effective 1/15/14]

641—11.49(141A) Confidentiality. The ADAP application and all information received or maintained by the department in connection with ADAP shall be considered confidential information in accordance with Iowa Code section 141A.9.
[ARC 1215C, IAB 12/11/13, effective 1/15/14]

Rules 641—11.40(141A) to 641—11.49(141A) are intended to implement Iowa Code section 141A.3.

- [Filed emergency 9/18/87—published 10/7/87, effective 9/18/87]
- [Filed 9/26/88, Notice 8/10/88—published 10/19/88, effective 11/23/88]
- [Filed emergency 1/11/89—published 2/8/89, effective 1/11/89]
- [Filed 11/9/89, Notice 10/4/89—published 11/29/89, effective 1/3/90]
- [Filed emergency 1/10/90—published 2/7/90, effective 1/10/90]
- [Filed emergency 9/28/90—published 10/17/90, effective 10/1/90]
- [Filed emergency 11/9/90—published 11/28/90, effective 11/9/90]
- [Filed 3/15/91, Notice 11/28/90—published 4/3/91, effective 5/8/91]
- [Filed emergency 5/10/91—published 5/29/91, effective 6/1/91]
- [Filed emergency 3/11/92—published 4/1/92, effective 4/1/92]
- [Filed 3/13/92, Notice 2/5/92—published 4/1/92, effective 5/6/92]
- [Filed 11/15/93, Notice 8/4/93—published 12/8/93, effective 1/12/94]
- [Filed 11/15/93, Notice 9/1/93—published 12/8/93, effective 1/12/94]
- [Filed 7/14/94, Notice 6/8/94—published 8/3/94, effective 9/7/94]
- [Filed 7/11/97, Notice 6/4/97—published 7/30/97, effective 9/3/97]
- [Filed 9/18/98, Notice 7/15/98—published 10/7/98, effective 11/11/98]
- [Filed 9/10/04, Notice 8/4/04—published 9/29/04, effective 11/3/04]
- [Filed emergency 1/9/08—published 1/30/08, effective 1/9/08]

[Filed 3/13/08, Notice 1/30/08—published 4/9/08, effective 5/14/08]

[Filed ARC 0755C (Notice ARC 0650C, IAB 3/20/13), IAB 5/29/13, effective 7/3/13]

[Filed ARC 1215C (Notice ARC 1044C, IAB 10/2/13), IAB 12/11/13, effective 1/15/14]

Iowa

Department of Public Health

321 E. 12th Street • Des Moines, IA 50319-0075
515-281-7689 www.idph.state.ia.us

The effect of HIPAA privacy provisions on the release of protected health information to the Iowa Department of Public Health

The Iowa Department of Public Health (IDPH), in conjunction with the Attorney General's Office, has completed a comprehensive review of its programs and has determined that neither the agency as a whole, nor any of its programs, are covered entities under HIPAA. However, both the EPSDT Program and Enhanced Services for Maternal Health Program are actually a part of the Medicaid Program of the Iowa Department of Human Services and, as such these programs, will be business associates of the Iowa Department of Human Services and, therefore, subject to many HIPAA provisions. Because IDPH is not a covered entity, many agencies and facilities in Iowa that are covered entities have questioned whether they can continue to disclose the protected health information of their patients or clients to the IDPH as they have in the past. The short answer is YES, such disclosures may continue to occur under HIPAA.

First, HIPAA recognizes that if there is a statute or administrative rule that requires a specific disclosure of protected health information, a covered entity must obey that law. (Section 164.512). Therefore, if there is another federal or state statute or administrative rule which requires a covered entity to disclose protected health information to the IDPH, the covered entity should follow that requirement. Many disclosures of PHI to IDPH are required by state laws, including Iowa Code chapters 135, 136A, 136B, 136C, 139A, 141A, 144, 147A, and 272C and the administrative rules that implement these chapters. These disclosures are legally required and must continue to be made as mandated by state law.

Second, HIPAA allows a covered entity to disclose protected health information to public health authorities for public health activities. (Section 164.512). HIPAA defines a public health authority as "an agency or authority of the United States, a State, a territory, a political subdivision of a State or territory, or an Indian tribe, or a person or entity acting under a grant of authority from or contract with such public agency, including the employees or agents of such public agency or its contractors or persons or entities to whom it has granted authority, that is responsible for public health matters as part of its official mandate." (Section 164.501). The IDPH has such a mandate and, therefore, is a public health authority under HIPAA.

The IDPH, in conjunction with the Iowa Attorney General's Office, has reviewed its programs and determined that protected health information being received by the Department from covered entities in Iowa is disclosed for public health activities. The disclosure of such information to IDPH is, therefore, unaffected by HIPAA and should continue in accordance with past practices. Because IDPH is a public health authority that is authorized to receive PHI under this provision, covered entities are not required to enter into a business associate agreement with IDPH in order for the exchange of protected health information to take place.



Promoting and protecting the health of Iowans.

Third, in some instances, the IDPH is a health oversight agency as defined by HIPAA. Under HIPAA, a "health oversight agency" is "an agency or authority of the United States, a state, a territory, a political subdivision of a State or territory, or an Indian tribe, or a person or entity acting under a grant of authority from or contract with such public agency, including the employees or agents of such public agency or its contractors or persons or entities to whom it has granted authority, that is authorized by law to oversee the health care system (whether public or private) or government programs in which health information is necessary to determine eligibility or compliance, or to enforce civil rights laws for which health information is relevant."

HIPAA permits a covered entity to disclose protected health information to a health oversight agency for oversight activities authorized by law, including audits; civil, administrative, or criminal investigations; inspections; licensure or disciplinary actions; civil, administrative, or criminal proceedings or actions; or other activities necessary for appropriate oversight of:

1. The health care system (*e.g. State insurance commissions, state health professional licensure agencies, Offices of Inspectors General of federal agencies, the Department of Justice, state Medicaid fraud control units, Defense Criminal Investigative Services, the Pension and Welfare Benefit Administration, the HHS Office for Civil Rights, the FDA, data analysis to detect health care fraud*);
2. Government benefit programs for which health information is relevant to beneficiary eligibility (*e.g. SSA and Dept. of Education*);
3. Entities subject to government regulatory programs for which health information is necessary for determining compliance with program standards (*e.g. Occupational Health and Safety Administration and the EPA; the FDS's oversight of food, drugs, biologics, devices, and other products pursuant to the Food, Drug, and Cosmetic Act and the Public Health Service Act*); or
4. Entities subject to civil rights laws for which health information is necessary for determining compliance (*the U.S. Department of Justice's civil rights enforcement activities, enforcement of the Civil Rights of Institutionalized Persons Act, the Americans with Disabilities Act, the EEOC's civil rights enforcement activities under titles I and V of the ADA*). (Section 164.512(d)).

"Overseeing the health care system," encompasses activities such as oversight of health care plans, oversight of health benefit plans; oversight of health care providers; oversight of health care and health care delivery; oversight activities that involve resolution of consumer complaints; oversight of pharmaceutical, medical products and devices, and dietary supplements; and a health oversight agency's analysis of trends in health care costs, quality, health care delivery, access to care, and health insurance coverage for health oversight purposes.

Health oversight agencies may provide more than one type of health oversight. Such entities are considered health oversight agencies under the rule for any and all of the health oversight functions that they perform. The disclosure of protected health information to IDPH for these purposes is unaffected by HIPAA and should continue in accordance with past practices.

Finally, local public health departments and local contractors which are covered entities may release protected health information to IDPH under the above-cited legal authority applicable to all covered entities. For example, certain statutes and rules require local public health departments and local

contractors to disclose protected health information to IDPH. Further, as a health oversight agency a local health department is permitted, and in most cases required, to disclose protected health information to IDPH. Disclosures of PHI by local public health departments and local contractors to IDPH do not require business associate agreements and are not prohibited or otherwise affected by HIPAA.

Please call Janet Hoffman, Assistant Attorney General, (515) 281-8330 should you have additional questions regarding these issues.

QUARANTINE

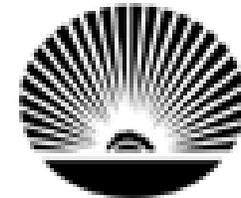
Effective Dates From: _____ Through: _____

Due To Communicable Disease (_____)

No one shall enter or leave these premises without authorization by the Iowa Department of Public Health or the _____ County Board of Health. Any individual entering a quarantine premises with or without authorization of the health department or County Board of Health may be isolated or quarantined. Pursuant to Iowa Code section 135.38, any individual who knowingly violates a lawful department order for isolation or quarantine, whether written or oral, shall be guilty of a simple misdemeanor. The court ordered sentence may include a fine up to \$500 and imprisonment not to exceed 30 days. No person other than an authorized employee of the Iowa Department of Public Health or county health department shall alter, destroy, or remove this notice. Address inquiries to the Iowa Department of Public Health at 1-800-362-2736.

IOWA CODE 139A.5

Iowa Department of Public Health
321 East 12th Street
Des Moines, IA 50319-0075





Mariannette Miller-Meeks, B.S.N., M.Ed., M.D.
Director

Terry E. Branstad
Governor

Kim Reynolds
Lt. Governor

Facts about Quarantine and Isolation

Quarantine and isolation are public health measures used to prevent or control the spread of communicable diseases which present a risk of serious harm to the public. The Iowa Department of Public Health (Department) and county boards of health (local boards) have the authority to impose quarantine and isolation in very limited circumstances to prevent the spread of certain diseases. Quarantine and isolation are used to protect the public by preventing exposure to infected persons or persons who may be infected.

Here are some facts about quarantine and isolation you should know:

The Department and local boards will impose quarantine or isolation only in the event of an outbreak of a "quarantinable disease," which means a serious and unusual or novel disease such as cholera, diphtheria, measles, infectious tuberculosis, plague, SARS, smallpox, certain viral hemorrhagic fevers, and other diseases spread person to person which present a risk of serious harm to the public's health.

Quarantine means confining a person who has been exposed to a quarantinable disease to see if they become ill and infectious to others. Quarantine is imposed for a period of time equal to the longest incubation period of the disease, which could range from a couple of days to two weeks, depending on the disease.

Isolation means confining a person who is actually infected with a quarantinable disease for the period of time that they are infectious to others, which could range from a couple of days to weeks, depending on the disease.

Prior to imposing quarantine or isolation, the Department and local boards will request that an individual voluntarily confine him or herself to their private home. Only if a person refuses to voluntarily confine themselves will the Department or local boards consider mandatory quarantine or isolation.

The Department and local boards are required by law to impose mandatory quarantine or isolation by the least restrictive means necessary to prevent the spread of the disease. Typically this means the exposed or infected person will be quarantined or isolated in their home.

Only if a person refuses to comply with voluntary home confinement and refuses to comply with quarantine or isolation in their own home will the Department or a local board consider imposing quarantine or isolation to a facility. If a person is quarantined or isolated in a facility the Department or the local board will ensure that the person is confined to a safe and hygienic facility and that they have access to adequate food, medical care, and a means of communication with those outside the facility.

Updated 11/15/12

BEFORE THE IOWA DEPARTMENT OF PUBLIC HEALTH

DIRECTED TO: _____) [insert case #]
_____))
[insert full name and address of subject of order] _____) **FACILITY ISOLATION ORDER**

The Iowa Department of Public Health (Department) has determined that you have recently developed some symptoms of [insert name of quarantinable disease (qd)]. [insert qd] is a disease which is spread from person to person and is associated with [insert symptoms of qd -- fever, cough, respiratory illness, etc.]. [insert qd] presents a risk of serious harm to public health and if it spreads in the community severe public health consequences may result.

The Department has determined that it is necessary to confine your movement to a specific facility to prevent further spread of this disease. The Department has determined that isolation in your home and other less restrictive alternatives are not acceptable because [insert the reason home isolation is not acceptable (e.g. the person violated a previously issued home isolation order, the person does not have an appropriate home setting conducive to home isolation, etc.)] The Department is therefore ordering you to comply with the following provisions during the entire period of isolation:

1. **Terms of confinement.** You are ordered to remain at the isolation facility, _____ [insert name and address of facility], from _____ to _____ [insert dates of isolation].
2. **Requirements during confinement.** During the period of isolation:
 - a. You must not leave the isolation facility at any time unless you have received prior written authorization from the Department to do so.
 - b. You must not come into contact with anyone except the following persons:
 - (i) other persons who are also under similar isolation order at the isolation facility;
 - (ii) authorized healthcare providers and other staff at the isolation facility;
 - (iii) authorized Department staff or other persons acting on behalf of the Department; and
 - (iv) such other persons as authorized by the Department.
 - c. Your daily needs, including food, shelter, and medical care, will be

provided for you during the period of isolation at the isolation facility. You should bring clothing, toiletries, and other personal items with you to the isolation facility. You will have limited access to a telephone at the isolation facility. You may bring your cell phone with you should you desire to have greater access to a means of communication.

- d. You should inform your employer that you are under isolation order and are not authorized to physically come to the work place. You should be aware that Iowa law prohibits an employer from firing, demoting, or otherwise discriminating against an employee due to the compliance of an employee with an isolation order issued by the Department. (Iowa Code section 139A.13A).

3. **Information about [qd].** You should review the information contained at Attachment A for information about [qd]. You should refer to information provided at the isolation facility to address specific concerns and questions you have about [qd]. In order to find out more information about [qd] and its symptoms and spread, you may also access the Department's web-page at www.idph.state.ia.us. If you do not have access to the internet from the isolation facility, you may contact the Department at 1-800-362-2736.

4. **Legal authority.** This order is issued pursuant to the legal authority contained at Iowa Code chapter 139A, [include Iowa Code chapter 135 if a public health disaster exists], and 641 Iowa Administrative Code chapter 1, a copy of which is labeled Attachment B and is attached to this order for your review. The Department shall comply with the principles for quarantine and isolation contained in subrule 1.9(3) of this attachment when issuing and implementing this order.

5. **Ensuring compliance.** In order to ensure that you strictly comply with this Isolation Order the Department or persons authorized by the Department may regularly inspect the isolation facility.

6. **Violations of order.** If you fail to comply with this Isolation Order you may be ordered to be isolated in a more restrictive facility. In addition, failure to comply with this order is a simple misdemeanor for which you may be arrested, fined, and imprisoned.

7. **Your rights -- appeal rights.** While under isolation you have the rights as described in subrule 1.9(8) of Attachment B. In addition, you have the right to appeal this order pursuant to subrule 1.9(7) of Attachment B.

DIRECTOR or MEDICAL DIRECTOR

DATE

IOWA DEPARTMENT OF PUBLIC HEALTH
Lucas State Office Building
Des Moines, IA 50319

Attachments to this Order:

Attachment A -- Facts About **[qd]**

Attachment B B 641 Iowa Administrative Code chapter 1

BEFORE THE IOWA DEPARTMENT OF PUBLIC HEALTH

DIRECTED TO: _____) [insert case #]
_____)
[insert full name and address of subject of order] _____)
_____) **FACILITY QUARANTINE ORDER**

The Iowa Department of Public Health (Department) has determined that you have had contact with [insert name of quarantinable disease (qd)]. [insert qd] is a disease which is spread from person to person and is associated with [insert symptoms of qd -- fever, cough, respiratory illness, etc.]. [insert qd] presents a risk of serious harm to public health and if it spreads in the community severe public health consequences may result.

The Department has determined that it is necessary to quarantine your movement to a specific facility to prevent further spread of this disease. The Department has determined that quarantine in your home and other less restrictive alternatives are not acceptable because [insert the reason home quarantine is not acceptable (e.g. the person violated a previously issued home quarantine order, the person does not have an appropriate home setting conducive to home quarantine, etc.)] The Department is therefore ordering you to comply with the following provisions during the entire period of quarantine:

1. **Terms of confinement.** You are ordered to remain at the quarantine facility, _____ [insert name and address of facility], from _____ to _____ [insert dates of quarantine].
2. **Requirements during confinement.** During the period of quarantine:
 - a. You must not leave the quarantine facility at any time unless you have received prior written authorization from the Department to do so.
 - b. You must not come into contact with anyone except the following persons:
 - (i) other persons who are also under similar quarantine order at the quarantine facility;
 - (ii) authorized healthcare providers and other staff at the quarantine facility;
 - (iii) authorized Department staff or other persons acting on behalf of the Department; and
 - (iv) such other persons as are authorized by the Department.
 - c. Your daily needs, including food, shelter, and medical care, will be provided for you during the period of quarantine at the quarantine facility. You should bring clothing, toiletries, and other personal items with you to the quarantine facility. You will have limited access to a telephone at the quarantine facility. You may bring your cell phone with you should you desire to have greater access to a means of

communication.

- d. You should inform your employer that you are under quarantine order and are not authorized to physically come to the work place, although you may work from the facility via electronic or other means if appropriate. You should be aware that Iowa law prohibits an employer from firing, demoting, or otherwise discriminating against an employee due to the compliance of an employee with a quarantine order issued by the Department. (Iowa Code section 139A.13A).

3. **Information about [qd].** You should review the information contained at Attachment A for information about [qd]. You should refer to information provided at the quarantine facility to address specific concerns and questions you have about [qd]. In order to find out more information about [qd] and its symptoms and spread, you may also access the Department's web-page at www.idph.state.ia.us. If you do not have access to the internet from the quarantine facility, you may contact the Department at 1-800-362-2736.

4. **Legal authority.** This order is issued pursuant to the legal authority contained at Iowa Code chapter 139A, [include Iowa Code chapter 135 if a public health disaster exists], and 641 Iowa Administrative Code chapter 1, a copy of which is labeled Attachment B and is attached to this order for your review. The Department shall comply with the principles for quarantine contained in subrule 1.9(3) of this attachment when issuing and implementing this order.

5. **Ensuring compliance.** In order to ensure that you strictly comply with this Quarantine Order the Department or persons authorized by the Department may regularly inspect the quarantine facility.

6. **Violations of order.** If you fail to comply with this Quarantine Order you may be ordered to be quarantined in a more restrictive facility. In addition, failure to comply with this order is a simple misdemeanor for which you may be arrested, fined, and imprisoned.

7. **Your rights -- appeal rights.** While under quarantine you have the rights as described in subrule 1.9(8) of Attachment B. In addition, you have the right to appeal this order pursuant to subrule 1.9(7) of Attachment B.

DIRECTOR or MEDICAL DIRECTOR
IOWA DEPARTMENT OF PUBLIC HEALTH
Lucas State Office Building
Des Moines, IA 50319

DATE

Attachments to this Order:

Attachment A -- Facts About [qd]

Attachment B B 641 Iowa Administrative Code chapter 1

BEFORE THE IOWA DEPARTMENT OF PUBLIC HEALTH

DIRECTED TO:) *[insert case #]*
)
[insert full name and)
address of subject of order]) **HOME ISOLATION ORDER**

The Iowa Department of Public Health (Department) has determined that you have recently developed some symptoms of *[insert name of quarantinable disease (qd)]*. *[insert qd]* is a disease which is spread from person to person and is associated with *[insert symptoms of qd - fever, cough, respiratory illness, etc.]*. *[insert qd]* presents a risk of serious harm to public health and if it spreads in the community severe public health consequences may result.

The Department has determined that home isolation of persons who are known or suspected to have *[insert qd]* is necessary to prevent further spread of this disease. The Department has determined that isolation in private homes is the least restrictive means necessary to prevent the spread of *[insert qd]*. The Department is therefore ordering you to remain in your home and to comply with the following provisions during the entire period of isolation:

1. **Terms of confinement.** You are ordered to remain in your home at _____ *[insert address]* from _____ to _____ *[insert dates of isolation]*.

2. **Requirements during confinement.** During the period of isolation:
 - a. You must not leave your home at any time unless you have received prior written authorization from the Department to do so.

 - b. You must remain reachable by telephone at all times and answer and respond fully and truthfully to telephone calls from Department staff and other persons acting on behalf of the Department.

 - c. You must not come into contact with anyone except the following persons:
 - (i) family members and other persons who reside in your home who are also under Home Isolation Order or Home Quarantine Order;
 - (ii) authorized healthcare providers;
 - (iii) authorized Department staff or other persons acting on behalf of the Department; and
 - (iv) such other persons as are authorized by the Department.

 - d. You should arrange by telephone for relatives, neighbors, or friends to assist with any needs you may have during the period of confinement. These persons should not have direct contact with you. If you need assistance in providing for your daily needs, you should call *[insert telephone number]*.

- e. You must follow the directions contained in the attachment to this order labeled Attachment A to monitor your health status on a daily basis.
- f. You will have access to medical care during the period of confinement. If the symptoms you are experiencing become more severe, or if you develop any additional symptoms of [qd] detailed in Attachment A, including [*insert main symptoms here*], you should immediately call a public health official at [*insert telephone number*]. If emergency medical treatment is required for conditions other than those listed in this paragraph (e.g. chest pain or severe accidental injury at home), you should call 911 for an ambulance. When seeking such assistance, you must inform the operator of the 911 line and the ambulance that you are under Home Isolation Order.
- g. If other persons also reside in your home you must maintain good personal hygiene at all times, including complying with the directions contained in Attachment A, to prevent disease transmission. If any member of your household develops any symptoms of [qd] detailed in Attachment A, such person should immediately call a public health official at [*insert telephone number*].
- h. You should inform your employer that you are under home isolation and are not authorized to physically come to the work place.- You should be aware that Iowa law prohibits an employer from firing, demoting, or otherwise discriminating against an employee due to the compliance of an employee with an isolation order issued by the Department. (Iowa Code section 139A.13A).

3. **Information about [qd].** You should review the information contained at Attachment A for information about [qd]. In order to find out more information about [qd] and its symptoms and spread, you may access the Departments web-page at www.idph.state.ia.us. If you do not have access to the internet from your home, you may contact the Department at 800.362.2736 for more information about this disease.

4. **Legal authority.** This order is issued pursuant to the legal authority contained at Iowa Code chapter 139A, [*include Iowa Code chapter 135 if a public health disaster exists*], and 641 Iowa Administrative Code chapter 1, a copy of which is labeled Attachment B and is attached to this order for your review. The Department shall comply with the principles for isolation and quarantine contained in subrule 1.9(3) of this attachment when issuing and implementing this order.

5. **Ensuring compliance.** In order to ensure that you strictly comply with this Home Isolation Order the Department or persons authorized by the Department may contact you by telephone on a regular basis and may carry out spot checks of your residence.

6. **Violations of order.** If you fail to comply with this Home Isolation Order you may be ordered to be isolated in a hospital or other facility as determined by the Department. In addition, failure to comply with this order is a simple misdemeanor for which you may be arrested, fined, and imprisoned.

7. **Your rights – appeal rights.** While under isolation you have the rights as described in subrule 1.9(8) of Attachment B. In addition, you have the right to appeal this order pursuant to subrule 1.9(7) of Attachment B.

DIRECTOR or MEDICAL DIRECTOR
IOWA DEPARTMENT OF PUBLIC HEALTH
Lucas State Office Building
Des Moines, IA 50319

DATE

Attachments to this Order:

Attachment A -- Facts About [*insert disease name*]
Attachment B -- 641 Iowa Administrative Code chapter 1

BEFORE THE IOWA DEPARTMENT OF PUBLIC HEALTH

DIRECTED TO: _____) [insert case #]
_____)
[insert full name and address of subject of order] _____) **HOME QUARANTINE ORDER**

The Iowa Department of Public Health (Department) has determined that you have had contact with [insert name of quarantinable disease (qd)]. [insert qd] is a disease which is spread from person to person and is associated with [insert symptoms of (e.g. fever, cough, respiratory illness, etc.)]. [Insert qd] presents a risk of serious harm to public health and if it spreads in the community severe public health consequences may result.

The Department has determined that home quarantine of persons who have been exposed to [insert qd] is necessary to prevent further spread of this disease. The Department has determined that quarantine in private homes is the least restrictive means necessary to prevent the spread of [insert qd]. The Department is therefore ordering you to remain in your home and to comply with the following provisions during the entire period of quarantine:

1. **Terms of confinement.** You are ordered to remain in your home at _____ [insert address] from _____ to _____ [insert dates of quarantine].
2. **Requirements during confinement.** During the period of quarantine:
 - a. You must not leave your home at any time unless you have received prior written authorization from the Department to do so.
 - b. You must remain reachable by telephone at all times and answer and respond fully and truthfully to telephone calls from Department staff and other persons acting on behalf of the Department.
 - c. You must not come into contact with anyone except the following persons:
 - (i) family members and other persons who reside in your home;
 - (ii) authorized healthcare providers;
 - (iii) authorized Department staff or other persons acting on behalf of the Department; and
 - (iv) such other persons as are authorized by the Department.
 - d. If family members or other persons who reside in your home have not been issued a Home Quarantine Order, they may leave your home to carry on their daily routines and to assist you with any needs you may have during the period of confinement. If you live alone, or if every member of your household is under Home Quarantine Order, you should arrange by telephone for relatives, neighbors, or friends to assist with any needs you may have during the period of confinement. These persons should not have direct contact with you. If you need assistance in

providing for your daily needs, you should call **[insert telephone number]**

- e. You must follow the directions contained in the attachment to this order labeled Attachment A to monitor your health status on a daily basis.
- f. If you develop any symptoms of **[qd]** detailed in Attachment A, including **[insert main symptoms here]**, you should immediately call a public health official at **[insert telephone number]**. If emergency medical treatment is required for conditions other than those listed in this paragraph (e.g. chest pain or severe accidental injury at home), you should call 911 for an ambulance. When seeking such assistance, you must inform the operator of the 911 line and the ambulance that you are under Home Quarantine Order.
- g. If other persons also reside in your home you must maintain good personal hygiene at all times, including complying with the directions contained in Attachment A, to prevent disease transmission. If any member of your household develops any symptoms of **[qd]** detailed in Attachment A, such person should immediately call a public health official at **[insert telephone number]**.
- h. You should inform your employer that you are under home quarantine and are not authorized to physically come to the work place, although you may work from home via electronic or other means if appropriate. You should be aware that Iowa law prohibits an employer from firing, demoting, or otherwise discriminating against an employee due to the employee's compliance with a quarantine order issued by the Department. (Iowa Code section 139A.13A).

3. **Information about [qd].** You should review the information contained at Attachment A for information about **[qd]**. In order to find out more information about **[qd]** and its symptoms and spread, you may access the Department's web-page at www.idph.state.ia.us. If you do not have access to the internet from your home, you may contact the Department at 1-800-362-2736.

4. **Legal authority.** This order is issued pursuant to the legal authority contained at Iowa Code chapter 139A, [include Iowa Code chapter 135 if a public health disaster exists], and 641 Iowa Administrative Code chapter 1, a copy of which is labeled Attachment B and is attached to this order for your review. The Department shall comply with the principles for quarantine contained in subrule 1.9(3) of this attachment when issuing and implementing this order.

5. **Ensuring compliance.** In order to ensure that you strictly comply with this Home Quarantine Order the Department or persons authorized by the Department may contact you by telephone on a regular basis and may carry out spot checks of your residence.

6. **Violations of order.** If you fail to comply with this Home Quarantine Order you may be ordered to be quarantined in a hospital or other facility as determined by the Department. In addition, failure to comply with this order is a simple misdemeanor for which you may be arrested, fined, and imprisoned.

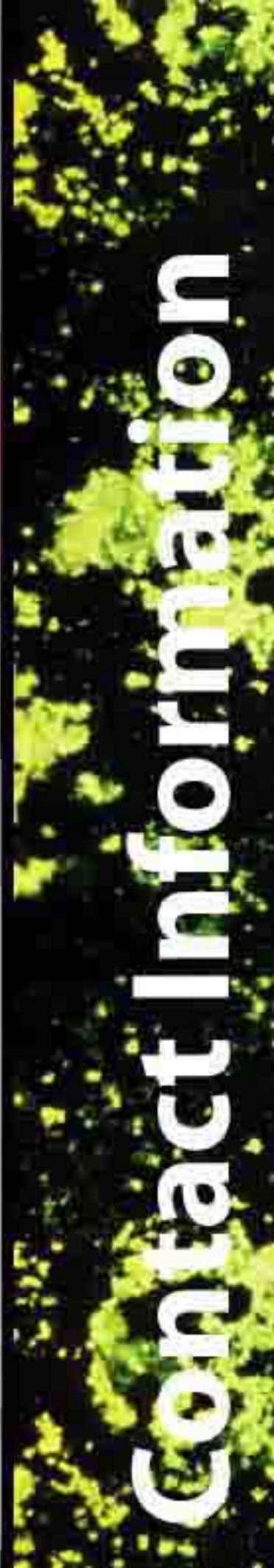
7. **Your rights -- appeal rights.** While under quarantine you have the rights as described in subrule 1.9(8) of Attachment B. In addition, you have the right to appeal this order pursuant to subrule 1.9(7) of Attachment B.

DIRECTOR or MEDICAL DIRECTOR
IOWA DEPARTMENT OF PUBLIC HEALTH
Lucas State Office Building
Des Moines, IA 50319

DATE

Attachments to this Order:

- Attachment A -- Facts About [qd]
- Attachment B -- 641 Iowa Administrative Code chapter 1



Contact Information

Iowa Department of Public Health
 Lucas State Office Building
 321 E. 12th Street
 Des Moines, IA 50319-0075
 Main Number: 515-281-7689

**Center for Acute Disease
 Epidemiology (CADE)**

**Lucas State Office Building
 321 E. 12th Street
 Des Moines, IA 50319-0075**

**Main Number:
 515-242-5935
 Fax:
 515-281-5698**

The center works to protect and preserve the health and safety of Iowans from infectious diseases through disease surveillance; investigation of acute outbreaks; institution of interventions to prevent ongoing spread of disease, education and consultation to county, local, and private health agencies on infectious diseases; immunization and vaccine guidelines; treatment after animal bites; and vaccines for international travel.

The center also provides consultation to county and local health agencies on diseases requiring public health intervention, collaborates with Centers for Disease Control and Prevention by weekly reporting of nationally reportable diseases, and offers health education opportunities through lectures and organizational seminars.

**Disease Reporting Number
 (24/7)**

800-362-2736

Iowa State Patrol

515-323-4360

**Bureau of Immunization and
 TB**

**Lucas State Office Building
 321 E. 12th Street
 Des Moines, IA 50319-0075**

**Main Number:
 515-281-5424**

The Bureau of Immunization and Tuberculosis works to protect the health of Iowans from vaccine preventable diseases and tuberculosis with the goal of reducing and ultimately eliminating the incidence of these diseases. The Bureau conducts surveillance and prevention activities in conjunction with public and private healthcare providers. Surveillance activities include disease monitoring and reporting, laboratory testing, disease investigation and rapid institution of disease control measures including isolation and quarantine. Bureau prevention and treatment activities include targeted disease testing, vaccination programs, dispensing medications, healthcare provider consultation and education.

Immunization

800-831-6293

Refugee Health

515-281-7504

Tuberculosis

515-281-7504

**Bureau of HIV, STD and
 Hepatitis**

**Lucas State Office Building
 321 E. 12th Street
 Des Moines, IA 50319-0075**

**Main Number
 515-281-6801**

Prevention and care services target *Chlamydia*, syphilis, gonorrhea, HIV/AIDS, and hepatitis B and C. Staff from the Sexually Transmitted Disease, HIV/AIDS, and Adult Viral Hepatitis Prevention Programs partner with local public health departments, private health care agencies, regional disease prevention specialists, and community-based organizations to interrupt the disease transmission process and provide access to testing, treatment, immunizations, and prevention programs.

STD

515-281-3031

HIV/AIDS	515-242-5141
Hepatitis B – Perinatal	515-281-7228
Hepatitis B – Other	515-242-5935
Hepatitis C	515-281-5027

Bureau of Environmental Health Services	Lucas State Office Building 321 E. 12th Street Des Moines, IA 50319-0075	Main Number: 515-281-7726
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The Bureau of Environmental Health Services is actively engaged in work related to hazardous spills, evaluation of waste sites, healthy homes, emergency preparedness, Grade A milk inspection, swimming pool and spa safety, water fluoridation, food safety, Grants-to-Counties, healthy homes and several other areas of environmental health practice. Bureau staff also acts as a resource for new county environmental health professionals, and are available to local board of health members to provide education about the everyday impact of environmental health practice.

Bureau of Lead Poisoning Prevention	Lucas State Office Building 321 E. 12th Street Des Moines, IA 50319-0075	Main Number: 800-972-2026
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The Bureau of Lead Poisoning Prevention oversees programs related to occupational health and safety, work-related fatal injuries, pesticide poisoning surveillance, and the prevention of lead poisoning. The occupational health and safety surveillance program tracks standard occupational health. The work-related fatal injuries program investigates work-related fatal injuries and disseminates information about how to prevent work-related fatalities. The pesticide poisoning surveillance program collects information on all exposures of Iowans to pesticides. The lead poisoning prevention activities include the collection of the results of all blood lead testing done on Iowans of all ages. The Bureau implements the requirement that all Iowa children be tested for lead poisoning, works with local childhood lead poisoning prevention programs to follow up on cases of childhood lead poisoning, and follows up on cases of adult lead poisoning. Finally, the Bureau implements programs that require those who conduct renovation, lead abatement, and lead inspections to be certified and requires the owners and occupants of housing and child-occupied facilities be notified when paint is disturbed in these buildings.

Bureau of Radiological Health	Lucas State Office Building 321 E. 12th Street Des Moines, IA 50319-0075	Main Number: 515-281-3478
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The Bureau of Radiological Health programs protect Iowans from unnecessary exposure to radiation. Each year, Iowans are exposed to an average of 300 millirem of naturally occurring radiation and 60 millirem of manmade radiation. The Bureau functions under legislative mandates per Iowa Code, Chapters 136B, C and D.

Bureau of Family Health	Lucas State Office Building 321 E. 12th Street Des Moines, IA 50319-0075	Main Number: 800-383-3826 or 515-281-3826
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The Bureau of Family Health guides the development of preventive health services for Iowa families in partnership with families, communities, health care providers and public health providers. Programs promote development of local systems of health care to assure that all women have access to reproductive health services and all Iowa children receive regular, preventive health care. Programs support family centered, community based and culturally sensitive health services for all Iowa families. The toll free *Healthy Families* line (800-369-2229), a 24-hour information and referral service, promotes access to community-based health resources.

Child Care Resources and Referral Services

www.iowaccrr.org to locate the phone number for local/regional CCRR personnel

Other Important Phone Numbers

University of Iowa State Hygienic Laboratory **102 Oakdale Campus
Iowa City, IA 52242-5002** **Main Number:
319-335-4500**

As a state agency under the Iowa Board of Regents, within the Health Sciences Center of The University of Iowa, the State Hygienic Laboratory (SHL) provides multidisciplinary analytical and diagnostic scientific services, leadership and education to support environmental quality and public health. The Laboratory provides services for assessment, surveillance, research and development, and technology transfer in support of public policy and its development on a state, national and international level.

The Laboratory's Statement of Mission is derived from, and consistent with, its responsibilities as specified in the Code of Iowa under Chapter 263.7-8. (Rules implementing this statute and governing the operation of the Laboratory are found in the Iowa Administrative Code, Sections 720-5.1 through 720-5.3.) The Mission of the SHL has been affirmed by the Iowa Supreme Court.

Iowa Department of Agriculture and Land Stewardship **Wallace State Office Building
502 E. 9th St.
Des Moines, Iowa 50319** **Main Number:
515-281-5321**

Iowa Department of Agriculture and Land Stewardship (IDALS) works to build a department of agriculture that can respond quickly and efficiently to changing global conditions in agriculture. The department wants to increase Iowa's agricultural market share -- both domestic and foreign, and assist in the removal of unnecessary barriers to agricultural trade. They work to develop and encourage agricultural education and new avenues for Iowa producers to market their products, increasing the independent farmer's impact on the market. IDALS adds value in Iowa to agriculture by developing new products and creating links for Iowa farmers with consumer-ready markets. The fight to preserve Iowa's precious soil, and improve water quality to ensure opportunities for future generations of Iowans and protect consumers and producers by assuring the quality of Iowa agricultural products and animal health.

Iowa Department of Natural Resources (DNR) **Wallace State Office Building
502 E. 9th St.
Des Moines, Iowa 50319** **Main Number:
515-281-5918**

The Iowa Department of Natural Resources is the government agency that leads Iowans in caring for their natural resources. It is responsible for maintaining state parks and forests, protecting the environment, and managing energy, fish, wildlife, and land and water resources in Iowa.

Iowa State University – Entomology Department **Entomology Department
Rm 442, Science II Building
Iowa State University
Ames, Iowa 50011-3222** **Main Number(s):
515-294-4387**

Entomologists at Iowa State university have engaged in teaching, research, and extension for more than a century. Professor Herbert Osborn taught the nation's first entomology course in 1880, beginning a tradition of excellence in basic and applied entomology. The Department of Entomology faculty work to provide education, develop innovative research programs and supply a creative, highly visible problem-solving extension program.

**Iowa State University
Veterinary Diagnostic
Laboratory**

**Iowa State University
College of Veterinary Medicine
1600 South 16th St.
Ames, IA 50011**

**Main Number:
515-294-1950
After Hours:
515-290-1969
Fax:
515-294-3564**

The Iowa State University Veterinary Diagnostic Laboratory (VDL) is accredited as a full service laboratory by the American Association of Veterinary Laboratory Diagnosticians (AAVLD).

**Iowa Department of
Inspections and Appeals**

**Lucas State Office Building
321 E. 12th St.
Des Moines, Iowa 50319-0075**

**Main Number:
515-281-7102**

The Department of Inspections and Appeals (DIA) is a multifaceted regulatory agency charged with protecting the health, safety and well being of Iowans. The agency is responsible for inspecting, licensing and/or certifying health care providers and suppliers, restaurants and grocery stores, social and charitable gambling operations, hotels and motels, and barber and beauty shops. In addition, DIA staff investigates alleged fraud in the State's public assistance programs and conducts contested case hearings to settle disputes between Iowans and various state government agencies.

The Department was created in 1986 to coordinate and conduct various audits, appeals, hearings, inspections, and investigations related to the operations of the executive branch of state government. DIA is organized into four major divisions, each with its own specific duties and responsibilities. Overseeing the daily operation of the agency is the Administration Division, which includes the Director's Office and staff. The Director's Office sets policy for the Department and is responsible for coordinating DIA's various programs and functions.

**Iowa Statewide Poison
Control Center**

**St. Luke's Regional Medical
Center
401 Douglas St, Suite 402
Sioux City, IA 51101**

**Main Number(s):
800-222-1222
(712) 277-2222**

The Iowa Statewide Poison Control Center (ISPC) was formed in 2000 by combining the poison control resources and expertise of Iowa Health System and University of Iowa Hospitals and Clinics. The IHS and the UIHC each have a 25-year history of providing poison control services throughout the state.

The jointly sponsored statewide poison control center provides all of Iowa's 2.9 million citizens 24-hour toll-free telephone access to emergency poison information and treatment.

Specially trained nurses staff the ISPC's hotline 24 hours a day and are backed-up by a physician toxicologist. These poison specialists answer questions about household products, drug overdoses, chemicals at work or in the environment, plant and mushroom ingestions, medication errors, bites and stings, or any other toxicology-related subject.

Clearinghouse

**Main Number:
319-398-5133**

Website:

healthclearinghouse.drugfreeinfo.org/cart.php?target=category&category_id=295

Materials on reportable diseases are free of charge and may be obtained by contacting the clearinghouse. These materials are provided to local public health agencies and relevant partners. Among the materials available is disease reporting forms, disease brochures, and disease posters. The recommended way of ordering is by using the clearinghouse website.

Iowa Department of Public Health — Bureau of HIV, STD, and Hepatitis

Disease Prevention Specialist Regions

Region 1

Jodie Liebe (708)
Siouxland District Health Dept
1014 Nebraska St
Sioux City IA 51105
Office 712-234-3926
Mobile 515-783-4076
Fax 712-234-3920
jodie.liebe@idph.iowa.gov

Region 2

LaShaina Woods (706)
Iowa Dept of Public Health
Lucas State Office Building
321 E 12th 5th Fl
Des Moines IA 50319
Office 515-281-6087
Mobile 515-783-4077
Fax 515-281-0466
lashaina.woods@idph.iowa.gov

Region 2A Polk Co.

*Kari Lebeda Townsend (749)
*Beth Dooley (732)
*Jaimie Schwab (735)
*Kate Gilmore (738)
*Jean Phillips (740)
Polk County Health Dept
1907 Carpenter
Des Moines IA 50314
Phone 515-286-3798
Fax 515-286-2033

Region 3

Gina Mallett (704)
Black Hawk County Health Dept
1407 Independence Ave 5th Fl
Waterloo IA 50703
Office 319-292-2235
Mobile 515-783-4086
Fax 319-291-2529
gina.mallett@idph.iowa.gov

Region 3A Black Hawk Co.

*Carla Bergmeier (703)
*Brenda Hostetler (715)
*Ange Miller (751)
*Claudia Robinson (754)
Black Hawk County Health Dept
1407 Independence Ave 5th Fl
Waterloo IA 50703
Phone 319-292-2413
Fax 319-291-2529

Region 4

Shannon Wood (746)
Johnson County Public Health
855 S Dubuque St
Iowa City IA 52240
Office 319-358-1834
Mobile 515-783-4079
Fax 319-356-6039
shannon.wood@idph.iowa.gov

Region 4A Linn Co.

*Barbara Chadwick (761)
*Carissa Griffin (724)
*Sherri Schuchmann (729)
*Heather Meador (747)
Linn County Public Health
501 13th St NW
Cedar Rapids IA 52405
Phone 319-892-6000
Fax 319-892-6098

Region 5

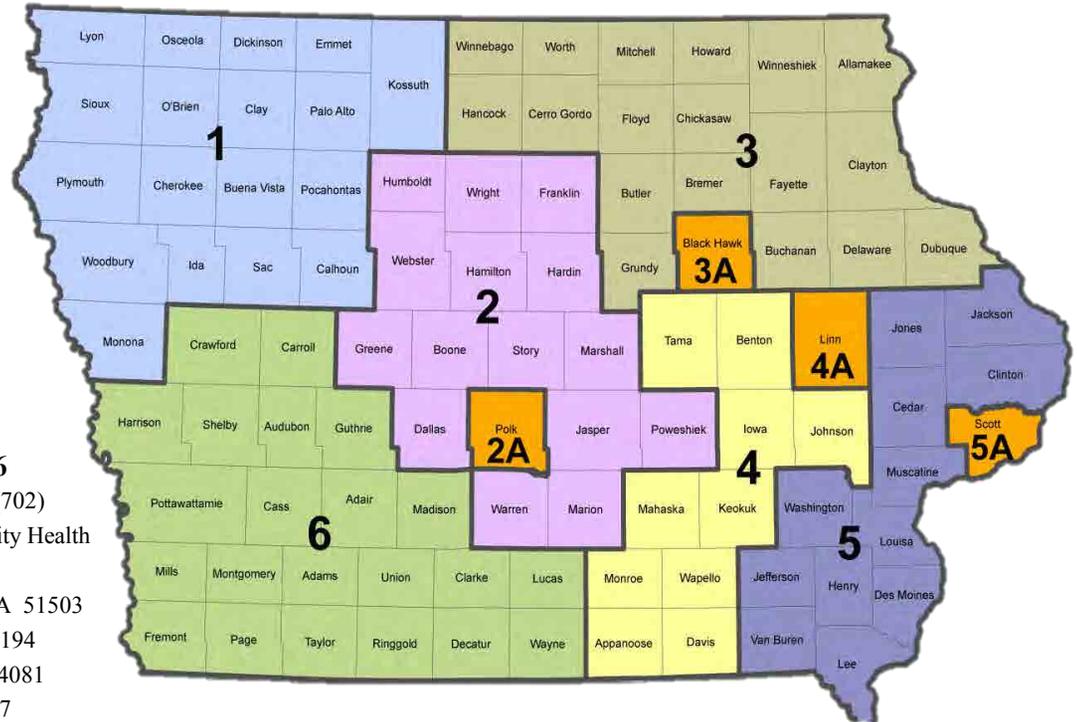
Mary Costello (710)
Scott County Health Dept
600 W 4th St 4th Fl
Davenport IA 52801
Office 563-326-8216
Mobile 515-783-4078
Fax - 563-326-8774
mary.costello@idph.iowa.gov

Region 5A Scott Co.

*Roma Taylor (719)
*Stuart Scott (707)
*Lashon Moore (736)
*Jane Morehouse (739)
Scott County Health Dept
600 W 4th St 4th Fl
Davenport IA 52801
Phone 563-326-8618
Fax 563-326-8774

Region 6

Linda McQuinn (702)
Council Bluffs City Health
209 Pearl St
Council Bluffs IA 51503
Office 712-328-3194
Mobile 515-783-4081
Fax 712-328-4917
linda.mcquinn@idph.iowa.gov



*County Employee

REVISED OCT. 2013

STATE VETERINARIAN DISTRICTS

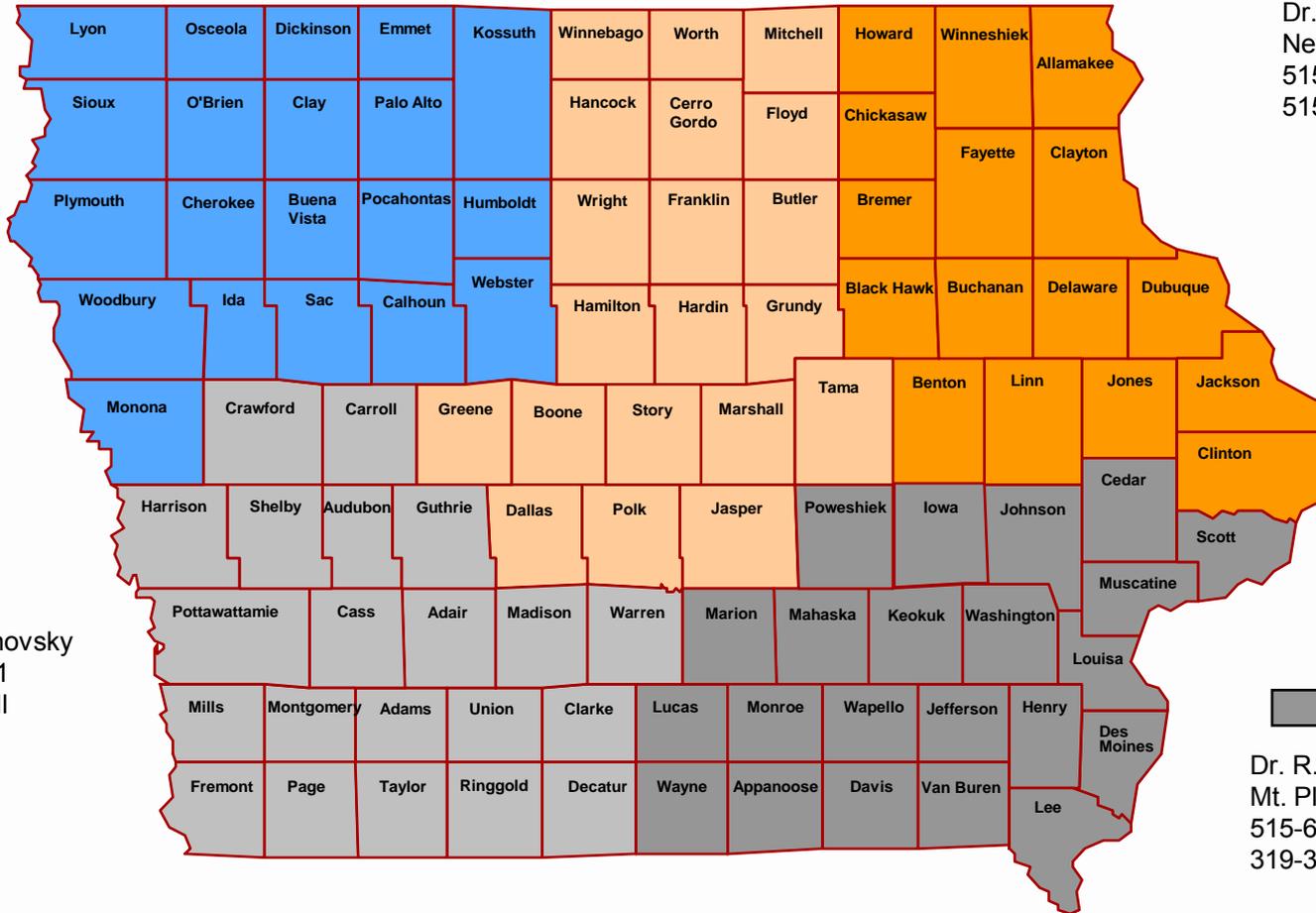
Dr. David Schmitt, State Veterinarian
515-281-8601 * 515-669-3527 cell



Dr. Tim Smith
Nevada, IA 50201
515-669-6231 cell
515-382-4270 fax



Dr. Gary E. Eiben
Colesburg, IA 52035
515-669-6095 cell
563-856-3009 fax



Dr. Greg Schmitt
Le Mars IA 51031
515-669-5633 cell
712-541-6033 fax



Dr. Wayne Rychnovsky
Corning, IA 50841
515-971-7391 cell



Dr. R.E. Welander
Mt. Pleasant, IA 52641
515-669-5929 cell
319-385-7000 fax

Assistant State Veterinarian
515-281-0866 - office

CCNC Number	CCNC Name	Child Health Agency	CCNC Phone	CCNC E-Mail Address
1	Kate Phillips	Black Hawk County Health Department	(319) 292-2229 Office (319) 29-1734 Cell	kphillips@co.black-hawk.ia.us
2	New Opportunities, Inc	New Opportunities, Inc	(712) 792-9266	
3	Washington County Public Health	Washington County Public Health	(319) 653-7758	
4	Cyndi Mason	Lee County Health Department	(319) 372-5225	cmason@leecountyhd.org
5	Darla Butikofer	Visiting Nurse Association of Dubuque	(563) 245-1145	darla.butikofer@finleyhospital.org
6	Deb Baldwin	Mid-Sioux Opportunity, Inc	(712) 786-3487	dbaldwin@midsioux.org
7	Deb Gimer	MATURA (BV), New Opportunities, Inc (Sac), NICA0 (Koss, Winn) & Webster County Health Department (Greene, Emmet, Cal, PA, Poc)	(712) 297-8323	dgimer@calhouncountyiowa.com
8	Deidre Buttz	Marion County Public Health	(641) 342-3724	DButtz@grm.net
9	Johnson County Public Health	Johnson County Public Health	(319) 356-6042	
10	Family, Inc	Family, Inc	(712) 256-9566	
11	Emily Schroder	Family, Inc	(712) 256-9566	emily@familyia.org
12	Heidi Hotvedt	Visiting Nurse Services of Iowa	(563) 652-4048	heidi.hotvedt@jcrhc.org
13	Jane Matzen	Lee County Health Department	(641) 682-3449	jmatzen@ahfa.org
14	Jean Randolph	Hawkeye Area Community Action Program	(319) 739-0029	jrandolph@hacap.org
15	Julie Kixmiller	Crawford County Home Health	(712) 243-8006	kixmilk@ihs.org
16	Julie Thomas	Taylor County Public Health	(712) 523-3405	jthomasmch@frontier.com
17	Chris Lee	New Opportunities, Inc	(712) 792-9266 Ext. 208	CLee@newopp.org
18	Kelly Bailey	Warren County Health Services	(641) 342-3724	bkelly@iowatelecom.net
19	Kim Gonzales, Cynthia Klein	Dubuque Visiting Nurse Association	(563) 556-6200	Kim.Gonzales@FinleyHospital.org ; cynthia.klein@finleyhospital.org
21	Lori Hoch	Crawford County Home Health	(712) 263-3303	lorihochrn@yahoo.com
22	Lee County Health Department	Lee County Health Department	(319) 372-5225	
23	Jessica Redden	Scott County Health Department	(563) 326-8618	Jessica.Redden@scottcountyiowa.com
24	Mid-Iowa Community Action	Mid-Iowa Community Action	(800) 890-8230	
25	Mid-Sioux Opportunity, Inc	Mid-Sioux Opportunity, Inc	(800) 859-2025	
26	Nancy Granaman	Lee County Health Department	(319) 750-5258	bngranaman@gmail.com
27	North Iowa Community Action	North Iowa Community Action	(641) 423-5044	
28	Nicole Olhausen	Siouxland Community Health Center	(712) 252-2477	nolhausen@slandchc.com
29	Patti Scieszinski	Marion County Public Health	(641) 774-4312	pski@lucasco.org
30	Sandy Hill	Trinity Muscatine Public Health	(563) 263-0122	Sandra.Hill@trinitymuscatine.org
31	Marion County Public Health	Marion County Public Health	(641) 828-2238	rcecil@marionph.org
32	Shannon Knudson	Mid-Iowa Community Action	(515) 298-4896	shannon.knudsen@micaonline.org
33	Sharon Campbell	MATURA	(641) 782-8431	scampbell@maturaaction.org
34	Shelly Jensen	Warren County Health Services	(515) 961-1074	shellyj@co.warren.ia.us
35	Jennifer Matters	Mid-Iowa Community Action	(641) 328-9133	jennifer.matters@micaonline.org
36	Tricia Nichols	Webster County Health Department	(515) 573-4107	tnichols@webstercountyiowa.org
37	Trish Dillard	MATURA	(712) 240-0281	tdillard@maturaact.org
38	Jeanette Luthringer	Visiting Nurse Services of Iowa	(515) 558-9604	jeannettel@vnsia.org
	Heather Jenks	Visiting Nurse Services of Iowa	(515) 557-9013	heatherj@vnsdm.org
	Kara Wall	Visiting Nurse Services of Iowa	(515) 557-9025	karaw@vnsia.org

	Amy Karaidos	Visiting Nurse Services of Iowa	(515) 558-9947	amyk@vnsdsm.org
	Kristin Sjulín	Visiting Nurse Services of Iowa	(515) 558-9960	Kristins@vnsdsm.org
	Joanna Cox	Visiting Nurse Services of Iowa	(515) 558-9968	joannac@vnsia.org
39	Wendy Taylor	North Iowa Community Action Organization (Butler, Cerro Gordo, Franklin, Hancock & Worth) & Black Hawk County Health Department (Bremer, Grundy)	(641) 423-5044	wtaylor@nicao-online.org
40	Marsha Platt	Black Hawk County Health Department	(319)415-8912 Cell (319) 292-2409 Office	mplatt@co.black-hawk.ia.us
41	Terri Sinclair	Marion County Public Health	(641) 437-4332	tsinclair@appanoosecounty.net



Iowa Department of Public Health Environmental and Occupational Surveillance Reportable Poisonings, Injuries, Diseases, Conditions, and Exposures

IDPH Environmental Health (EH) hotline (Mon-Fri 8 am-4:30 pm): 800-972-2026

IDPH 24/7 Disease reporting hotline: 800-362-2736

IDPH Environmental Health Fax: 515-281-4529

IDPH EH Division Web Page: www.idph.state.ia.us/eh/default.asp

IDPH Bureau of Emergency Medical Services (EMS) Web Page: www.idph.state.ia.us/ems/data.asp

OUTBREAK REPORTING - CALL THE 24/7 DISEASE REPORTING HOTLINE: 800-362-2736

IMMEDIATELY report to the department outbreaks of any kind, diseases (including those not specifically noted) that occur in unusual numbers or circumstances, unusual syndromes, or uncommon diseases. Outbreaks may be infectious, environmental or occupational in origin and include food-borne outbreaks or illness secondary to chemical exposure (e.g., pesticides, carbon monoxide, anhydrous ammonia).

BIOTERRORISM REPORTING - CALL THE 24/7 DISEASE REPORTING HOTLINE: 800-362-2736

IMMEDIATELY report diseases, syndromes, poisonings and conditions of any kind suspected or caused by a biological, chemical, or radiological agent or toxin when there is reasonable suspicion that the disease, syndrome, poisoning or condition may be the result of a deliberate act such as terrorism (but are not limited to) anthrax, mustard gas, sarin gas, ricin, tularemia and small pox.

ELEVATED BLOOD LEAD TEST RESULTS GREATER THAN OR EQUAL TO 20 UG/DL- CALL THE EH HOTLINE: 800-972-2026

IMMEDIATELY during regular business hours (Mon-Fri 8am to 4:30 pm) report all blood lead test results greater than or equal to 20 ug/dL to the Environmental Health hotline and fax a hard copy of the result to the EH fax.

ROUTINE REPORTING

Reports not meeting the conditions given for immediate reporting shall report as directed below, using electronic or web-based reporting if available, or another IDPH approved reporting format. Iowa trauma nurse coordinators and data registrars in the trauma hospitals of Iowa can continue to use the Trauma Registry software for reporting agricultural related injuries and traumatic brain and spinal cord injuries or EMS approved hard copy report forms. Refer to the IDPH EH Web page for more details, approved formats, forms, and specific disease/poisoning/injury/condition reporting information.

WHO IS REQUIRED TO REPORT

Mandatory Reporting is required of health care providers, clinics, hospitals, clinical laboratories, and other health care facilities; school nurses or school officials; poison control and information centers; medical examiners; occupational nurses. Hospitals, health care providers, and clinical laboratories outside the state of Iowa for confirmed or suspect cases in an Iowa resident. Complete information can be found in the Iowa Administrative Code [641] Chapter 1, which is linked at the IDPH EH Division Web page.

For more information, please refer to the IDPH EH Division Web page at www.idph.state.ia.us/eh/default.asp or call the Environmental Health hotline during regular business hours.

A vertical strip on the right side of the page features a microscopic image of tissue, likely stained with hematoxylin and eosin (H&E), showing a dense cellular structure with purple nuclei and pink cytoplasm/extracellular matrix.

Reportable Disease Information

IOWA DISEASE REPORTING CARD

FAX VERSION

Disease reporting is required by Iowa Administrative Code [641]-1 (139A)
Fax report to (515) 281-5698 or call (800) 362-2736

DISEASE AND LABORATORY INFORMATION

DISEASE/EVENT: _____	Laboratory: _____
Diagnosis date: / /	Lab city/state/zip: _____
Onset date: / /	Collection date: / /
Outcome: <input type="checkbox"/> Survived this illness <input type="checkbox"/> Died from this illness <input type="checkbox"/> Died unrelated to this illness <input type="checkbox"/> Unknown	Specimen source: _____
Provider name: _____	Lab test: _____
Provider title: <input type="checkbox"/> ARNP <input type="checkbox"/> DO <input type="checkbox"/> MD <input type="checkbox"/> NP <input type="checkbox"/> PA	Result date: / /
Facility name: _____	Result: <input type="checkbox"/> Positive/detected <input type="checkbox"/> Undetermined <input type="checkbox"/> Negative/undetected <input type="checkbox"/> Equivocal <input type="checkbox"/> Other: _____
Address: _____	
Phone : () - City/State/Zip: _____	
Clinical sx: <input type="checkbox"/> Abdominal pain <input type="checkbox"/> Cough <input type="checkbox"/> Gland swelling <input type="checkbox"/> Sore throat <input type="checkbox"/> Anorexia <input type="checkbox"/> Diarrhea <input type="checkbox"/> Jaundice <input type="checkbox"/> Stiff neck Other: _____ <input type="checkbox"/> Bull's eye rash <input type="checkbox"/> Fever <input type="checkbox"/> Rash <input type="checkbox"/> Vomiting <input type="checkbox"/> Specimen sent to UHL	

PATIENT INFORMATION

Name (last, first, middle): _____			
Address: _____			
City: _____	County: _____	Zip: _____	
Long-term care resident: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Facility name: _____		
DOB: / /	Age: _____ <input type="checkbox"/> Years <input type="checkbox"/> Months	Gender: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Unk	
Pregnant? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Due Date: / /		
Race: <input type="checkbox"/> White <input type="checkbox"/> Black or African American <input type="checkbox"/> American Indian or Alaska Native	<input type="checkbox"/> Hawaiian or Pacific Islander <input type="checkbox"/> Asian <input type="checkbox"/> Unknown <input type="checkbox"/> Other	Marital status: <input type="checkbox"/> Single <input type="checkbox"/> Married <input type="checkbox"/> Unknown <input type="checkbox"/> Widowed <input type="checkbox"/> Divorced	
Ethnicity: <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Not Hispanic or Latino <input type="checkbox"/> Unknown			
If minor, Parent name(s): _____			
Phone: Home () - Work () - Other () -			

OCCUPATION INFORMATION

Job title: _____	Facility name: _____
Worked after symptom onset: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Address: _____
Handle food: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Zip code: _____
Attend or provide child care: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	City/State/County: _____
Attend school: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Phone: () - Type: _____
Work in a lab setting: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Work in a health care setting: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Direct patient care duties in lab or health care setting: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Health care worker type: _____	

HOSPITALIZATION INFORMATION

Was the case hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Hospital: _____	
Admission date: / /	Discharge date: / / <input type="checkbox"/> Still hospitalized	Days hospitalized: _____

REPORTER INFORMATION

Reporter name: _____	Reporter facility name: _____
Reporter phone: _____	Date reported to IDPH: _____
Comments: _____	

GENERAL INFECTION CONTROL MEASURES

Implementation and adherence to infection control practices are the keys to preventing the transmission of infectious diseases, including respiratory diseases spread by droplet or airborne routes. Recommended infection control practices include:

1. Hand hygiene;
2. Standard Precautions/Transmission-Based Precautions (Contact, Droplet, Airborne)
3. Respiratory hygiene

Hand hygiene is the single most effective means of preventing the spread of all infections among hospital patients and personnel. When followed properly, each of these practices decreases the risk of spreading common respiratory pathogens

Hand Hygiene

Proper hand hygiene is the most effective way to prevent the spread of infection. Detailed hand hygiene information is available on the CDC website at www.cdc.gov/handhygiene. To properly wash and clean hands, the following procedure should be followed:

- Wash hands when they are visibly dirty or soiled with blood or other body fluids. Wash hands with either a non-antimicrobial soap or an antimicrobial soap and water. When washing hands with soap and water, wet hands first with water, apply to hands the amount of product recommended by the manufacturer, and rub hands together vigorously for at least 15 seconds, covering all surfaces of the hands and fingers. Rinse hands with water and dry thoroughly with a disposable towel or air dryer. Use a dry paper towel, if available to turn off the faucet.
- If hands are not visibly soiled, an alcohol-based hand rub or gel may be used in place of soap and water in most circumstances. When using an alcohol-based hand rub or gel, apply product to the palm of one hand and rub hands together, covering all surfaces of hands and fingers, until the hands are dry.
- Avoid wearing artificial fingernails when caring for patients at high risk for infection, and keep natural nail tips less than 1/4-inch long.
- Wear gloves when contact with blood or other potentially infectious materials, mucous membranes, and non-intact skin could occur.
- Remove gloves after caring for a patient. Always perform hand hygiene after removing gloves. Do not wear the same pair of gloves for the care of more than one patient, and do not wash gloves between uses with different patients.
- Change gloves during patient care if moving from a contaminated body site to a clean body site.

Standard Precautions

The Standard Precautions/Transmission-Based Precautions system is designed to prevent the transmission of infectious agents. It requires the use of work practice controls and protective apparel for all contact with blood and body substances, but uses Airborne Infection Isolation, Droplet, and Contact Precautions for patients with diseases known to be transmitted in whole or in part by those routes. Standard Precautions include consistent and prudent preventive measures to be used at all times regardless of a patient's known infection status, and include:

Hand hygiene. Practice hand hygiene after touching blood, body fluids, secretions, excretions, or contaminated items, whether or not gloves are worn. Wash hands immediately after gloves are removed, between patient contacts, and when otherwise indicated to avoid transfer of microorganisms to other patients or environments.

Gloves. Wear gloves (clean, nonsterile gloves are adequate) when touching blood, body fluids, secretions, excretions, or contaminated items. Put on clean gloves just before touching mucous membranes and non-intact skin. Change gloves between tasks and procedures. Practice hand hygiene whenever gloves are removed.

Mask, eye protection/face shield. Wear a mask and adequate eye protection (eyeglasses are not acceptable), or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions, or excretions.

Gown. Wear a gown (a clean, nonsterile gown is adequate) to protect skin and to prevent soiling of clothing during procedures and patient care activities that are likely to generate splashes or sprays of blood, body fluids, secretions or excretions. Carefully, remove a soiled gown as promptly as possible, to avoid contamination of personal clothing, and wash hands.

Patient care equipment. Handle used patient care equipment soiled with blood, body fluids, secretions, or excretions in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to one's self, other patients and the environment. Ensure that reusable equipment is not used for the care of another patient until it has been cleaned and sanitized appropriately. Ensure that single-use items are discarded properly.

Contact Precautions

In addition to Standard Precautions, Contact Precautions should be used for the care of patients known or suspected to have illnesses that could be spread by usual contact with an infected person, or by the contaminated environmental surfaces or patient care items in the room.

Example of diseases/organisms requiring Contact Precautions include:

- Severe Acute Respiratory Syndrome (SARS): See "SARS Infection Control" section
- Parainfluenza virus
- Respiratory syncytial virus
- Varicella (chickenpox): Also requires Airborne Infection Isolation
- Herpes Zoster (disseminated or in the immunocompromised host): Also requires Airborne Infection Isolation

Gown. Wear a gown when entering the room. Remove the gown before leaving the patient's environment. After gown removal, ensure that clothing does not contact potentially contaminated environmental surfaces. Wash hands.

Patient transport. Limit the movement of the patient from the room to essential purposes only. During transport, ensure that all precautions are maintained.

Patient care equipment. When possible, dedicate the use of noncritical patient care equipment to a single patient (or cohort of patients infected or colonized with the pathogen requiring precautions) to avoid sharing between patients. If use of common equipment or items is unavoidable, then adequately clean and disinfect them before use for another patient.

Patient placement (private room). Place the patient in a private room. If a private room is not available, place the patient in a room with other patients with the same illness (cohorting).

Contact Precautions include:

Gloves, gown and hand hygiene. Wear gloves when entering the room. During the course of providing care for a patient, change gloves after having contact with infective material. Wear gown to protect clothing if contact with body fluids is anticipated. Remove gloves and gown before leaving the patient's room and practice hand hygiene immediately with an antimicrobial agent or a waterless antiseptic agent. After glove removal and hand hygiene, ensure that hands do not touch potentially contaminated surfaces or items in the patient's room.

Droplet Precautions

In addition to Standard Precautions, use Droplet Precautions for a patient known or suspected to be infected with microorganisms transmitted by droplets (large-particle, wet droplets [larger than 5µm in size]) that can be generated by the patient during coughing, sneezing, talking, or the performance of procedures.

Examples of diseases/organisms requiring Droplet Precautions include:

- Invasive Hemophilus influenzae disease: meningitis, pneumonia (in infants and small children), epiglottitis
- Invasive Neisseria meningitidis disease: meningitis, pneumonia, and bacteremia
- Mycoplasma pneumonia
- Group A streptococcal pneumonia, pharyngitis, or scarlet fever in infants and young children
- Influenza
- Adenovirus: Also requires Contact Precautions
- Parvovirus B19
- Rubella

Droplet Precautions include:

Patient placement. Place the patient in a private room. When a private room is not available, place the patient in a room with a patient(s) who has active infection with the same microorganism but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least three feet between the infected patient and other patients and visitors. Special air handling and ventilation are not necessary, and the door may remain open.

Mask. In addition to standard precautions, wear a mask or respirator when working within three feet of the patient. (Hospitals may want to implement the wearing of a mask to enter the room.)

Patient transport. Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient, if possible.

Airborne Infection Isolation

In addition to Standard Precautions, Airborne Infection Isolation measures are designed to reduce the risk of transmission of infectious agents that may be suspended in the air in either small particle aerosols or dust particles. Patients requiring Airborne Infection Isolation must be given a private room with special air handling and ventilation (negative pressure). Respiratory protection for healthcare workers is necessary when entering the patient's room.

Examples of diseases/organisms requiring Airborne Infection Isolation include:

- SARS: See "SARS Infection Control" section
- Tuberculosis (pulmonary or laryngeal, suspected or confirmed)
- Varicella: Also requires Contact Precautions
- Herpes Zoster (shingles) in an immunocompromised patient: Also requires Contact Precautions
- Measles (rubeola)

Airborne Infection Isolation includes:

Patient placement. Airborne Infection Isolation requires a negative pressure room in addition to a private room. Keep the room door closed and the patient in the room. When a private room is not available, place the patient in a room with a patient who has active infection with the same microorganism, but with no other infection (cohorting).

Respiratory protection. Respiratory protection must be worn when entering the room of a patient in Airborne Infection Isolation. A NIOSH-certified, fit-tested disposable N-95 respirator mask is recommended for all persons entering the room, including visitors. The use of higher-level respirators may be considered for certain procedures. If a particulate respirator with filter efficiency of 95% or greater is not available, a surgical mask should be worn. The mask should fit tightly around the nose and mouth to protect against large droplet transmission.

Respiratory Hygiene/Cough Etiquette

"Respiratory hygiene" is a term that has been adopted by the Centers for Disease Control and Prevention (CDC) and the Iowa Department of Public Health (IDPH) to describe measures that can be taken to decrease the risk of spreading respiratory pathogens. A universal "respiratory hygiene/cough etiquette" strategy for a healthcare facility should include the following:

- Place signs at the entrances of all outpatient facilities requesting that patients and visitors inform healthcare personnel of respiratory symptoms upon registration.
- Provide masks (e.g., surgical) for all patients presenting with respiratory symptoms (especially cough) and provide instructions on the proper use and disposal of masks.

Iowa Department of Public Health

- If a patient cannot wear a mask, provide tissues and instructions on when to use them (i.e., when coughing, sneezing or controlling nasal secretions), how and where to dispose of them, and the importance of hand hygiene after handling this material (cough etiquette).
- Provide hand hygiene materials in waiting room areas and encourage patients with respiratory symptoms to wash their hands.
- If possible, designate an area in waiting rooms where patients with respiratory symptoms can be segregated (ideally by more than three feet) from other patients without respiratory symptoms.
- Place patients with respiratory symptoms in a private room or cubicle as soon as possible for further evaluation.
- Healthcare workers evaluating patients with respiratory symptoms should wear a surgical or procedure mask.
- Consider the installation of Plexiglas barriers at the point of triage or registration to protect healthcare workers.
- If a physical barrier is not possible, instruct registration and triage staff to remain at least three feet from unmasked patients. Staff should consider wearing a surgical mask during registration and triage.
- Continue to use Droplet Precautions to manage patients with respiratory symptoms until it is determined that the cause of symptoms is not an infectious agent that requires precautions beyond Standard Precautions.



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Minimal Recommendations for Use of Surgical or Procedure Masks and Respirators Around Patients with Cough Illness

Influenza, pertussis and other diseases are transmitted via droplets produced by coughing. The following infection prevention guidelines are recommended when caring for anyone presenting with a cough illness. Clinicians or infection preventionists may recommend additional infection prevention measures if indicated by a specific patient or situation in the community.

Standard Precautions and Droplet Precautions should be used when caring for all patients with a cough illness.

Masks

A mask should fit snugly around the nose and mouth to prevent gaps, forcing air flow through the mask.

Standard Precautions

For complete guidelines visit: www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html.

Droplet Precautions

Health care providers should wear surgical or procedure masks when giving direct care to patients with a cough illness.

Specimen collection:

Use standard and droplet precautions for most specimen collection.

Aerosol-generating procedures (e.g. intubation, bronchoscopy, open-system respiratory suctions, resuscitation, autopsy, etc.)

- Particulate respirator (e.g. EU FFP2, USNIOSH-certified N-95)
- Eye protection
- A clean non-sterile, long sleeved gown
- Gloves (some of these procedures require sterile gloves)

Transport within healthcare facilities (for transport of patients with cough illness).

- Patient should wear a surgical or procedure mask when outside the patient's room.
- Encourage performance of hand hygiene frequently and follow respiratory hygiene and cough etiquette practices.

Transport between patient residence and healthcare facilities (for transport of patients with cough illness)

- Patient should wear a surgical or procedure mask when outside the patient's room.
- Transporters should wear a surgical or procedure mask whenever the patient is not masked.

Clinics, medical offices or other ambulatory care settings

- Patients with a cough illness in outpatient settings should be asked to wear a surgical or procedure mask until being examined in the exam room and again upon leaving the exam room.
- Staff who have close contact, including examining or providing direct patient care, should wear a surgical or procedure mask and put the mask on before entering the room.
- Staff should perform hand hygiene, and then put on mask followed by gloves. When patient care is complete, first remove gloves, then remove the mask, and lastly perform hand hygiene.

For additional information on Standard Precautions and Droplet Precautions, respiratory hygiene and cough etiquette go to www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html.

Recommended Initial Followup Timelines for Infectious Diseases

Reportable disease	Clinical Diagnosis	Laboratory Criteria	Investigation Begins
Botulism, foodborne	Clinical symptoms include diplopia, blurred vision, and bulbar weakness. Symmetric paralysis that progresses rapidly & that can be linked to a potential food source in the previous 48 hours.	Detection of botulinum toxin in serum, stool, or patients food or isolation of <i>Clostridium botulinum</i> from stool	Immediate
Botulism, Infant	Characterized by constipation, poor feeding and "failure to thrive" that may be followed by progressive weakness, impaired respiration and death	Detection of botulinum toxin in stool or serum or isolation of <i>Clostridium botulinum</i> from stool	Immediate
Brucellosis	Clinical symptoms include fever, night sweats, undue fatigue, anorexia, weight loss, headache and arthralgia	Isolation of <i>Brucella</i> species from clinical specimen, or 4-fold or greater rise in <i>Brucella</i> titer > 2 weeks apart or demonstration by immunofluorescence of <i>Brucella</i> sp. in clinical specimen	24 hours
Diphtheria	Insidious onset, membranous pharyngitis with fever, enlarged anterior cervical lymph nodes, and edema of the surrounding soft tissue – "Bull Neck"	Isolation of <i>C. diphtheriae</i> from a clinical specimen, or Histopathologic diagnosis of diphtheria.	Immediate strict isolation
Encephalitis, arboviral	Clinical symptoms include febrile illness of variable severity associated with neurologic symptoms ranging from headache to aseptic meningitis or encephalitis.	4-fold or greater change in serum antibody titer, or isolation of virus from tissue, blood, CSF or other body fluid or specific IgM.	72 hours
Escherichia coli O157:H7	Clinical symptoms include diarrhea, often bloody and abdominal cramps, may be complicated by HUS or TTP, asymptomatic infection may also occur	Isolation of <i>E. coli</i> O157:H7 from a specimen or isolation of Shiga toxin-producing <i>E. coli</i> O157:NM from a clinical specimen	24 hours
Haemophilus Influenzae type B	Invasive disease caused by <i>H. influenzae</i> may produce any of several clinical syndromes, including meningitis, bacteremia, epiglottitis, or pneumonia.	Isolation of <i>H. influenzae</i> from a normally sterile site (e.g., blood or cerebrospinal fluid (CSF) or, less commonly, joint, pleural, or pericardial fluid)	48 hours
Hansen's Disease	Characterized by the involvement of primarily of skin as well as peripheral nerves and the mucosa of the upper airway.	Demonstration of AFB in skin or dermal nerve, obtained from full-thickness skin biopsy of a lepromatous lesion	5 days
Hantavirus syndromes	Characterized by bilateral interstitial pulmonary infiltrates and respiratory compromise usually requiring supplemental oxygen and clinically resembling ARDS.	Detection of hantavirus-specific IgM or rising titers of hantavirus-specific IgG, or detection of hantavirus-specific ribonucleic acid sequence by PCR in clinical specimens	5 days
Hepatitis A	Clinical symptoms include discrete onset of symptoms and Jaundice	Hepatitis A IgM antibody	Immediate
Hepatitis B	Clinical symptoms include discrete onset of symptoms and Jaundice	Hepatitis B core IgM antibody positive, or HBsAg positive	72 hours

Recommended Initial Followup Timelines for Infectious Diseases - cont

Legionellosis	Characterized by fever, myalgia, cough, pneumonia	Isolation of <i>legionella</i> from clinical specimen, 4-fold rise in titer against <i>L. pneumophila</i> serogroup 1, detection of <i>L. pneumophila</i> serogroup 1 in respiratory secretions, lung tissue, or pleural fluid by direct fluorescent antibody testing or , demonstration of <i>L. pneumophila</i> serogroup 1 antigens in urine by radioimmunoassay or enzyme-linked immunosorbent assay.	72 hours
Listeria monocytogenes invasive disease	Clinical symptoms include those of meningitis or bacteremia. Infection during pregnancy may result in fetal loss through miscarriage or stillbirth or neonatal meningitis or bacteremia.	Isolation of <i>L. monocytogenes</i> for a normally sterile site. Isolation of <i>L. monocytogenes</i> from placental or fetal tissue	48 hours
Lyme Disease	The best clinical marker for Lyme disease is the initial skin lesion-erythema migrans, late manifestations effect the musculoskeletal system, nervous system or cardiovascular system	Isolation of <i>Borrelia burgdorferi</i> from a clinical specimen, IgM antibodies to <i>Borrelia burgdorferi</i> in serum or CSF.	5 days
Malaria	Clinical symptoms include fever, headache along with various other symptoms including back pain, chills, sweats, nausea, vomiting, diarrhea and cough.	Demonstration of malaria parasites in blood films.	5 days
Measles	An illness characterized by all of the following: a generalized maculopapular rash lasting > 3 days; a temperature > 101°F (38.3°C); cough, coryza, or conjunctivitis	Positive serologic test for measles immunoglobulin M (IgM) antibody, or significant rise in measles antibody level by any standard serologic assay, or isolation of measles virus from a clinical specimen.	Immediate
Meningococcal invasive disease	Manifests most commonly as meningitis and/or meningococcemia.	Isolation of <i>Neisseria meningitidis</i> from normally sterile site.	Immediate
Mumps	An illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting >2 days, and without other apparent cause.	Isolation of mumps virus from clinical specimen, or significant rise between acute and convalescent-phase titers in serum mumps immunoglobulin G (IgG) antibody level by any standard serologic assay, or positive serologic test for mumps immunoglobulin M (IgM) antibody.	48 hours
Pertussis	A cough illness lasting at least 2 weeks with one of the following: paroxysms of coughing, inspiratory "whoop," or post-tussive vomiting, and without other apparent cause.	Isolation of <i>B. pertussis</i> from a clinical specimen, or positive polymerase chain (PCR) reaction assay for <i>B. pertussis</i> .	48 hours

Recommended Initial Followup Timelines for Infectious Diseases - cont

Polio	Acute onset of a flaccid paralysis of one or more limbs with decreased or absent tendon reflexes in the affected limbs, without other apparent cause, and without sensory or cognitive loss.	Poliovirus isolation is highest from stool specimens, intermediate from pharyngeal swabs, and very low from blood or spinal fluid. To increase the probability of poliovirus isolation, at least two stool specimens should be obtained 24 hours apart from patients with suspected poliomyelitis as early in the course of disease as possible (ideally within 15 days after onset).	48 hours
Psittacosis	Characterized by fever, chills, headache, photophobia, cough and myalgia	Isolation of <i>Chlamydia psittaci</i> from respiratory secretions, or 4-fold or greater rise in antibody titer against <i>C. psittaci</i> , or presence of IgM antibody against <i>C. psittaci</i>	24 hours
Rocky Mountain Spotted Fever	Characterized by acute onset of myalgia, headache, and petechial rash.	4-fold rise in titer to <i>Rickettsia rickettsii</i> , Positive PCR to <i>Rickettsia rickettsii</i> , demonstration of positive immunofluorescence of skin lesion or organ tissue, or isolation of <i>R. rickettsii</i> from clinical specimen.	5 days
Rubella	An illness that has all of the following characteristics: acute onset of generalized maculopapular rash; temperature >99°F (37.2°C), if measured; arthralgia/arthritis, lymphadenopathy, or conjunctivitis	Isolation of rubella virus, or significant rise between acute and convalescent-phase titers in serum rubella immunoglobulin G (IgG) antibody level by any standard serologic assay, or positive serologic test for rubella immunoglobulin M (IgM) antibody.	24 hours
Salmonellosis	Common symptoms include diarrhea, abdominal pain, nausea and sometimes vomiting, asymptomatic infections may occur.	Isolation of <i>Salmonella</i> from clinical specimen.	24 hours
Shigellosis	Characterized by diarrhea, fever, nausea, cramps and tenesmus, asymptomatic infections may occur.	Isolation of <i>Shigella</i> from a clinical specimen.	24 hours
Tetanus	Acute onset of hypertonia and/or painful muscular contractions (usually of the muscles of the jaw and neck) and generalized muscle spasms without other apparent medical cause.	There are no laboratory findings characteristic of tetanus. The diagnosis is entirely clinical.	48 hours
Toxic Shock Syndrome	Fever > 102, diffuse macular erythroderma rash, BP < 90, and multisystem involvement.	May be negative or positive culture for <i>Staphylococcus aureus</i> or group A <i>Streptococcus</i> from a normally sterile site.	5 days
Trichinosis	Characterized by fever, myalgia, and periorbital edema	Demonstration of <i>Trichinella</i> larvae in tissue obtained by muscle biopsy, or positive serologic test for <i>Trichinella</i>	5 days
Tuberculosis	Positive TB skin test, prolonged cough, night sweats, and weight loss.	Isolation of <i>M. tuberculosis</i> from a clinical specimen.	48 hours

Iowa Department of Public Health Table of Reportable Communicable and Infectious Diseases

To report diseases immediately, use the 24/7 disease reporting telephone hotline: 1-800-362-2736

OUTBREAK REPORTING

IMMEDIATELY report to the department outbreaks of any kind, diseases that occur in unusual numbers or circumstances, unusual syndromes, or uncommon diseases. Outbreaks may be infectious, environmental or occupational in origin and include food-borne outbreaks or illness secondary to chemical exposure (e.g., pesticides, anhydrous ammonia).

BIOTERRORISM REPORTING

IMMEDIATELY report diseases, syndromes, poisonings and conditions of any kind suspected or caused by a biological, chemical, or radiological agent or toxin when there is reasonable suspicion that the disease, syndrome, poisoning or condition may be the result of a deliberate act such as terrorism. Examples of these include (but are not limited to) anthrax, mustard gas, sarin gas, ricin, tularemia and small pox.

Report cases of the diseases listed in the following table to the department within the time frame specified in the *When to Report* column and by the reporting method in the *How to Report* column.

Disease	When to Report	How to Report
Acquired immune deficiency syndrome (AIDS) and AIDS-defining conditions	7 days	Report by mail <ul style="list-style-type: none"> Health care providers: Use the Pediatric or Adult Confidential Case Report form Laboratories: Send copy of lab report or the Iowa Confidential Report of Sexually Transmitted Disease & HIV Infection Mark envelope "Attention 03"
Anthrax	1 day	Phone, IDSS, or fax
Arboviral disease (includes West Nile Disease, St. Louis, LaCrosse, WEE, EEE, VEE encephalitis)	3 days	Phone, IDSS, fax or mail
Botulism	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Brucellosis (<i>Brucella</i>)	3 days	Phone, IDSS, fax or mail
Campylobacteriosis (<i>Campylobacter</i>)	3 days	Phone, IDSS, fax or mail
Chlamydia	3 days	Report by mail <ul style="list-style-type: none"> Health care providers: Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection Laboratories: Use the Laboratory Report of Tests Processed for STD Mark envelope "Attention 00"
Cholera	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Cryptosporidiosis	3 days	Phone, IDSS, fax or mail
Cyclospora	3 days	Phone, IDSS, fax or mail
Diphtheria	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
<i>Enterococcus</i> <u>invasive</u> disease	3 days	Laboratories: Send isolate to the University Hygienic Laboratory
<i>Escherichia coli</i> shiga toxin-producing and related diseases (includes HUS and TTP)	3 days	Phone, IDSS, fax or mail Laboratories: Send isolate to the University Hygienic Laboratory
Giardiasis (<i>Giardia</i>)	3 days	Phone, IDSS, fax or mail
Gonorrhea	3 days	Report by mail <ul style="list-style-type: none"> Health care providers: Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection Laboratories: Use the Laboratory Report of Tests Processed for STD Mark envelope "Attention 00"
Group A Streptococcus <u>invasive</u> disease	3 days	Send isolate to the University Hygienic Laboratory
<i>Haemophilus influenzae</i> type B <u>invasive</u> disease	Immediately	24/7 disease reporting telephone hotline: 800-362-2736 Laboratories: Send isolate to the University Hygienic Laboratory
Hansen's disease (leprosy)	3 days	Phone, IDSS, fax or mail
Hantavirus syndromes	3 days	Phone, IDSS, fax or mail
Hepatitis A	1 day	Phone, IDSS or fax
Hepatitis B, C, D, E	3 days	Phone, IDSS, fax or mail
Human immunodeficiency virus (HIV) cases Death of a person with HIV Perinatally exposed newborn and child (newborn and child who was born to an HIV-infected mother)	7 days	Report by mail <ul style="list-style-type: none"> Health care providers: Use the Pediatric or Adult Confidential Case Report Form Laboratories: Send copy of lab report or the Iowa Confidential Report of Sexually Transmitted Disease & HIV Infection Mark envelope "Attention 03"
Legionellosis (<i>Legionellae</i>)	3 days	Phone, IDSS, fax or mail
<i>Listeria monocytogenes</i> <u>invasive</u> disease	1 day	Phone, IDSS, or fax – Laboratories: Send isolate to the University Hygienic Laboratory
Lyme disease	3 days	Phone, IDSS, fax or mail
Malaria	3 days	Phone, IDSS, fax or mail
Measles (rubeola)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Meningococcal <u>invasive</u> disease	Immediately	24/7 disease reporting telephone hotline: 800-362-2736 Laboratories: Send isolate to the University Hygienic Laboratory
Mumps	3 days	Phone, IDSS, fax or mail
Pertussis	3 days	Phone, IDSS, fax or mail
Plague	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Poliomyelitis	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Psittacosis	3 days	Phone, IDSS, fax or mail
Rabies, animal	3 days	Phone, IDSS, fax or mail

Rabies, human	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Rocky Mountain spotted fever	3 days	Phone, IDSS, fax or mail
Rubella (including congenital)	1 day	Phone, IDSS, fax or mail
Salmonellosis (<i>Salmonella</i>)	3 days	Phone, IDSS, fax or mail Laboratories: Send isolate to the University Hygienic Laboratory
Severe acute respiratory syndrome (SARS)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Shigellosis (<i>Shigella</i>)	3 days	Phone, IDSS, fax or mail Laboratories: Send isolate to the University Hygienic Laboratory
Smallpox	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
<i>Staphylococcus aureus</i> :		
..... <u>Invasive</u> disease	Quarterly	Laboratories: Mail the number of isolates to University Hygienic Laboratory
..... Methicillin-resistant, <u>invasive</u> disease	3 days	Laboratories: Send isolates to University Hygienic Laboratory
..... Vancomycin-resistant <i>S. aureus</i>	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
	24 hours	Laboratories: Send isolates to University Hygienic Laboratory
<i>Streptococcus pneumoniae</i> <u>invasive</u> disease	3 days	Laboratories: Send isolate to the University Hygienic Laboratory
Syphilis	3 days	Report by mail <ul style="list-style-type: none"> • Health care providers: Use the Iowa Confidential Report of Sexually Transmitted Disease and HIV Infection • Laboratories: Use the Laboratory Report of Tests Processed for STD • Mark envelope "Attention 00"
Tetanus	3 days	Phone, IDSS, fax or mail
Toxic Shock Syndrome	3 days	Phone, IDSS, fax or mail
Trichinosis	3 days	Phone, IDSS, fax or mail
Tuberculosis		
..... Pulmonary and laryngeal (infectious)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
..... Extra-pulmonary	3 days	Phone, IDSS, fax or mail
Typhoid fever	1 day	Phone, IDSS or fax
Viral hemorrhagic fever (VHF) (e.g., Lassa, Marburg, Ebola, Crimean-Congo, South American)	Immediately	24/7 disease reporting telephone hotline: 800-362-2736
Yellow Fever	Immediately	24/7 disease reporting telephone hotline: 800-362-2736

Reporting of the above diseases is required by Iowa Administrative Code [641] Chapter 1

Iowa Department of Public Health/Center for Acute Disease Epidemiology
Lucas State Office Building, 321 E. 12th Street Des Moines, Iowa 50319-0075 Phone- 800-362-2736 Secure fax- 515-281-5698

Iowa Disease Surveillance System (IDSS) related questions, call the Center for Acute Disease Epidemiology (CADE) at 1-800-362-2736

STD questions- call 515 281-3031.....HIV/AIDS questions- call 515-242-5141

Immunization questions- call 515-281-4938.....TB questions- call 515 281-7504

Specimen submission questions –call the University Hygienic Laboratory 319-335-4500 or go to <http://www.uhl.uiowa.edu/>

Reporting forms may be obtained from the Clearing house at: <http://www.drugfreeinfo.org/state/cart.php>

Visit our web site at <http://www.idph.state.ia.us>



Revised Dec 2009

POISONING OR CONDITION	CASES TO REPORT	WHEN TO REPORT	HOW TO REPORT
Agricultural related injury	A non-household injury to a farmer, farm worker, farm family member, or other individual, which occurred on a farm, or in the course of handling, producing, processing, transporting or warehousing farm commodities	Quarterly (recommend weekly)	Routine reporting See EH Div Web page Trauma Registry Users, see EMS Web page.
Arsenic poisoning	Blood arsenic values equal to or greater than 70 µg/L Urine arsenic values equal to or greater than 100 µg/L of urinary creatinine	Weekly	Routine reporting See EH Div Web page
Blood lead testing	All analytical results greater than or equal to 20 micrograms per deciliter (µg/dL) in a child under the age of 6 years or a pregnant woman	Daily	Phone: 800-972-2026
	All other analytical values for all blood lead analyses	Weekly	Electronic format specified by the department
Cadmium poisoning	Blood cadmium values equal to or greater than 5 µg/L Urine cadmium values equal to or greater than 3 µg/g	Weekly	Routine reporting See EH Div Web page
Carbon monoxide (CO) poisoning	Blood carbon monoxide level equal to or greater than 10% carboxyhemoglobin or its equivalent with a breath analyzer test, or a clinical diagnosis of CO poisoning regardless of any test result	Daily	Phone: 800-972-2026 See EH Div Web page Or: Iowa Statewide Poison Control Center 800-222-1222 for 24 hour consultation followed by fax to IDPH EH.
Hypersensitivity pneumonitis	A disease in which the air sacs (alveoli) of the lungs become inflamed when certain dusts are inhaled to which the person is sensitized or allergic. Includes but is not limited to farmer's lung, silo filler's disease, and toxic organic dust syndrome.	Weekly	Routine reporting See EH Div Web page
Mercury poisoning	Blood mercury values equal to or greater than 2.8 µg/dL Urine mercury values equal to or greater than 20 µg/L	Weekly	Routine reporting See EH Div Web page
Methemoglobinemia	Blood analyses showing greater than 5% of total hemoglobin present as methemoglobin	Weekly (recommend immediate)	Routine reporting See EH Div Web page
Microcystin (Blue-green algal) poisoning*	Gastrointestinal symptoms, respiratory symptoms, dermal symptoms or elevated serum GGT (gamma glutamyl transpeptidase) and a history of exposure within the past seven days to water testing positive for microcystin	Daily from May 1 to Oct. 31	Phone: 800-972-2026
Non-communicable respiratory illness	An illness indicating prolonged exposure or overexposure to asbestos, silica, silicates, aluminum, graphite, bauxite, beryllium, cotton dust or other textile material, or coal dust. Includes, but is not limited to asbestosis, coal worker's pneumoconiosis, and silicosis.	Weekly	Routine reporting See EH Div Web page

POISONING OR CONDITION	CASES TO REPORT	WHEN TO REPORT	HOW TO REPORT
Occupationally related asthma, bronchitis or respiratory hypersensitivity reaction	Any extrinsic asthma or acute chemical pneumonitis due to exposure to toxic agents in the workplace. (ICD-10 codes J67.0 to J67.9) All cases of occupationally induced or exacerbated asthma.	Weekly	Routine reporting See EH Div Web page
Pesticide poisoning	Any acute or subacute systemic, ophthalmologic, or dermatologic illness or injury resulting from or suspected of resulting from inhalation or ingestion of, dermal exposure to, or ocular contact with a pesticide. Laboratory confirmation is not required.	Weekly	Iowa Poison Control Center 800-222-1222 for 24 hour consultation. See EH Div Web page
Severe skin disorder	Dermatoses, burns, and other severe skin disorders which result in death or which require hospitalization or other multiple courses of medical therapy.	Weekly	Routine reporting See EH Div Web page
Traumatic Spinal Cord Injury (TSCI)	An acute, traumatic lesion of the neural elements in the spinal canal, resulting in any degree of sensory deficit, motor deficit, or bladder/bowel dysfunction. The deficit can be temporary, permanent, or result in death. The lesion can occur at any level of the spinal cord and may be complete or incomplete. Spinal cord injuries include: cauda equina, conus medullaris injuries, central cord syndrome, anterior cord syndrome, posterior cord syndrome, Brown-Sequard syndrome, mixed syndrome, and cord compression. Patients presenting neurological symptoms upon admission which resolve before hospital discharge should also be reported.	Quarterly	See Bureau of EMS Web page
Toxic hepatitis	Any acute or subacute necrosis of the liver or other unspecified chemical hepatitis caused by exposure to nonmedicinal toxic agents other than ethyl alcohol including, but not limited to, carbon tetrachloride, chloroform, tetrachloroethane, trichloroethylene, phosphorus, trinitrotoluene (TNT), chloronaphthalenes, methylenedianilines, ethylene dibromide, and organicsolvents. (ICD-10 codes K71.0 to K71.9)	Weekly	Routine reporting See EH Div Web page
Traumatic Brain Injury (TBI)	Clinically evident brain damage resulting from trauma or anoxia which temporarily or permanently impairs a person's physical or cognitive functions". The injury may be a penetrating or closed head injury resulting in death, or temporary or permanent impairment. Persons with brain injuries may display loss of consciousness, post-traumatic amnesia, a skull fracture, or damage to brain tissue as evidenced by neurological findings that can be reasonably attributed to a traumatic brain injury.	Quarterly	See Bureau of EMS Web page

*The Director of IDPH has temporarily designated suspected or confirmed cases of exposure to microcystin as a reportable disease.

Reporting of the above diseases is required by Iowa Administrative Code [641] Chapter 1. Chart Revised April 2010.

Visit our web site at <http://www.idph.state.ia.us>

Iowa Department of Public Health, Lucas State Office Building, 321 E. 12th Street Des Moines, Iowa 50319-0075



Cholera

In 1854, during an epidemic of cholera in London, John Snow recognized that most of the ill people obtained their water from the Broad Street pump. By removing the pump handle, he stopped the epidemic.

Cholera is an acute diarrheal illness caused by *Vibrio cholerae*. Approximately 1 in 20 infected persons have severe disease characterized by profuse watery diarrhea and vomiting, resulting in rapid loss of body fluids. This leads to dehydration and shock, and without rehydration, death can occur within hours.

Information on Other Diseases

What are adenoviruses?

Adenoviruses are a group of viruses that cause respiratory infection, which may have a range of symptoms from the common cold to pneumonia (infection of the lungs). Adenoviruses may also cause infections of the eye, urinary tract infections in children, diarrhea in infants, and infections of the brain and spinal cord. Patients with poorly functioning immune systems are especially prone to severe and life-threatening infections.

Who can be infected?

Anyone can be infected. Persons living in close proximity to one another, such as military personnel and persons in long-term care facilities, are more likely to be infected due to the crowding of a susceptible population.

How does a person acquire this infection?

These viruses are spread by fecal-oral transmission or by inhalation of airborne droplets; more importantly, indirectly by hands and articles freshly soiled by discharges of nose, throat, and eyes of an infected person.

What are the symptoms?

Adenovirus-induced respiratory illness may mimic other diseases, such as pertussis (whooping cough). The most common symptoms of lung and eye infections are cough, fever, sore throat, runny nose, and redness of the eyes. Differentiation can be accomplished through a laboratory test. Other symptoms can occur, depending on the site of infection, and may include pain with urination accompanied by increased urinary frequency (urinary tract infections), watery diarrhea and fever (gastroenteritis).

How soon after infection do symptoms appear?

The symptoms usually start 4 - 5 days after infection, but may begin as early as 2 days to as late as 14 days.

How long can a person spread adenoviruses?

People are most likely to spread the virus during the first few days of their illness, but can spread the virus to others for months.

What is the treatment for adenoviruses?

There are no specific drugs available for the treatment of adenoviruses. Antibiotics do not work on adenoviruses as they are only effective on bacteria. Most people get well without treatment.

How can the spread of adenoviruses be prevented?

1. Attention to good handwashing should occur at all times.
2. Cover the mouth when coughing and sneezing.
3. Properly dispose of tissues.
4. Avoid crowding in living and sleeping quarters, when possible.
5. Provide adequate ventilation.
6. Avoid smoking in households with small children, whose risk of pneumonia increases when exposed to second-hand smoke.
7. Avoid sharing of eyedroppers, medications, eye make-up, and towels.

What is Antibiotic resistance?

Bacteria are tiny organisms not visible with the human eye. Most bacteria are helpful to us; some are harmful and cause infections. An antibiotic is a prescription drug that can kill or disable disease-causing bacteria.

Antibiotic resistance happens when microbes (germs) develop ways to survive the use of medicines meant to kill or weaken them. There are many bacteria that have developed resistance to antibiotics used to treat the infections caused by them. Some of the more common bacteria that are sometimes resistant are *Staphylococcus aureus* ("Staph"), *Streptococcus pneumoniae* ("pneumococcus"), *Mycobacterium tuberculosis* ("TB"), and *Enterococcus*.

Why have antibiotic resistant bacteria developed?

When antibiotics are used too much, the few bacteria able to survive do so and multiply, eventually making the antibiotic useless. Also, when medicines are prescribed for an illness and people do not take all of the medication, this will allow the bacteria to regroup into different or resistant strains. Thus, the antibiotic cannot kill the bacteria, and these "resistant" bacteria can spread.

When do I take antibiotics?

Your doctor gives you a prescription for antibiotics when bacteria cause your illness.

Does that mean I should take antibiotics for the flu or common cold?

No. "Colds" and "flus" are caused by viruses, not by bacteria. Antibiotics do not work against viruses.

If I cannot take an antibiotic for a viral infection, like a cold, flu, or bronchitis what can I do to feel better?

Get extra sleep, drink lots of fluids, and eat healthy foods. This helps your body fight viral infections. Over-the-counter medicines like throat lozenges or saline nose spray may help you feel better while your body is fighting the virus.

What if I get sick with an infection caused by bacteria that is antibiotic-resistant?

Antibiotic-resistant bacterial infections require stronger medicines, are more difficult to treat, and could require a hospital stay. More serious infections of the blood or brain caused by a bacteria that is resistant to antibiotics can be life threatening.

What can I do to prevent antibiotic-resistant infection?

- Never ask for or take an antibiotic for a viral infection such as cold, cough, or flu.
- Use antibiotics only when your doctor prescribes them.
- Take antibiotics as directed and take all of them, even though you may begin to feel better before you finish all the pills.
- Never take leftover antibiotics or take a prescription that was used by someone else.
- Always wash your hands thoroughly, (using soap and water, for 15 seconds) after blowing your nose, using the toilet, diapering, and before eating or preparing food.

What is *Clostridium difficile*?

Clostridium difficile is a bacteria that causes diarrhea and more serious conditions by producing a toxin after antibiotics have killed off other organisms in the gut.

What are the symptoms of *Clostridium difficile*?

Infection with *Clostridium difficile* may cause no symptoms, mild symptoms, or severe watery diarrhea and may result in death.

How is *Clostridium difficile* spread?

Once a person has *Clostridium difficile*, it can be spread to others by contact with contaminated environment or unwashed hands.

Who gets *Clostridium difficile* infection?

Anyone can get *Clostridium difficile*, but people who have recently received long term; multiple antibiotics are most likely to get diarrhea caused by *Clostridium difficile*.

How is *Clostridium difficile* diagnosed?

In people with symptoms, a test can be done on feces (stool) to detect the bacteria. If found, further testing should be done to make sure that *Clostridium difficile* is producing the toxin and if it is causing disease.

How long is a person infectious?

An infected person can spread the bacteria as long as the bacteria is passed in the stool.

What is the treatment for *Clostridium difficile*?

The first treatment is to discontinue or change the antibiotic the person is taking. Patients should be watched for dehydration and electrolyte imbalance following prolonged bouts of diarrhea. Antidiarrheal medicines such as Lomotil[®] or Imodium[®] have been shown to increase the severity of symptoms and should **NOT** be taken.

If the diarrhea worsens or fails to improve within 48 hours, the doctor may choose to treat it with a different medication.

Can a person get *Clostridium difficile* again?

Yes.

Do infected people need to be excluded from school, work, or child care?

People are not routinely excluded from work, school, or child care. Anyone with food-handling responsibilities should not work until diarrhea has ceased. Child care attendees should not attend until no loose stools have occurred for at least 24 hours.

What can be done to help prevent the spread of *Clostridium difficile*?

Antibiotics should be taken only when necessary and as ordered by the doctor. Good hand washing practices and keeping the environment clean are proven to help prevent the spread of this disease.

What is Clostridium perfringens?

It is a toxin-producing bacteria frequently found in raw meat (beef, pork, poultry and fish). Some toxic spores survive the initial cooking process and are not completely destroyed. Foods prepared or held under improper conditions permit toxin-producing spores to multiply and, once eaten, the toxins make us sick.

What are the symptoms of Clostridium perfringens?

The food poisoning is characterized by sudden onset of moderate-to-severe cramping, gassy pain and watery diarrhea. Vomiting and fever are uncommon. It is generally a mild gastrointestinal disease of short duration, 1 day or less, and rarely fatal in healthy people.

How soon do symptoms appear?

The symptoms appear from 6 - 24 hours after having eaten the implicated food. On the average the symptoms appear within 10 - 12 hours.

How is Clostridium perfringens spread?

The toxin comes from contaminated foods that are not adequately cooked, improperly reheated, or improperly cooled or stored, and then eaten. Almost all *Clostridium perfringens* outbreaks are associated with inadequately cooled or heated/reheated meats (usually stews, ground meats, meat pies, and gravies made of beef, turkey, or chicken).

Who gets Clostridium perfringens?

Anyone can get this illness from foods that have not been properly cooked, cooled, or reheated.

For how long is a person infectious?

Since this illness is caused by a toxin and is not transmitted person-to-person, ill people are not infectious.

What is the treatment for this illness?

Drinking more fluids for rehydration or occasionally, intravenous fluid and electrolyte replacement may be indicated for persons with severe dehydration. Antibiotics are not indicated.

Do infected people need to be excluded from school, work, or child care?

No.

What can be done to help prevent the spread of Clostridium perfringens?

Educate all food handlers (home cooks, community meal preparation cooks, and commercial restaurant cooks) on the risks of heating, cooling, and reheating large-scale cooking projects, especially meat dishes.

Serve hot foods while still hot from initial cooking. Foods should never be held at room temperature to cool, but should be refrigerated after removal from warming devices or serving tables. Serve meat dishes hot, as soon as they are cooked, or cool them rapidly in properly designed chiller and refrigerate until serving time; reheat rapidly if necessary (to an internal temperature of at least 70°C/158°F, preferably ≥ 75°C/167°F). Do not partially cook meat and poultry one day and reheat the next, unless it can be stored at a safe temperature. To chill quickly, divide large batches or cuts of meat or foods into small portions and chill in shallow containers not more than 4-inches deep, and place in a rapid chiller.

FACT SHEET

Pregnant Healthcare Worker

Information on Communicable Diseases

This information is provided to educate female healthcare workers about the risks of acquiring a communicable disease during pregnancy, and help to avoid exposure whenever possible. Specific questions should be directed to the personal physician. The physician should always be notified of exposure to communicable disease, whether work or community related.

Disease of Patient	Mode of Transmission	Prevention	Comments
AIDS/HIV	Blood & body fluids	Standard Precautions for all patients	Report blood/body fluid or contaminated sharps exposures immediately.
Chickenpox (Varicella)	Respiratory & lesion via contact with drainage or droplets, or airborne route	Airborne and contact isolation Vaccine available	The non-immune HCW, pregnant or not, should not care for varicella patients. Varicella vaccine is recommended for nonpregnant health care personnel without reliable history of varicella or laboratory evidence of immunity.
Cytomegalovirus (CMV)	Urine & respiratory droplets	Standard Precautions good hand hygiene	Low risk for nosocomial transmission. Most adult women are already immune
Hepatitis A	Oral/fecal	Standard Precautions Vaccine available, post-exposure prophylaxis available	
Hepatitis B	Blood & body fluids	Standard Precautions for all patients, vaccine available, post exposure prophylaxis available.	Hepatitis B vaccine recommended for all HCW at risk for blood exposure. Report any blood/body fluid or contaminated sharps exposures immediately.
Hepatitis C	Blood & body fluids	Standard Precautions for all patients	Report any blood/body fluid or contaminated sharps exposures immediately.
Herpes Simplex	Lesion secretions	Standard or Contact Precautions	Unlikely nosocomial transmission.
Influenza	Respiratory via droplets or airborne route	Standard Precautions plus Droplet Precautions. Yearly vaccine available	All HCW should receive yearly influenza vaccine. However, pregnant women should receive only inactivated influenza vaccine; LAIV is not recommended for use during pregnancy. Inactivated influenza vaccine may be administered in any trimester.
Multi-Drug Resistant Organisms (i.e., MRSA, VRE)	Depends on site of infection or colonization	Standard or Contact Precautions depending on site of infection	As long as proper infection control practices are used, the pregnant HCW is at no greater risk than the non-pregnant HCW.

Disease of Patient	Mode of Transmission	Prevention	Comments
Parvovirus B19 (Fifth's disease)	Respiratory via droplets	Standard Precautions plus Droplet Precautions for all patients/good hand hygiene	Pregnant HCW should not care for patients with sickle cell or chronic hemolytic anemia who are in aplastic crisis due to parvovirus B19.
Rubella	Droplets and direct contact with respiratory secretions	Standard Precautions plus Droplet Precautions, vaccine available	The non-immune HCW, pregnant or not, should not care for rubella patients. Vaccine is recommended for the nonpregnant HCW without documentation of immunity.
Rubeola (measles)	Respiratory via droplets or airborne route	Standard Precautions plus Airborne Precautions, vaccine available	The non-immune HCW, pregnant or not, should not care for rubeola patients. Vaccine is recommended for the nonpregnant HCW without documentation of immunity, if borne before 1957.
Shingles (herpes zoster)	Lesion secretions	Standard Precautions, Airborne, and Contact Precautions if disseminated	The varicella virus causes herpes zoster. The non-immune HCW, pregnant or not, should not care for varicella patient. Varicella vaccine is recommended for nonpregnant health care personnel without reliable history of varicella or laboratory evidence of varicella immunity.
Syphilis	Lesion drainage and blood	Standard Precautions	Risk of nonsexual transmission low.
Toxoplasmosis	Persons may become infected by ingestion of infective oocysts from dirt in which cats have defecated.	Standard Precautions	Greatest risk from insufficiently cooked meat or cat feces (i.e. emptying litter boxes without proper hand hygiene afterward).
Tuberculosis	Airborne droplets	Airborne Precautions	Report any unprotected exposure. TB skin testing is not contraindicated during pregnancy.

In summary: Pregnancy does not usually make a person more susceptible to disease. Reassignment is usually not necessary in caring for ill persons while pregnant. Reassignment of a pregnant employee is indicated if a patient has parvovirus B19, in specific circumstances (see above). Non-immune employees, pregnant or not, should not care for patients with rubella, rubeola, shingles or chickenpox. Remember, hand hygiene is the most important preventive measure to limit disease transmission from one person to another. Standard Precautions, including meticulous hand hygiene, must be strictly followed, not just by the pregnant health care provider, but by all health care providers.

APIC Central Iowa/District E

What is conjunctivitis?

It is the most common eye inflammation. The most common causes of acute conjunctivitis are bacteria, viruses, allergens, or sometimes irritation from toxic chemical exposures.

Who is at risk?

Anyone! It is most commonly found in children < 5 years of age.

What are the symptoms of conjunctivitis?

The onset is sudden with redness of white-colored area of the eyeball and edema or swelling of the lids, secretions that contain mucus and pus, pain, blurred vision, sensitivity to light and occasionally low-grade fever, headache, tiredness and tenderness in the area surrounding the eye(s).

How do you get conjunctivitis?

Contact with the discharges from the eye or upper respiratory tracts of infected people, from fingers, clothing and other articles, including shared towels, eye-makeup applicators, multiple dose eye medications soiled with discharges and inadequately sterilized eye examination instruments.

How is conjunctivitis diagnosed?

Drainage from the eye can be tested to determine the cause.

How is conjunctivitis treated?

Most types of mild bacterial conjunctivitis and most types of viral conjunctivitis are usually time-limited conditions that require no treatment. Some infections may be treated with eye ointments or drops with a doctor's prescription.

How can conjunctivitis be prevented?

It can be prevented through personal cleanliness, including frequent handwashing. When washing hands at school or work use paper towels after washing, or the hot air blower. At home, provide a separate towel and face cloth for each member of the household, and wash towels regularly in hot water and detergent. Try not to touch eyes while infected. Do not use common eyedropper, eye medicines, or eye makeup. Make tissues readily available at work or in school classrooms; dispose of them in a trash receptacle after use. Use disposable tissues to blow your nose, sneeze, or cough.

Should infected persons be excluded from school or work?

Conjunctivitis is usually seen with viral upper respiratory and intestinal infection. People with conjunctivitis caused by either bacteria or virus should wash their hands frequently and use good hand-washing technique. No one should use common towels or other toilet articles. People with acute stage conjunctivitis should consult their healthcare provider for treatment. Children should not attend school during the acute stage.

What is Cytomegalovirus (CMV)?

CMV is a virus that infects most people, but rarely causes illness. CMV is a member of the herpes virus family. It can “hide” in your body without causing illness, then reappear later and cause illness.

Who gets CMV?

Anyone. Many adults may have already been infected at some time during their life.

How is CMV spread?

CMV is spread from person to person by direct contact. It is found in the urine, saliva, blood, semen, and other body fluids. The virus can spread from an infected mother to her fetus or newborn baby. CMV can be spread by blood transfusion and organ transplants.

What are the symptoms of CMV infection?

Most children and adults who are infected with CMV do not become ill. Those who do may have fever and swollen glands, and feel tired. Individuals with weakened immune systems such as transplant recipients and those infected with HIV may have a more serious illness, such as pneumonia. About 7 of every 1,000 babies born in the U.S. are infected with CMV at birth. Of these 7 babies, one may have health problems.

How soon after infection do symptoms appear?

If symptoms develop, they usually occur between 3 - 12 weeks after infection. Most people do not become ill.

How long can an infected person carry CMV?

CMV may remain in the body throughout the person's lifetime. The virus may be found in the urine or saliva of infected people, whether or not they are ill.

How is CMV diagnosed and treated?

There are special laboratory tests to grow the virus, but testing is difficult, expensive and not widely available. Specific blood tests can be helpful to the physician in making a diagnosis or determining if a person has been exposed, but the results are sometimes inaccurate. Currently, no treatment exists for CMV infections in healthy individuals. Antiviral treatment may be used for those with immune systems weakened by life threatening illness. An effective vaccine has not been developed.

Should an infected person be excluded from school or work?

No.

What precautions should pregnant women take?

Pregnant women should carefully wash their hands after handling wet diapers or having contact with urine or saliva. Pregnant women working in childcare centers should not kiss babies or young children on the mouth; hugging is OK. Pregnant women should ask their doctor about CMV infections.

What can be done to stop the spread of CMV?

Good handwashing is the best way to prevent infection. Healthcare workers should wear plastic disposable gloves when handling sheets or clothing soiled with the feces or urine of persons who are ill.

What is DEET?

DEET, also known as N,N-diethyl-m-toluamide or N,N-diethyl-3-methylbenamide, is the active chemical ingredient in most insect repellents applied to the skin. It has been tested against a variety of biting insects and has been proven to be an effective insect repellent for mosquitoes, ticks, black flies, fleas, and no-see-ums. Both the World Health Organization and Centers for Disease Control and Prevention recommend the use of DEET-based repellents to protect against insect-borne diseases such as West Nile virus.

SAFE and EFFECTIVE USE of DEET

DEET is safe when used according to label directions. DEET was developed by the U.S. Army in 1946 for use by military personnel in insect-infested areas and was first registered in the United States in 1957. However a few incidents of toxic reactions to DEET have occurred even when the product was used properly.

The length of time that an insect repellent will provide protection from mosquito bites depends on the concentration of DEET in the product. A higher percentage of DEET in a repellent does not provide better protection, just longer protection. It has been proven that products with a DEET concentration over 50% do not increase the length of protection. A higher percentage of DEET should be used if you are outdoors for a long period of time and a lower percentage of DEET should be used if you are outdoors for a short period of time.

Products containing up to 30% DEET have been found to be safe for adults. No definitive studies exist in the scientific literature about what concentration of DEET is safe for children. The American Academy of Pediatrics states that insect repellents containing DEET with a concentration of 30% appear to be as safe as products with a concentration of 10% when used according to the directions on the product label. DEET is not recommended for use on children under 2 months of age; most experts agree it is safe to apply insect repellent with low concentrations of DEET to children over 2 months of age. The safest approach for infants and children under 2 years is to minimize exposure to mosquitoes.

The Environmental Protection Agency and the Centers for Disease Control and Prevention recommend the following guidelines for using insect repellents containing DEET:

- ✓ **Read and carefully follow product label directions and precautions.**
- ✓ **Apply repellent sparingly on exposed skin and/or clothing.**
- ✓ **Do not apply DEET underneath clothing.**
- ✓ **Do not apply repellent near eyes, lips, or mouth.**
- ✓ **Never apply DEET over cuts, wounds, or irritated skin.**
- ✓ **Avoid using sprays in enclosed areas. Do not use DEET near food.**
- ✓ **Do not apply repellent to the hands of young children.**
- ✓ **Do not allow young children to apply repellents themselves.**
- ✓ **After returning indoors, wash treated skin with soap and warm water.**
- ✓ **Avoid over application. Heavy application is not necessary to achieve protection.**
- ✓ **Wash treated clothing before wearing again.**

Dengue Fever/Dengue Hemorrhagic Fever

FOR STATE USE ONLY

Investigator: _____
 Agency: _____ Phone number: _____

Status: Confirmed Suspect
 Probable Not a case
 Reviewer initials: _____
 Referred to another state: _____

CASE

Last name: _____
 First and middle name: _____
 Maiden name: _____ Suffix: _____
 Address line: _____
 Zip: _____ City: _____
 State: _____ County: _____
 Long-term care resident: Yes No Unknown
 Facility name: _____
 Facility phone: (____) - ____ - ____ Type: _____

Date of Birth: ____ / ____ / ____ Estimated? Age: _____
 Gender: Female Male Other _____
 Pregnant: Yes No Unk Est. delivery date: ____ / ____ / ____
 Marital status: Single Parent with partner Widowed
 Married Separated
 Race: American Indian or Alaskan Native Unknown
 Black or African American White
 Hawaiian or Pacific Islander Asian
 Ethnicity: Hispanic or Latino Not Hispanic or Latino Unknown
 Parent/Guardian name: _____
 Parent/Guardian phone: (____) - ____ - ____ Type: _____

EVENT

Onset date: ____ / ____ / ____ Diagnosis date: ____ / ____ / ____
 Event outcome: Survived this illness Died from this illness
 Died unrelated to this illness Unknown
 Outbreak related: Yes No Unknown
 Outbreak name: _____
 Exposure setting: _____
 Epi-linked: Yes No Unknown
 Location acquired: In USA, in reporting state
 In USA, outside reporting state
 Outside USA
 Unknown
 State: _____ Country: _____

Healthcare provider information

Last name: _____
 First name: _____
 Provider type: ARNP MD DO NP PA
 Facility name: _____
 Address line 1: _____
 Address line 2: _____
 Zip code: _____ City: _____
 State: _____ County: _____
 Phone: (____) - ____ - ____ Type: _____

LABORATORY FINDINGS

Laboratory: _____	Specimen source: _____	Test type: <input type="checkbox"/> Serology (ELISA) <input type="checkbox"/> PCR <input type="checkbox"/> Other _____
Accession #: _____	Result date: ____ / ____ / ____	Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final
Collection date: ____ / ____ / ____	Test type: <input type="checkbox"/> Acute <input type="checkbox"/> IgM <input type="checkbox"/> Convalescent <input type="checkbox"/> IgG	Result: <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Positive <input type="checkbox"/> Indeterminate
Date received: ____ / ____ / ____	Organism: Dengue virus	Type: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Laboratory: _____	Specimen source: _____	Test type: <input type="checkbox"/> Serology (ELISA) <input type="checkbox"/> PCR <input type="checkbox"/> Other _____
Accession #: _____	Result date: ____ / ____ / ____	Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final
Collection date: ____ / ____ / ____	Test type: <input type="checkbox"/> Acute <input type="checkbox"/> IgM <input type="checkbox"/> Convalescent <input type="checkbox"/> IgG	Result: <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Positive <input type="checkbox"/> Indeterminate
Date received: ____ / ____ / ____	Organism: Dengue virus	Type: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

Laboratory: _____	Specimen source: _____	Test type: <input type="checkbox"/> Serology (ELISA) <input type="checkbox"/> PCR <input type="checkbox"/> Other _____
Accession #: _____	Result date: ____ / ____ / ____	Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final
Collection date: ____ / ____ / ____	Test type: <input type="checkbox"/> Acute <input type="checkbox"/> IgM <input type="checkbox"/> Convalescent <input type="checkbox"/> IgG	Result: <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Positive <input type="checkbox"/> Indeterminate
Date received: ____ / ____ / ____	Organism: Dengue virus	Type: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4

OCCUPATIONS

Interpret 'occupation' very loosely and consider every person to have at least one 'occupation'

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: _____ / _____ / _____ Address: _____
 Date worked to: _____ / _____ / _____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: _____ / _____ / _____ Phone: (____)____-____-____ Type: _____
 Handle food: Yes No Unknown
 Attend or provide child care: Yes No Unknown
 Attend school: Yes No Unknown
 Work in a lab setting: Yes No Unknown
 Work in a health care setting: Yes No Unknown
 Direct patient care duties: Yes No Unknown
 Health care worker type: _____

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: _____ / _____ / _____ Address: _____
 Date worked to: _____ / _____ / _____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: _____ / _____ / _____ Phone: (____)____-____-____ Type: _____
 Handle food: Yes No Unknown
 Attend or provide child care: Yes No Unknown
 Attend school: Yes No Unknown
 Work in a lab setting: Yes No Unknown
 Work in a health care setting: Yes No Unknown
 Direct patient care duties: Yes No Unknown
 Health care worker type: _____

HOSPITALIZATIONS

Was the case hospitalized? Yes No Unknown

Hospital: _____ Isolated at entry: Yes No Unk Isolation type (entry): _____
 Admission date: _____ / _____ / _____ Discharge date: _____ / _____ / _____ Days hospitalized: _____
 Currently isolated: Yes No Unk Current isolation type: _____

CLINICAL INFO & DIAGNOSIS

Physician diagnosis: Encephalitis Asymptomatic Dengue hemorrhagic fever/ Dengue shock **Clinical classification:** Neuroinvasive Non-neuroinvasive
 Meningitis Hepatitis/jaundice
 Meningoencephalitis Multi-system organ failure
 Fever Other _____

Symptoms: Acute flaccid paralysis Diarrhea Headache Stiff neck
 Altered mental state Double vision Joint pain Swollen lymph nodes
 Anorexia Eye pain Muscle pain Tremors
 Coma Fatigue Nausea Vertigo
 Confusion Fever Photophobia Vomiting
 Cranial nerve palsies Gait/balance difficulty Rash Other symptoms: _____

Pre-existing Conditions

Before your West Nile virus (WNV) infection, did a health care provider ever tell he/she had any of the following medical conditions?

Diabetes Congestive heart failure Kidney disease or failure
 High blood pressure (hypertension) Stroke Bone marrow transplant
 Heart attack (myocardial infarction) Chronic obstructive pulmonary disease (COPD) Alcoholism
 Angina or coronary artery disease Chronic liver disease Case had none of the conditions listed

Before WNV infection, did the case ever have a solid organ transplant? Yes No Unk

If yes, what organ was transplanted: _____

If yes, what year was the transplant: _____

Before WNV infection, has the case ever had cancer? Yes No Unk

If yes, what cancer type(s): _____

If yes, what year were you diagnosed: _____

If yes, are you currently being treated for cancer:

Yes No Unk

Before WNV infection, did the case have any medical condition that limited his/her ability to fight infection?

Yes No Unk

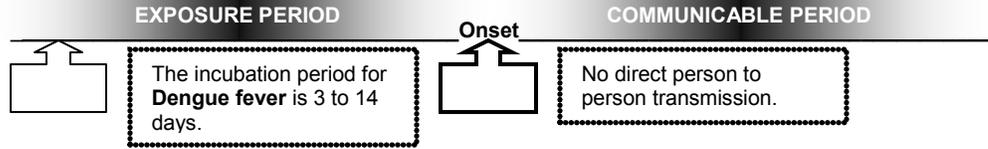
If yes, what condition: _____

At the time WNV infection was diagnosed, was the case taking any of the following types of prescription medications or treatments?

- Chemotherapy, Other treatments for cancer, Hemodialysis, Other treatments for kidney disease, Oral or injected steroids, Inhaled steroids, Insulin or other medications to treat diabetes, Medications to treat high blood pressure, Medications to treat coronary artery disease, Medications to treat congestive heart failure, Medications that suppress the immune system, Case was not on any medication/treatments listed

INFECTION TIMELINE

Enter onset date in dark-line box. Enter dates for start of exposure period and start and end of communicable period.



RISK FACTORS/TRAVEL

Ever vaccinated for Yellow Fever or Japanese encephalitis (JE)? Yes No Unknown

If yes, list MOST RECENT vaccination information ONLY:

Form for listing vaccination information including Disease, Date vaccinated, Lot #, Vaccine type, and Manufacturer for both Yellow fever and JE.

Number of vaccinations: _____

Risk Factors/Travel Information

In the 15 days prior to onset of symptoms did the case:

Form for travel information including Traveled within Iowa, U.S., and outside U.S., with fields for City, State, Country, and Departure/Return dates.

Exposed to mosquitoes: Yes No Unk

Use a mosquito repellent: Yes No Unk. If yes, how often? Sometimes Never Always Most of the time. If yes, what type? Picaridin DEET Oil of lemon eucalyptus Other _____

If the patient is female, was she:

Pregnant? Yes No Unk
Breastfeeding? Yes No Unk

In the 30 days prior to onset of symptoms did the case:

Form for 30-day history including Donate blood, blood products, organs or tissues? and Receive blood or blood products? and Receive organs or tissue? with fields for Date donated/received and Case acquired infection (Naturally, Transplantation, Transfusion, Trans-placental, Breastfeeding, Occupationally, Unknown).

NOTES:

Blank lines for notes.

Ehrlichioses / Anaplasmosis

FOR STATE USE ONLY

Status: Confirmed Probable NR
 Suspect Not a case
 Reviewer initials: _____
 Referred to another state: _____

Agency: _____

Investigator: _____

Phone number: _____

CASE

Last name: _____
 First and middle name: _____
 Maiden name: _____ Suffix: _____
 Address line: _____
 Zip: _____ City: _____
 State: _____ County: _____
 Long-term care resident: Yes No Unknown
 Facility name: _____
 Facility phone: ()- - Type: _____

Date of Birth: ____ / ____ / ____ Estimated? Age: _____
 Gender: Female Male Other _____
 Pregnant: Yes No Unk Est. delivery date: ____ / ____ / ____
 Marital status: Single Married Separated
 Divorced Parent with partner Widowed
 Race: American Indian or Alaskan Native Unknown
 Black or African American White
 Hawaiian or Pacific Islander Asian
 Ethnicity: Hispanic or Latino Not Hispanic or Latino Unknown
 Parent/Guardian name: _____
 Parent/Guardian phone: ()- - Type: _____

EVENT

Onset date: ____ / ____ / ____ Diagnosis date: ____ / ____ / ____
 Event outcome: Survived this illness Died from this illness
 Died unrelated to this illness Unknown
 Outbreak related: Yes No Unknown
 Outbreak name: _____
 Exposure setting: _____
 Epi-linked: Yes No Unk To whom: _____
 Location acquired: In USA, in reporting state
 In USA, outside reporting state
 Outside USA
 Unknown
 State: _____ Country: _____

Healthcare provider information

Last name: _____
 First name: _____
 Provider type: ARNP MD DO NP PA
 Facility name: _____
 Address line 1: _____
 Address line 2: _____
 Zip code: _____ City: _____
 State: _____ County: _____
 Phone: ()- - Type: _____

LABORATORY FINDINGS

Laboratory: _____ Accession #: _____ Collection date: ____ / ____ / ____
 Date received: ____ / ____ / ____ Specimen source: _____ Test type: _____
 Result type: Preliminary Final Result date: ____ / ____ / ____ Result: Positive Negative
 Organism: *E. chaffeensis* *E. ewingii* *E. undetermined* *A. phagocytophilum* *A. undetermined*

Laboratory: _____ Accession #: _____ Collection date: ____ / ____ / ____
 Date received: ____ / ____ / ____ Specimen source: _____ Test type: _____
 Result type: Preliminary Final Result date: ____ / ____ / ____ Result: Positive Negative
 Organism: *E. chaffeensis* *E. ewingii* *E. undetermined* *A. phagocytophilum* *A. undetermined*

Laboratory: _____ Accession #: _____ Collection date: ____ / ____ / ____
 Date received: ____ / ____ / ____ Specimen source: _____ Test type: _____
 Result type: Preliminary Final Result date: ____ / ____ / ____ Result: Positive Negative
 Organism: *E. chaffeensis* *E. ewingii* *E. undetermined* *A. phagocytophilum* *A. undetermined*

OCCUPATIONS

Interpret 'occupation' very loosely and consider every person to have at least one 'occupation'

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: ____/____/____ Address: _____
 Date worked to: ____/____/____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: ____/____/____ Phone: (____)____-____-____ Type: _____

Handle food: Yes No Unknown
 Attend or provide child care: Yes No Unknown
 Attend school: Yes No Unknown
 Work in a lab setting: Yes No Unknown

Work in a health care setting: Yes No Unknown
 Direct patient care duties: Yes No Unknown
 Health care worker type: _____

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: ____/____/____ Address: _____
 Date worked to: ____/____/____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: ____/____/____ Phone: (____)____-____-____ Type: _____

Handle food: Yes No Unknown
 Attend or provide child care: Yes No Unknown
 Attend school: Yes No Unknown
 Work in a lab setting: Yes No Unknown

Work in a health care setting: Yes No Unknown
 Direct patient care duties: Yes No Unknown
 Health care worker type: _____

HOSPITALIZATIONS

Was the case hospitalized? Yes No Unknown

Hospital: _____ Isolated at entry: Yes No Unk Isolation type (entry): _____
 Admission date: ____/____/____ Discharge date: ____/____/____ Days hospitalized: _____
 Currently isolated: Yes No Unk Current isolation type: _____

CLINICAL INFO & DIAGNOSIS

Fever: Yes No Unk Onset Date: ____/____/____ Duration (days): _____ Highest known fever: _____ °F/C

Other symptoms:

- Anorexia
- Fatigue
- Headache
- Muscle pain
- Nausea
- Rash
- vomiting

Life threatening complications:

- Adult respiratory distress syndrome
- Disseminated intravascular coagulopathy
- Meningitis/Encephalitis
- Renal failure

The following questions are relevant for Lyme disease only.

Did the health care provider for the case diagnose Lyme disease? Yes No Unk

Erythema migrans diagnosed by physician present:

Yes No Unk Onset Date: ____/____/____ Lesion greater than or equal to 5 cm: Yes No Unk

Late manifestations:

- 2nd/3rd degree atrioventricular (AV) block
- Bilateral facial palsy
- Encephalitis/Encephalomyelitis
- Cranial neuritis
- Recurrent, brief attacks of joint swelling
- Lymphocytic meningitis
- Radiculoneuropathy

OTHER LAB FINDINGS

Higher antibody result in CSF than in serum: Yes No Unknown

Leukopenia: Yes No Unknown

Thrombocytopenia: Yes No Unknown

Elevated hepatic transaminases: Yes No Unknown

TREATMENT

What are Human monocytotropic ehrlichiosis and Human granulocytic anaplasmosis?

These diseases are caused by two similar, but distinct, bacteria. Both illnesses are spread by ticks with symptoms similar to Rocky Mountain spotted fever. The illness can range from mild to severe and can possibly become life threatening.

What are the symptoms of Human ehrlichiosis?

Human ehrlichiosis can cause a sudden high fever, severe headache, fever and shaking chills. Loss of appetite, nausea, vomiting, diarrhea, muscle aches and mental confusion may also occur. A rash is not usually present. Pneumonia-like symptoms may develop.

How soon do symptoms appear?

The fever and headache usually appear 1 - 2 weeks after a tick bite.

How is ehrlichiosis spread?

People get ehrlichiosis from ticks, usually by a tick bite. Some people become ill after crushing a tick with their hands because its body fluids get into cuts or scratches in the skin. Ehrlichiosis cannot spread from person to person or from dogs to people. However dogs can bring infected ticks into close contact with people.

Who gets ehrlichiosis?

Anyone can get ehrlichiosis, especially if they spend a lot of time outdoors.

How long is a person infectious?

Ehrlichiosis is not spread from person to person.

What is the treatment for these illnesses?

Antibiotics such as tetracycline or chloramphenicol are used to treat both human monocytotropic ehrlichiosis and human granulocytic anaplasmosis.

Do infected people need to be excluded from school, work, or child care?

No.

What can be done to help prevent the spread of Human ehrlichiosis and Human granulocytic ehrlichiosis?

1. Don't walk bare-legged in tall grass or woods where ticks may be found.
2. If outdoors in an area where ticks may be found, wear a long-sleeved shirt, long pants, and high socks. Tuck pants legs into socks. Wear light-colored clothing so ticks can be seen more easily.
3. Conduct "tick checks" every two to three hours if spending a lot of time outdoors. Check all of your skin for ticks every day (you may need help to do this). The ticks are most often found on the thigh, arms, underarms, and legs. Ticks are very small, so look for new "freckles."
4. Use tick repellents containing the ingredients DEET for skin applications, (use precautions and appropriate products for small children) or Permethrin (on clothing). Always follow the directions on the container. These repellents can be found at any local drugstore. Wash off all repellents after going indoors.
5. Remove any attached ticks immediately, using the following method.

How should a tick be removed?

- Any tick should be removed as soon as possible. The best way is to use tweezers to grab the tick as close to the skin as possible and pull it straight out. Do not squeeze the tick's body when removing it. Do not handle ticks with bare hands. Wash your hands after removing a tick. You may want to apply an antiseptic to the bite. Once removed, the tick should be drowned in rubbing alcohol or the toilet.

What is VRE?

VRE stands for vancomycin-resistant enterococci. It is a bacteria that cannot be treated with common antibiotics.

How does VRE affect people?

VRE can cause infections in people or people can become carriers of VRE. VRE can cause infections ranging from in the urine to in the blood. People with an infection can pass the bacteria more easily to other people. People can carry the bacteria in the gastrointestinal tract (gut) or female genital tract without signs of being sick. This is called colonization and these individuals are “carriers” of VRE.

Who is at risk for VRE infections?

Healthy people are not usually at risk for VRE infections. People with more chance of getting VRE include those that are very ill, have an open wound, have been in the hospital for long periods of time or have been given many antibiotics.

How is the VRE spread?

VRE is usually passed to others by direct contact with stool, urine or blood with VRE in it. VRE can also be spread indirectly by hands of care givers or contact with environmental surfaces that have VRE on them. VRE usually is not spread by casual contact such as touching or hugging. VRE is not spread through the air by coughing or sneezing.

What is the most important measure to prevent the spread of VRE?

Hand washing is the most important way to prevent the spread of VRE. Proper hand washing includes rubbing your hand with soap and warm running water for at least 15 seconds, about the time it takes to sing “happy birthday” twice or the ABC song. Proper hand washing should be done after caring for sick people, after handling bandages and clothing of someone with VRE, and after going to the bathroom or changing diapers and before preparing food.

Can a person with VRE be denied admission to a long term care facility?

A person who is a carrier or infected with VRE should not be denied admission to a long-term care facility. VRE, along with other bacteria, may be present in any patient. If a patient who is a carrier or infected is transferred to a long term care facility, that facility should be informed in advance about the existence of VRE.

Does a person with VRE have to be separated from healthy individuals?

Living with a carrier of VRE presents little or no risk for other members of the household, except those who are at high-risk for VRE infection. A person with VRE infection should be seen by a health care provider before being placed with other people in a household or long-term care facility.

How is VRE treated?

Persons who are carriers of VRE usually do not need treatment. Persons with VRE infection can be treated with antibiotics other than vancomycin. The patient’s health care provider will recommend treatment based on lab testing.

FACT SHEET **Vancomycin-Resistant *Enterococci***

Information for Health Professionals

(VRE)

What is VRE?

VRE stands for vancomycin-resistant *Enterococci* and refers to bacteria of the *Enterococcus* genus that have developed resistance to vancomycin, normally used to treat serious *Enterococcus* infection. In addition to vancomycin, most strains of VRE are also resistant to other standard antibiotics including ampicillin and aminoglycosides.

How does VRE affect people?

People become carriers of VRE or have infections due to the bacteria. When colonized the organism is carried in the gastrointestinal tract or female genital tract without signs of illness. When infection occurs VRE can have clinical manifestations, ranging from skin lesions to deeper infections such as bacteremia and pneumonia.

Who is at risk for VRE infections?

Healthy people are not usually at risk for invasive VRE infections. Risk factors include critical illness, underlying disease or immunosuppression, intra-abdominal or cardio-thoracic surgical procedure, indwelling urinary or central venous catheter, prolonged hospital stay, or receipt of broad-spectrum antibiotics or vancomycin therapy.

How is the VRE spread?

Contact transmission of VRE may be direct (person-to-person) or indirect via contaminated equipment or environmental surfaces.

What is the most important measure to prevent the spread of VRE?

Hand hygiene using antimicrobial soap and warm running water for at least 15 seconds, or an alcohol based hand rub is the single most important measure to control the spread of VRE. Proper hand hygiene should be performed after the care of each patient, after handling soiled dressings and clothing, and after wearing gloves. Ensure frequent and proper cleaning of patient-care equipment and the environment.

What else can be done to prevent the spread of VRE?

Other measures to prevent becoming infected or transmitting infection to others are avoiding cross-contamination between clean and dirty linen, daily environmental cleaning, wearing gloves for all dressing changes, proper handling of infectious waste, and observing isolation procedures. Hand hygiene before and after each patient contact is the most important control measure.

How is VRE treated?

Persons carrying VRE but not exhibiting symptoms (colonized) usually do not need to be treated. Persons with active infections currently have limited treatment options, but may include multiple antibiotics for a prolonged period of time.

National VRE guidelines are available at.

The Hospital Infection Control Practices Advisory Committee (HICPAC) published in the September 22, 1995/Vol.44/No. RR-12 Morbidity and Mortality Weekly Report (MMWR), "Recommendations for Preventing the Spread of Vancomycin Resistance".

Refer to the Iowa Antibiotic Resistance Task Force Report:

www.idph.state.ia.us/adper/common/pdf/cade/antibioticreport.pdf

What are enteroviruses?

Enteroviruses are the second most common cause of viral infections in people. Enteroviruses are the leading cause of viral infections. There are currently 64 types of enteroviruses, which cause a wide variety of illnesses with fever, including three vaccine preventable enteroviruses that cause polio.

What are the symptoms of enterovirus illness?

Most people infected with an enterovirus have no symptoms. Some enteroviruses cause symptoms similar to the cold or flu such as fever, body aches, sore throat and mild to moderate skin rash. Less often these viruses can cause more serious symptoms such as meningitis (swelling of the spinal nerve cords) or encephalitis (inflammation of the brain). Infants, children and adolescents are more likely to become infected and develop illness from enteroviruses than adults.

What time of year do enteroviral infection occur?

These viruses are most common in the summer and fall.

How soon do symptoms appear?

If any symptoms appear they normally appear from 2 - 10 days after infection. The usual duration of illness is 3 - 6 days.

What are the complications of enterovirus infections?

Severe headache, backache, and abdominal pain may occur. Swelling and ulcers can develop in the throat and mouth. The muscles of the heart can become swollen and, in some unusual cases, "bloodshot" eyes can occur with swelling around the eyes. The most severe cases can develop meningitis, encephalitis, and a polio-like paralysis.

How does a person become infected with one of these viruses?

These viruses are spread by direct contact with food, water or surfaces that have been contaminated with stool. Some strains of enteroviruses are occasionally transmitted through the air and can cause a respiratory illness.

How is the disease diagnosed?

These diseases are usually mild in nature and diagnosed based on symptoms. Blood tests and specific viral testing are available.

How are the infection and its complications treated?

There are no specific drugs to fight these viruses, but some medications can be used to make the person feel better. Although you can develop immunity to one virus, you can still get sick with any of the other enteroviruses.

How can enterovirus infection be prevented?

Unfortunately, there are no vaccines for these viruses. Good personal hygiene, especially handwashing before handling food and after using the bathroom and/or changing diapers, can reduce the spread of these viruses.

What is Fifth Disease?

Fifth disease is generally a mild illness caused by a virus, parvovirus B19. It usually causes a “slapped-cheek” rash in infected children. Adults are more likely to have pain or swelling of the joints or flu-like symptoms.

What are the symptoms of an infection with Fifth Disease?

An ill child typically has a “slapped cheek” rash on the face and a lacy red rash on the trunk and limbs. Occasionally, the rash may itch. An ill child may have a low-grade fever, malaise, or a “cold” a few days before the rash breaks out. The child is usually not very ill and the rash resolves in 7 - 10 days. An adult who is not immune can be infected with parvovirus B19 and either have no symptoms or develop the typical rash of fifth disease, joint pain or swelling, or both. The joints most frequently affected are the hands, wrists, and knees. The joint pain and swelling usually resolve in a week or two, but they may last several months.

How soon do symptoms appear?

Usually within 4-14 days but may be as long as 20 days, after exposure.

How is this virus spread?

The virus is spread by contact with droplets produced by infected people coughing and sneezing. The most common time of year for spread is late winter and spring. Those at increased risk include healthcare workers, childcare workers, teachers, and mothers with infected children at home.

Who gets Fifth Disease?

More than 50% of adults have had prior exposure, and therefore do not get Fifth Disease again. It is most common in elementary-age children, but anyone can contract the disease.

For how long is a person infectious?

A person infected with parvovirus B19 is contagious during the early part of the illness, before the rash appears. Once the rash appears, the virus probably can no longer be spread to others.

What is the treatment for this illness?

Treatment of symptoms such as fever, pain, or itching is usually all that is needed for fifth disease. Adults with joint pain and swelling may need to rest, restrict their activities, and take medicines such as aspirin or ibuprofen to relieve symptoms.

Do infected people need to be excluded from school, work, or childcare?

Once the rash appears, the virus probably can no longer be spread to others. It is not necessary for children to be kept home from school or child care.

What can be done to help prevent the spread of these viruses?

Good hygiene, especially good handwashing is the best way to prevent spread.

What risk does this pose to pregnancy?

If a pregnant woman becomes infected, the fetus can also become infected. Fetal death can occur in a small percentage of cases and the risk is greater when infection occurs in the first 20 weeks of pregnancy. There is, however, no evidence to indicate that this virus causes birth defects. Occasional babies infected with the virus before birth can develop severe anemia and heart failure.

What should pregnant women do if they feel they have been exposed?

They should talk to their doctor.

What follow-up is needed in women with at-risk pregnancies?

If a woman becomes infected while pregnant, blood tests should be drawn. Several ultrasounds are recommended to detect more severe complications (usually performed weekly for 8 - 12 weeks). Occasionally more specialized tests are needed. In severe cases, the fetus may need a blood transfusion, which is then followed up by further ultrasounds.

Is infection with Parvovirus B19 an indication for pregnancy termination?

No, termination is neither necessary nor recommended. A successful outcome will occur in over 90% of cases.

National Outbreak Reporting System (NORS)

Guidance Document for NORS Users of foodborne, person-to-person, and animal contact

State Report ID: State-assigned identification

CDC Report ID: CDC-assigned identification

General Section

Primary Mode of Transmission: If there was more than one mode of transmission, select the mode of transmission that yielded the first cluster of illness in the outbreak. For outbreaks where an index case (i.e., food handler) contaminates the food resulting in several ill persons, the index case is not considered part of the first cluster of illness, and the primary mode of transmission for the outbreak would be considered foodborne.

- **Food** – If initial transmission of illness is associated with ingestion of a common, potentially contaminated food/beverage item
- **Water** – If initial transmission of illness is associated with ingestion of potentially contaminated water source (including bottled water)

It may be difficult to determine whether some outbreaks should be reported through the foodborne or the waterborne sections. Use the following table to help you decide which type of report to enter:

Source of Outbreak
(Known or Suspected)

Reporting Guidelines for NORS

FOOD	<ul style="list-style-type: none"> ▪ If contaminated food goes in your mouth and makes you sick – Foodborne ▪ If food is produced or prepared using contaminated water and then the contaminated food is consumed – Foodborne
WATER	<ul style="list-style-type: none"> ▪ If contaminated water goes in your mouth, you breath it, or you contact it in another way and it makes you sick – Waterborne
ICE	<ul style="list-style-type: none"> ▪ If ice is made with contaminated water – Waterborne ▪ If ice is made with contaminated water and then added to a beverage (e.g. ice was made with contaminated water and only people who consume drinks containing ice became ill) – Waterborne ▪ If ice is made with contaminated water and is used to cool a food product – Foodborne ▪ If ice is already made and then becomes contaminated through handling – Foodborne ▪ If it is unknown how the ice became contaminated – Foodborne
BEVERAGES PREPARED WITH WATER	<ul style="list-style-type: none"> ▪ If the beverage is made with contaminated water – Waterborne ▪ If the beverage is already made and then becomes contaminated through handling – Foodborne ▪ If the flavoring (e.g., frozen orange juice concentrate) is contaminated – Foodborne ▪ If it is unknown how the beverage became contaminated – Foodborne
DRINK MIX/SODA MACHINES	<ul style="list-style-type: none"> ▪ If the water entering the machine is contaminated or if there is a problem with the internal plumbing of the machine resulting in contamination (e.g., cross-connections, backflow of carbonated water resulting in copper leaching) – Waterborne ▪ If the drink is contaminated through handling after it is dispensed or contamination of the spout on the machine – Foodborne ▪ If the flavoring is contaminated before it is put into the machine – Foodborne ▪ If it is unknown how the beverage became contaminated – Foodborne

Last updated 12/31/2008

BOTTLED WATER	<ul style="list-style-type: none"> ▪ If bottled water is contaminated anywhere in the chain from source water through production, storage, transportation, distribution, and point of use – Waterborne
FLAVORED DRINKS (note: flavoring does not include carbonation)	<ul style="list-style-type: none"> ▪ If flavoring is added to bottled water and then it becomes contaminated or if the flavoring is contaminated – Foodborne ▪ If the water is contaminated before the flavoring is added – Waterborne ▪ If it is unknown how the flavored bottled water became contaminated – Foodborne

- **Animal contact** – If initial transmission of illness is associated with exposure (physical contact) to farm animals, reptiles, or other animals potentially infected with pathogens causing gastrointestinal illness in humans
- **Person to person** – If initial transmission of illness is associated with direct contact with an infected person. The index case should not be considered part of the initial cluster of illness.
- **Environmental contamination other than food/water** – If initial transmission of illness is associated with an environmental contaminant. Environmental contamination is similar to person-to-person transmission (e.g. if someone vomits in a public restroom and the following day people become sick after visiting the same restroom, although, the initial person is long gone)
- **Indeterminate/Other/Unknown** – If the source of initial transmission of illness was not identified, other, or unknown

Investigation Methods (Please select all that apply):

- **Interviews only of ill persons** – Select if only ill persons were interviewed
- **Case-control study** – This is an observational study to evaluate the relationship between an exposure (e.g. eating contaminated food; swimming in contaminated water; having direct contact with a sick person) and a particular outcome (e.g. illness). There are two categories of study participants, people who have the outcome of interest (cases) and people who do not have the outcome of interest (controls). Select this method if both ill persons and non-ill persons who may have had common exposures were interviewed, and this investigation method was completed.
- **Cohort study** – This is an epidemiological study that is used to assess outcomes (e.g. the development of gastrointestinal illness) in a group/cohort of people. Study participants are observed over time or counted to determine how many people experience the outcome of interest, and when the outcome occurred. Members in a cohort are defined according to their exposure profile (e.g. an exposed group and an unexposed group). In outbreak investigations, a cohort is frequently defined by membership in an organization (e.g. a boy scout troop attending a weeklong camp). Select this method if this investigation method was completed.
- **Food preparation review** – Select if a review of the location where food preparation was conducted (e.g. kitchen in restaurant)
- **Water system assessment: Drinking water** – Select if the drinking water system was investigated
- **Water system assessment: Nonpotable water** – Select if the nonpotable water system was investigated (e.g. cooling tower, irrigation system)
- **Treated or untreated recreational water venue assessment** – Select if a treated or untreated recreational water source was investigated (e.g. swimming pool, lake, etc)
- **Investigation at factory/production/treatment plant** – Select if a factory, production, or treatment plant was investigated (e.g. poultry processing plant, water treatment facility, etc).
- **Investigation at original source (e.g., farm, water source, etc.)** – Select if the original source of implicated food or water vehicle was investigated (e.g. the poultry farm, lake, well etc).
- **Food product or bottled water traceback** – Select if a traceback of the implicated food, beverage or bottled water was conducted.
- **Environment/food/water sample testing** – Select if samples were taken from the environment, food, or water for testing.
- **Other** – Select if investigated method is not listed above, and provide additional investigation methods in the comment section below

Comments: Please enter any additional information relevant to the investigation methods

Dates (mm/dd/yyyy): The following dates refer only to primary cases that resulted from the mode of transmission selected above.

Date first case became ill (required field) – Indicate date first case became ill

Date last case became ill – Indicate date last case became ill

Date first known exposure – Indicate date when first known exposure took place among cases

Date last known exposure – Indicate date last known exposure took place among cases

Date of report to CDC (other than this form) – Enter date of initial contact with CDC, if CDC was contacted prior completion of outbreak report (via telephone, e-mail, fax, etc)

Date of notification to State/Territory or Local/Tribal Health Authorities – Enter date that State/Territory or Local/Tribal Health Authorities first learned about the outbreak

Geographic location: The following section refers only to primary cases that resulted from the mode of transmission selected above

- **Reporting state (required field)** – Indicate state reporting outbreak
 - **Exposure occurred in multiple states** – Indicate if outbreak resulted from exposure that occurred in multiple states
 - **Exposure occurred in a single state, but cases resided in multiple states** – Indicate if exposure occurred in a single state, and ill persons were residents of multiple states. For example, residents from New York, Pennsylvania, and Florida (multiple states) attended an event (convention) in New York (single state) and became ill from exposure at a convention.
 - **Other states:** Select other states involved in outbreak
- **Reporting county** – Select county that reported outbreak
 - **Exposure occurred in multiple counties in reporting state** – Indicate if outbreak resulted from exposure that occurred in multiple counties
 - **Exposure occurred in a single county, but cases resided in multiple counties** – Indicate if exposure occurred in a single county, and ill persons were residents of multiple counties. For example, residents from Fulton, Clayton and Brevard (multiple counties of Georgia) attended an event in Fulton (single county) and became ill from an exposure at the event
 - **Other counties:** Select other counties involved in outbreak
- **City/Town/Place of exposure** – Enter city, town, or place of exposure. DO NOT include proprietary or private facility names

General Section: Primary Cases

Number of Primary Cases: Only include data for primary cases in this section. For outbreaks where multiple modes of transmission are suspected but cannot be separated from one another, classify all cases as primary cases. However, list suspected secondary transmission modes in the General Section: Secondary Cases. Any cases that are ill via a clearly defined secondary mode of transmission (e.g. household contacts of a case in a foodborne or waterborne disease outbreak) should still be detailed in the General Section: Secondary Cases.

Lab-confirmed cases	# Primary cases	(A)
Probable cases	# Primary cases	(B)
Estimated total primary ill		
	# cases	Total # of cases for whom info is available
# Died		
# Hospitalized		
# Visited ER		
# Visited Health care provider (excluding ER visits)		

(A) # Lab-confirmed primary cases are defined as cases in which a specimen was collected, and a laboratory was able to identify the pathogen(s) or agent(s) responsible for the outbreak

(B) # Probable primary cases are defined as cases that are suspected of being associated with the implicated pathogen(s) or agent(s), but do not have laboratory confirmation (e.g., a specimen was not collected or submitted to a laboratory)

Estimated total primary ill – Enter all lab-confirmed and probable primary cases

Cases:

Died – Number of deaths by primary mode of transmission that resulted from the outbreak

Hospitalized – Number of cases by primary mode of transmission that were hospitalized as a result of the outbreak

Visited ER – Number of cases by primary mode of transmission that visited the Emergency Room as a result of the outbreak

Visited Health care provider (excluding ER visits) – Number of cases that visited a healthcare provider as a result of the outbreak

Total # of cases for whom information is available (Primary cases only):

Died – Total number of primary cases for whom information is available regarding death

Hospitalized – Total number of primary cases for whom information is available regarding hospitalization

Visited ER – Total number of primary cases for whom information is available regarding emergency room visits

Visited Health care provider (excluding ER visits) – Total number of primary cases for whom information is available regarding healthcare provider visits

Sex – Enter the counts or the percent distribution of the sexes among the total number of primary cases for whom information is available

Approximate Percentage of Cases in Each Age Group – Enter the counts or the percent distribution for age among the total number of primary cases for whom information is available

Incubation period: The incubation period is the time between the implicated exposure and the clinical onset of illness for primary cases. For example, if cases ingested contaminated beef on April 30th and episodes of diarrhea started May 4th, the incubation period would be 5 days.

Indicate the shortest, median, and longest incubation period, and the total number of primary cases for whom information is available. If sufficient data is not available to calculate a particular range, leave that range blank. In addition, select the appropriate units (minutes, hours, or days).

If the incubation period is unknown, select “Unknown incubation period”.

Duration of illness (among those who have recovered): The duration of illness is the time between the onset of the first symptom to the end of final gastrointestinal symptoms. For example, a case had episodes of diarrhea that started on March 4th and vomiting that started on March 5th. The diarrhea ended on March 6th, but vomiting continued until March 7th, so the duration of illness would be 4 days.

Indicate the shortest, longest and median duration of illness, and the total number of primary cases for whom information is available among those who have recovered. If sufficient data is not available to calculate a particular range, leave that range blank. In addition, select the appropriate units (minutes, hours, or days).

If duration of illness is unknown, select “Unknown duration of illness”.

Symptoms, Signs and Outcomes: The following signs, symptoms and outcomes refer only to primary cases that resulted from the primary mode of transmission. Enter the number of cases (numerator) for whom specific symptom information is known. A new symptom may be added if it is not already in the list; however, it is very important to look carefully for the symptom before adding it and to spell any new symptoms correctly. New symptoms can be used by all NORS users almost immediately after they are added to the list. Each symptom has a unique ID number that users cannot see; duplicate symptoms or multiple variations of a word (e.g. headache, headache, headaches) may make it difficult to use that symptom in future data analyses and might be confusing to other NORS users.

Foodborne disease outbreaks: If *Escherichia coli* enterohemorrhagic (e.g., *E. coli* O157:H7) is the implicated etiology, please enter available data for hemolytic uremic syndrome (HUS).

- If no cases were asked about HUS, enter zero for ‘# Cases with signs or symptoms’ and ‘Total number of cases for whom information was available’
- If the number of cases who were asked about HUS is unknown, leave ‘Total number of cases for whom information was available’ blank.
- For example, four cases of *E. coli* enterohemorrhagic were all asked if they had HUS. One case reported HUS and three said that did not know if they had HUS:
 - ‘# Cases with signs or symptoms’= 1 and ‘Total number of cases for whom information was available’= 4.

General Section: Secondary Cases

Secondary Cases:

A secondary case is one in which the person was not directly exposed to the food, water, or person that was implicated in the initial outbreak but had another, indirect exposure that led to illness (most commonly, person-to-person contact with a primary case). For outbreaks where multiple modes of transmission are suspected but cannot be separated from one another, classify all cases as primary cases. However, list suspected secondary transmission modes in the General Section: Secondary Cases. Any cases that are ill via a clearly defined secondary mode of transmission (e.g. household contacts of a case in a foodborne or waterborne disease outbreak) should still be detailed in the General Section: Secondary Cases.

Secondary Mode of Transmission (Please select only one): This field refers only to secondary mode of transmission (if more than one mode of transmission, the secondary mode of transmission would yield the second cluster of illness in the outbreak)

- **Food** – If secondary transmission of illness is associated with ingestion of a common, potentially contaminated food/beverage item
- **Water** – If secondary transmission of illness is associated with ingestion of potentially contaminated water source (including bottled water)

It may be difficult to determine whether some outbreaks should be reported through the foodborne or the waterborne sections. Use the following table to help you decide which type of report to enter.

Source of Outbreak (Suspected or Known)

Reporting Guidelines for NORS

FOOD	<ul style="list-style-type: none"> ▪ If contaminated food goes in your mouth and makes you sick – Foodborne ▪ If food is produced or prepared using contaminated water and then the contaminated food is consumed – Foodborne
WATER	<ul style="list-style-type: none"> ▪ If contaminated water goes in your mouth, you breath it, or you contact it in another way and it makes you sick – Waterborne
ICE	<ul style="list-style-type: none"> ▪ If ice is made with contaminated water – Waterborne ▪ If ice is made with contaminated water and then added to a beverage (e.g. ice was made with contaminated water and only people who consume drinks containing ice became ill) – Waterborne ▪ If ice is made with contaminated water and is used to cool a food product – Foodborne ▪ If ice is already made and then becomes contaminated through handling – Foodborne ▪ If it is unknown how the ice became contaminated – Foodborne
BEVERAGES PREPARED WITH WATER	<ul style="list-style-type: none"> ▪ If the beverage is made with contaminated water – Waterborne ▪ If the beverage is already made and then becomes contaminated through handling – Foodborne ▪ If the flavoring (e.g., frozen orange juice concentrate) is contaminated – Foodborne ▪ If it is unknown how the beverage became contaminated – Foodborne
DRINK MIX/SODA MACHINES	<ul style="list-style-type: none"> ▪ If the water entering the machine is contaminated or if there is a problem with the internal plumbing of the machine resulting in contamination (e.g., cross-connections, backflow of carbonated water resulting in copper leaching) – Waterborne ▪ If the drink is contaminated through handling after it is dispensed or contamination of the spout on the machine – Foodborne ▪ If the flavoring is contaminated before it is put into the machine – Foodborne ▪ If it is unknown how the beverage became contaminated – Foodborne

BOTTLED WATER	<ul style="list-style-type: none"> ▪ If bottled water is contaminated anywhere in the chain from source water through production, storage, transportation, distribution, and point of use – Waterborne
FLAVORED DRINKS (note: flavoring does not include carbonation)	<ul style="list-style-type: none"> ▪ If flavoring is added to bottled water and then it becomes contaminated or if the flavoring is contaminated – Foodborne ▪ If the water is contaminated before the flavoring is added – Waterborne ▪ If it is unknown how the flavored bottled water became contaminated – Foodborne

- **Animal contact** – If secondary transmission of illness is associated with exposure (physical contact) to farm animals, reptiles, or other animals potentially infected with pathogens causing gastrointestinal illness in humans
- **Person to person** – If secondary transmission of illness is associated with direct contact with an infected person. This index case should not be considered part of the initial cluster of illness.
- **Environmental contamination other than food/water** – If secondary transmission of illness is associated with an environmental contaminant. Environmental contamination is similar to person-to-person transmission (e.g. if someone vomits in a public restroom and the following day people become sick after visiting the same restroom, although, the initial person is long gone)
- **Indeterminate/Other/Unknown** – If the source of secondary transmission of illness was not identified, other, or unknown

Number of Secondary Cases: Only include secondary cases; Information on the primary cases should be completed in the General Section: Primary Cases).

# Lab-confirmed secondary cases	(A)
# Probable secondary cases	(B)
Total # of secondary cases	
Total # of cases (Primary + Secondary)	

(A) # Lab-confirmed secondary cases are defined as cases in which a specimen was collected, and a laboratory was able to identify the pathogen(s) or agent(s) responsible for the outbreak

(B) # Probable secondary cases are defined as cases that are suspected of being associated with the implicated pathogen(s) or agent(s), but do not have laboratory confirmation (e.g. a specimen was not collected or submitted to a laboratory)

Estimated total secondary ill – Enter all lab-confirmed and probable secondary cases

Total # of cases (Primary + Secondary) – Enter the total number of primary and secondary cases. This field will auto-populate to include all primary and secondary cases.

EHS (Environmental Health Specialists) – This field is used to link outbreak investigation reports to environmental investigations. If an (EHS-Net) ID has been assigned, enter it in this field.

Traceback (of food and bottled water only, not public water): A traceback is conducted by local, state, and/or federal authorities to find out where the food or bottled water came from, as far back to its origin or source as possible. Indicate if a traceback was attempted, regardless of its success.

Source Name (if publicly available) – Enter where the contaminated food or bottled water came from. Examples would be the name of a grocery store, a specific farm or ranch, etc.

Source Type – Enter facility where food or bottled water came from. For example, a poultry farm, tomato-processing plant, bottled water factory, etc.

Location of source – Enter **State** (or if not in the United States, the area, province, or region), and **Country** from which the contaminated food or bottled water came.

Comments – Enter agency that conducted the traceback and any additional comment(s) pertaining to the information found in the traceback.

Recall – Indicate if any of foods or bottled water involved in the outbreak were recalled. An example of ‘Type of item recalled ’ would be peanut butter. Information about the recall may be included in the ‘Comments’ (e.g. example brand, lot numbers for the recalled item).

Reporting Agency – This section auto-populates for each user to show the agency name, contact name, phone number, e-mail address, contact title and fax number associated with the user’s account

Remarks – Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons)

Attachments – Please attach any pertinent documents, such as agency reports on the outbreak, MMWR articles, and/or journal publications. The information in these documents can be particularly helpful to outbreak coordinators who were not involved in the outbreak. Additional documents may be attached as they become available.

Laboratory Section:

Etiology known? – Select “Yes” if the etiology has been confirmed. Otherwise, select “No.”

If the etiology is *unknown*, were patient specimens collected? – For outbreaks of unknown/ unconfirmed etiology, indicate whether patient specimens were collected.

If yes, how many specimens were collected? (provide numeric value)

For outbreaks of unknown/unconfirmed etiology where patient specimens were collected, indicate how many specimens were collected.

What were they tested for? (check all that apply)

For outbreaks of unknown/unconfirmed etiology where patient specimens were collected, indicate whether the specimens were tested for bacteria, chemicals/toxins, viruses, and/or parasites.

Etiology – Name the bacteria, virus, parasite, or toxin. If available, include the serotype and other characteristics such as phage type, virulence factors, and metabolic profile. Confirmation criteria available at http://www.cdc.gov/foodborneoutbreaks/guide_fd.htm or MMWR2000/Vol. 49/SS-1/App. B:

Genus – For each suspected and confirmed etiology, list the genus name. List chemicals/toxins in this category.

Species – For each suspected and confirmed etiology, list the species name.

Serotype – For each suspected and confirmed etiology, list the serotype, if known. Provide serotype for all *Escherichia coli*, Enterohemorrhagic (STEC) and *Salmonella enterica* outbreaks.

Confirmed – Check this box only if the etiology listed is the confirmed etiology for the outbreak.

Other characteristics – List any other pertinent characteristics of the outbreak etiology. For example, serotype information, which may not be captured elsewhere or PFGE pattern breakdown amongst cases.

Detected in – Indicate whether the etiology listed was detected in: 1) patient specimen, 2) food specimen, 3) environmental specimen, and/or 4) food worker specimen. Multiple selections are permitted.

#Lab-confirmed cases – Indicate how many cases were due to the listed etiologies that were also confirmed by laboratory testing.

Isolates – For bacterial pathogens, provide a representative for each distinct pattern; provide lab ID for all specimens submitted for viral sequencing:

State Lab ID – State assigned laboratory identification for your state

PulseNet outbreak code – Indicate the PulseNet outbreak cluster code. This field is very important for distinguishing outbreak-associated cases from other sporadic cases and for outbreaks involving more than one state

CDC PulseNet pattern designation for enzyme 1 – Indicate the PulseNet pattern for the first enzyme

CDC PulseNet pattern designation for enzyme 2 – Indicate the PulseNet pattern for the second enzyme

Other molecular designation – Indicate any other molecular information related to this outbreak

For information related to PulseNet, please visit the following webpage:

<http://www.cdc.gov/pulsenet/index.htm>

Animals and their environment:

Setting of exposure – Indicate the place or setting where cases were exposed. Choose from the settings provided, which includes private home, petting zoo, fair, etc.

Type of animal – Indicate type of animal exposure the outbreak was related. Choose from the list of animals provided, which includes both juvenile and adult animals, such as lamb and sheep, baby chick and chicken.

Remarks – Briefly describe important aspects of the animal exposure not covered above.

Person to Person:

Major setting of exposure (choose one): Indicate the setting of exposure for the person-to-person outbreak. If there was more than one setting of exposure, indicate the major setting of exposure that yielded the first cluster of illness in the outbreak.

Camp – Indicate if exposure occurred in a day camp or overnight camp designed to provide simple group accommodations and organized recreation or instruction for school-age children, such as a Boy or Girl Scout camp, Bible camp, tennis camp, summer camp, etc.

Child daycare – Indicate if exposure occurred in a facility designed to care for children during the day when not in school. This also includes daycare based in a residential home.

Community-wide – Indicate if exposure was community-wide. Such as, people throughout the community was exposed and/or fallen ill, and if the first cluster of illness was not clearly based in one particular setting within the community. For community-wide exposures, consider all exposed and ill persons as residents.

Hospital – Indicate if exposure occurred in a hospital.

Hotel – Indicate if exposure occurred at an establishment that provides lodging and offers such services, such as meeting rooms for conferences/conventions, common areas for guests, etc. Motels, rented cabins, hostels, etc should be considered a hotel when indicating the setting of exposure. Use this setting of exposure for person-to-person transmission outbreaks occurring at conferences and conventions.

Nursing home – Indicate if exposure occurred in a facility designed to care permanently for the elderly or the disabled. Long-term care facilities should be considered a nursing home when indicating the setting of exposure.

Prison or detention facility – Indicate if exposure occurred in a prison, jail, juvenile detention center, or similar detention facility.

Private setting (residential home) – Indicate if exposure occurred in a private residence.

Religious facility – Indicate if exposure occurred in a religious facility such as a church, temple, or other facility designed to house religious meetings.

Restaurant – Indicate if exposure occurred in any establishment designed to provide meals for paying customers.

School – Indicate if exposure occurred in a school setting, such as a college, kindergarten, grade school, or summer school.

Ship – Indicate if exposure occurred on any commercial ship where passengers stay at least one night, such as a cruise ship.

Workplace – Indicate if exposure occurred in a workplace other than setting of exposures listed above, such as an office building. Consider all persons exposed and/or ill as residents/guests.

Other – Indicate if the exposure occurred in a setting not listed above; if so, please provide a short description of the major setting of exposure in the Remarks section of the General Section.

Attack rates for major settings of exposure: For the major setting of exposure, estimate the total number of persons likely exposed in that setting and the total number of persons ill for each of the below groups. Such groups include, the total number of persons on a ship, the number of residents in a nursing home, or if the outbreak occurred in a single ward or section of the major setting of exposure, the total number of residents in that section.

Residents, guests, passengers, patients, etc. – Persons who do not work in the major setting, such as children attending daycare, residents of a nursing home, guests of a hotel, prison inmates, students at a school, etc.

Staff, crew, etc. – Persons who work in the major setting, such as camp counselors, prison guards, daycare employees, hotel staff, etc.

Other settings of exposure (choose all that apply): If more than one setting of exposure, indicate all settings where exposure occurred. Refer to “Major setting of exposure” for setting descriptions.

Food: Food-specific data

Food vehicle undetermined – Indicate if a food vehicle was not identified for the outbreak

Total # of cases exposed to implicated food – Enter the number of cases exposed to implicated food

Food

Name of food – Excluding any method of preparation, indicate a single implicated food in Column 1. If greater than 1 implicated food, enter the other implicated foods in Columns 2 and 3. For example, if cases consumed baked beef lasagna, please indicate beef lasagna or lasagna as the name of the food. If a specific ingredient of a dish, such as the beef in the beef lasagna is identified as the contaminated source, then only report beef (i.e., ground beef) as the name of the food. Do not include all foods consumed by cases; only enter foods that were suspected or investigated.

Ingredient(s) – For the implicated food suspected or investigated, indicate a single ingredient in Column 1. If there was more than 1 ingredient, enter the other ingredients in Columns 2 and 3. Additionally, if the investigation reveals that an ingredient was the contaminated source of the outbreak, indicate it as an ingredient (and as the contaminated ingredient below) and do not enter any other ingredients that were not considered the source of the outbreak. If the implicated food contained many ingredients and it was unclear which ingredient might have been the source of contamination, then enter all ingredients used in the dish.

Contaminated ingredients – Among the ingredients previously listed, indicate a single contaminated ingredient in Column 1. If there was more than 1 contaminated ingredient, enter the other contaminated ingredients in Columns 2 and 3. For example, using beef lasagna, if beef was the contaminated ingredient, list beef in Column 1.

Reason(s) suspected – For the implicated food, indicate the reason suspected. Choose the reason suspected from the list in the appendix; multiple selections are permitted.

- 1 – Statistical evidence from epidemiological investigation
- 2 – Laboratory evidence (e.g., identification of agent in food)
- 3 – Compelling supportive information
- 4 – Other data (e.g., same phage type found on farm that supplied eggs)
- 5 – Specific evidence lacking but prior experience makes it likely source

Method of processing – For the implicated food, indicate method of processing. Choose the method of processing from the list in the appendix; multiple selections are permitted.

P1 – Pasteurized: A food preservation process whereby fluid milk and others foods are heat treated for a specified time and temperature to destroy all disease causing microorganisms and to reduce the total number of bacteria. These products should be labeled as having been pasteurized. (e.g., fluid milk and milk products, juice, pasteurized egg-product, in-shell pasteurized eggs, etc)

P2 – Unpasteurized: Product that commonly is pasteurized for safety that has not gone through the pasteurization process. The product is not labeled as having been pasteurized. (e.g., fluid milk, cheese, juice, and etc)

P3 – Shredded or diced produce: Produce that has been manually or mechanically shredded or diced at a processor and is received at the point of use without the need for further preparation except possible washing prior to service.

P4 – Pre-packaged: Packaged at the processor level and received at the point of use in a sealed bag or container. (e.g., bagged lettuce or other produce)

P5 – Irradiation: A controlled exposure of food to gamma rays from a radioactive source or to ionizing radiation to accomplish the equivalent of pasteurization. It may be labeled with a “radura” symbol or otherwise labeled to indicate that it was irradiated.

P6 – Pre-washed: The pre-washed food product when received at the point of use is considered a washed product and may or may not specify on its label whether subsequent washing prior to use is necessary.

P7 – Frozen: Process of freezing food to temperatures to zero degrees Fahrenheit or below for the preservation of food and/or to provide protection against foodborne pathogens such as parasites.

P8 – Canned: The product arrived at the point of use in a can. Please indicate ‘home-canned’ or ‘commercially-canned’ in the General Section: Remarks

P9 – Acid treatment: The product arrived at the point of use having been made with an acid ingredient that would lower the pH for preservation and/or pathogen control. (e.g., commercial potato salad with vinegar)

P10 – Pressure treated: The product arrived at the point of use labeled it had been pressure treated. This process destroys bacterial pathogens of concern. (e.g., oysters, juice, etc)

P11 – None or Unknown: Method of processing was not identified above, or unknown

Method of preparation – For the implicated food, indicate method of preparation. Choose only one method of preparation from the list in the appendix; multiple selections are NOT permitted.

R1 – Prepared in the home: Food that is prepared in a private home and not in a regulated retail food establishment, such as a restaurant or grocery store that is regulated by a food regulatory authority.

R2 – Ready to eat food- No manual preparation, No cook step: Food preparation with no cook step wherein ready-to-eat food is received, stored, held and served. For example, sliced cheese, pre-packaged deli meats; whole raw fruits; raw oysters

R3 – Ready to eat food – Manual preparation, No cook step: Food preparation with no cook step wherein ready-to-eat food is received, stored, prepared, held and served. For example, fresh vegetables; cut fresh fruits; chicken salad (made from canned chicken)

R4 – Cook and Serve Foods – Immediate service: Food preparation for same day service wherein food is received, stored, prepared, cooked, and served. For example, soft-cooked eggs; hamburgers.

R5 – Cook and hot hold prior to service: Food preparation for same day service wherein food is received, stored, prepared, cooked, held and served. For example, fried chicken, soups, hot vegetables; hot dogs; mashed potatoes.

R6 – Advance preparation – Cook, cool, serve: Complex food preparation wherein food is received, stored, prepared, cooked, and cooled during an extended period of time (several hours or a day or more) prior to service. For example, sliced roast beef from a whole cooked roast.

R7– Advance preparation – Cook, cool, reheat, serve: Complex food preparation wherein food is received, stored, prepared, cooked, and cooled several hours or a day or more in advance of service, then reheated immediately prior to service. For example, lasagna, casseroles, soups, gravies, sauces, and chili.

R8 – Advance preparation – Cook, cool, reheat, hot hold, serve: Complex food preparation wherein food is received, stored, prepared, cooked, and cooled several hours or a day or more in advance of service, then reheated and held hot prior to service. For example, chili and refried beans.

R9 – Advance preparation- Cook-chill and Reduced Oxygen Packaging (ROP): Complex food preparation wherein food is processed on-site in a retail food establishment so that it goes through a packaging procedure that results in a reduced level of oxygen in a sealed package. For example, sauces, gravies; cheeses packaged under ROP. ROP is an inclusive term and can include other packaging processes such as cook-chill and sous-vide. Cook-chill is a process that uses a plastic bag filled with hot cooked food from which air is expelled and which is closed with a plastic or metal crimp. Sous-vide is a specialized process of ROP for partially cooked ingredients alone or combined with raw foods that require refrigeration or frozen storage until the package is thoroughly heated immediately before service.

R10 – None/ Unknown - Description: Method of preparation is not identified above or unknown

¹Descriptions adapted from the FDA document entitled, *Managing Food Safety: A Manual for the Voluntary Use of HACCP Principles for Operators of Food Service and Retail Establishments*, April 2006.

Level of preparation – For the implicated food, indicate level of preparation. Select one level of preparation from the list in the appendix. If the implicated food had multiple levels of preparation, reenter the food name and select the other level of preparation.

- 1 – Foods eaten raw with minimal or no processing. (e.g., washing, cooling)
- 2 – Foods eaten raw with some processing. (e.g., no cooking, fresh cut and/or packaged raw)
- 3 – Foods eaten heat processed. (e.g., cooked: a microbiological kill step was involved in processing)

Contaminated food imported to US? – Indicate if the implicated food was imported into the US. If the contaminated food was imported, indicate the name of the country if known. *No*, if the contaminated food was not imported into the US.

Was product *both* produced under domestic regulatory oversight *and* sold? – Indicate if the food product was both produced under domestic regulatory oversight (commercial product produced within US that is regulated by the FDA) and sold. *Yes*, if the food product was both produced under domestic regulatory oversight and sold; *No*, if the food product was not both produced under domestic regulatory oversight and sold; or *Unknown*, if whether the food product was both produced under domestic regulatory oversight and sold is unknown. Food prepared in a private home may not be used or offered for human consumption in a food establishment, such as homemade cheese sold in grocery stores.

Location where food was prepared (check all that apply): Indicate the location where the implicated food(s) were prepared. If there was a specific food item confirmed as the contaminated source, indicate only the location of where that food item was prepared. Multiple selections are allowed. Briefly describe important aspects in the ‘Location where food was Prepared/Remarks’ below.

Restaurant – ‘Fast-food’ (drive up service or pay at counter) – Indicate if food was prepared at a fast food restaurant

Restaurant – Sit-down dining – Indicate if food was prepared at a sit down dining restaurant (cafeteria or buffet)

Restaurant – Other or unknown type – Indicate if food prepared at a restaurant, but the type of restaurant was not a ‘fast-food’ or sit-down dining restaurant or if unknown

Private home – Indicate if food prepared at a home

Banquet Facility (food prepared and served on-site) – Indicate if food prepared and served on site

Caterer (food prepared off-site from where served) – Indicate if food prepared off-site at a different location from where it was eaten

Fair, festival, other temp or mobile services – Indicate if food prepared at a fair, festival or other temporary or mobile food service

Grocery store – Indicate if food prepared at grocery store

Workplace, not cafeteria – Indicate if food prepared at a workplace, but **not** at a work cafeteria

Workplace cafeteria – Indicate if food prepared at a workplace cafeteria

Nursing home, assisted living facility, home care – Indicate if food prepared at a nursing home, assisted living facility, or home care

Hospital – Indicate if food prepared at a hospital

Child day care center – Indicate if food prepared at a child day care center

School – Indicate if food prepared at a school (kindergarten through college)

Prison, jail – Indicate if food prepared at a jail or prison

Church, temple, religious location – Indicate if food prepared at a church, temple or other religious location

Camp – Indicate if food prepared at a camp

Picnic – Indicate if food prepared at a picnic

Other (*describe in Prepared/Remarks*) – If food was prepared at a location that cannot be described from the above choices, please indicate ‘Other’ and explain in the Remarks below

Unknown – If information on location where food was prepared is not known, please indicate unknown

Remarks – Indicate any other information related to the location where prepared, and if ‘Other’ location where food prepared was indicated, please describe here.

Location of exposure (where food was eaten) (check all that apply): Indicate the location where the implicated food(s) were eaten. Multiple selections are allowed. Briefly describe important aspects in the ‘Location of exposure (where food was eaten)/Remarks’ below

Restaurant – ‘Fast-food’ (drive up service or pay at counter) – Indicate if food was prepared at a fast food restaurant

Restaurant – Sit-down dining – Indicate if food was prepared at a sit down dining restaurant (cafeteria or buffet)

Restaurant – Other or unknown type – Indicate if food prepared at a restaurant, but the type of restaurant was not a ‘fast-food’ or sit-down dining restaurant or if unknown

Private home – Indicate if food prepared at a home

Banquet Facility – Indicate if food prepared and served on site

Caterer – Indicate if food prepared off-site at a different location from where it was eaten

Fair, festival, other temp or mobile services – Indicate if food prepared at a fair, festival or other temporary or mobile food service

Grocery store – Indicate if food prepared at grocery store

Workplace, not cafeteria – Indicate if food prepared at a workplace, but **not** at a work cafeteria

Workplace cafeteria – Indicate if food prepared at a workplace cafeteria

Nursing home, assisted living facility, home care – Indicate if food prepared at a nursing home, assisted living facility, or home care

Hospital – Indicate if food prepared at a hospital

Child day care center – Indicate if food prepared at a child day care center

School – Indicate if food prepared at a school (kindergarten through college)

Prison, jail – Indicate if food prepared at a jail or prison

Church, temple, religious location – Indicate if food prepared at a church, temple or other religious location

Camp – Indicate if food prepared at a camp

Picnic – Indicate if food prepared at a picnic

Other (*describe in Eaten/Remarks*) – If food was prepared at a location that cannot be described from the above choices, please indicate ‘Other’ and explain in the Remarks below

Unknown – If information on location where food was prepared is not known, please indicate unknown

Remarks – Indicate any other information related to the location where prepared, and if ‘Other’ location where food prepared was indicated, please describe here.

NORS Guidance for Contributing Factors (CF)

CONTRIBUTING FACTORS

Introduction

Contributing factors (CFs) are defined as the food safety practices and behaviors which most likely contributed to a foodborne illness outbreak. A CF should be identified only if the investigator has strong evidence that it actually occurred in this outbreak; just because a factor has been cited in similar outbreaks in the past does not mean it was involved in this outbreak.

Please select any and all CFs that are causally associated with the outbreak.

After consideration of all epidemiological, laboratory, and environmental assessment information available, if contributing factors for this outbreak could not be determined, then at the top of the contributing factors section, the box “Contributing Factors Unknown” should be checked. If this box is checked, then the remainder of the contributing factors section should be left completely blank.

Classification

CFs are classified into 3 categories (contamination, proliferation/amplification, and survival factors):

Contamination Factors

- Factors that introduce or otherwise permit contamination.
- Contamination factors relate to how the etiologic agent got onto or into the food vehicle.
- There are 15 contamination factors, numbered C1 – C15.
- C-N/A is utilized if contamination factors were not related to the type of etiologic agent involved in the outbreak. C-N/A should rarely, if ever, be cited.
- If no contamination factors were identified, then leave all contamination factors blank. Then, please explain why contamination factors could not be identified in the “Remarks” section at the end of this report.

Proliferation/Amplification Factors

- Factors that allow proliferation or growth of etiologic agents.
- Citation of proliferation/amplification factors is only applicable when bacterial agents are involved.
- Proliferation factors relate to how bacterial agents were able to increase in numbers and/or produce toxic products prior to the vehicle being ingested.
- There are 12 proliferation/amplification factors, numbered P1 – P12.

- P-N/A is utilized if proliferation/amplification factors are not related to the type of etiologic agent involved in the outbreak. For example, proliferation/amplification factors would not be cited in a viral outbreak.
- If no proliferation/amplification factors were identified, then leave all proliferation/amplification factors blank. Then, please explain why proliferation/amplification factors could not be identified in the “Remarks” section at the end of this report.

Survival Factors

- Factors that allow survival or fail to inactivate the contaminant.
- Citation of survival factors is only applicable when microbial agents are involved.
- Survival factors refer to processes or steps that should have eliminated or reduced the microbial agent but did not because of one of these factors.
- There are 5 survival factors, numbered S1 – S5.
- S-N/A is utilized if survival factors were not related to the type of etiologic agent involved in the outbreak. For example, survival factors would not be cited in a scombroid toxin outbreak.
- If no survival factors were identified, then leave all survival factors blank. Then, please explain why survival factors could not be identified in the “Remarks” section at the end of this report.

How to Identify Contributing Factors in an Outbreak

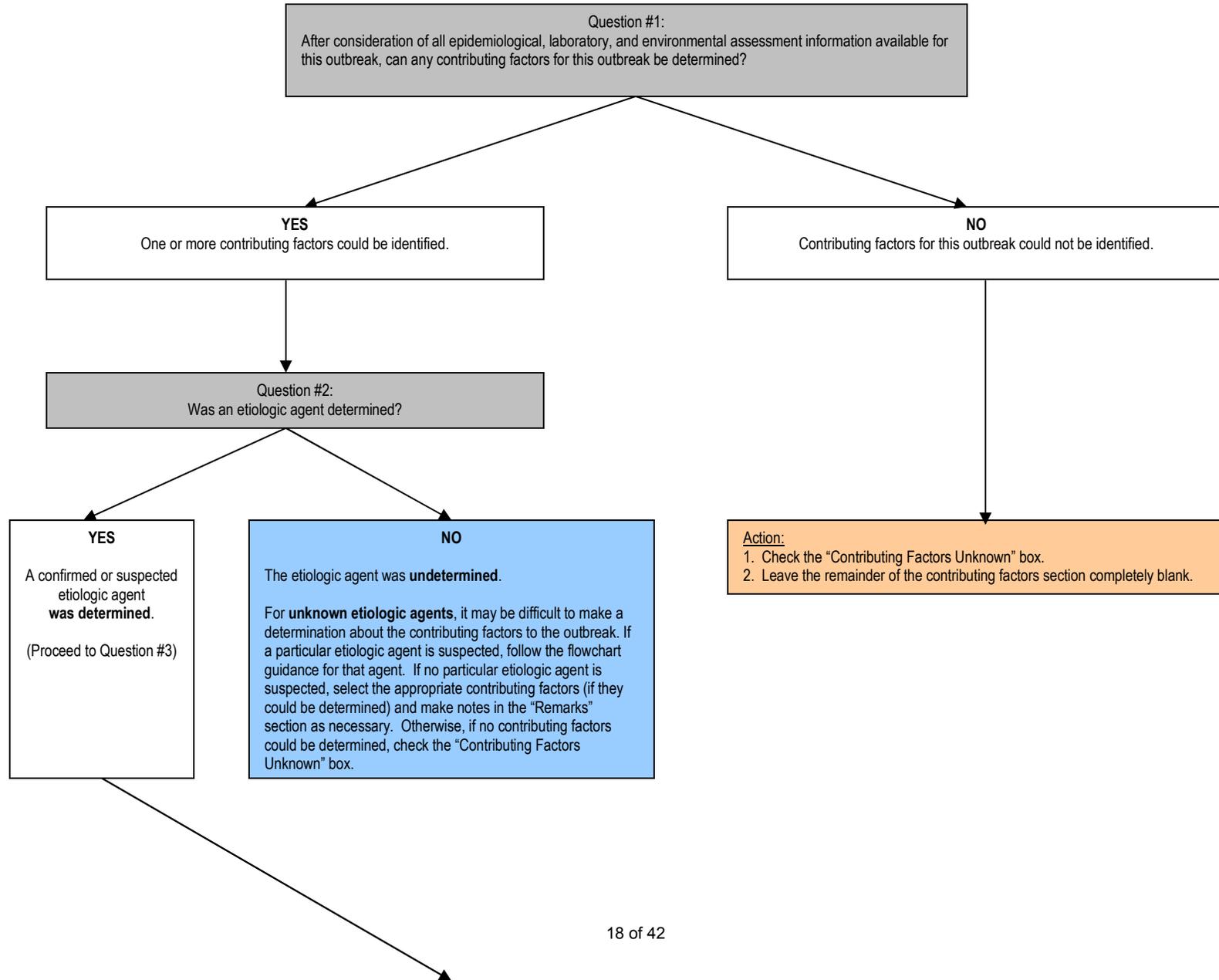
In a food borne outbreak, an environmental assessment is a systematic process designed to gather as much information as possible to describe the environmental circumstances prior to the exposure(s) that caused a foodborne outbreak. From this evaluation process, factors that most likely contributed to the outbreak may be identified. Each environmental assessment will be unique to a specific outbreak. It should include some or all of the following:

- a) A visit to the location where suspected food vehicles are grown, harvested, processed, prepared and/or served;
- b) A review of the physical facilities and the equipment used;
- c) Interviews with those involved in the harvest, processing, handling and/or preparation of the implicated foods;
- d) A review of the menus in food-service establishments such as restaurants, delis, quick service restaurants, or institutional food service facilities including schools, nursing homes, and hospitals;
- e) Development of a food flow for implicated foods that includes notes on preparation policies and practices, points of possible contamination and individuals involved, and/or;
- f) Reenactment of the preparation of foods involved in the outbreak.

Note:

- Identification of contributing factors should be based on an environmental assessment of the outbreak, *not results of routine environmental inspections*. For example, during an outbreak investigation, improper cooling may be observed. This risky practice may or may not be relevant to the outbreak. Contributing factors cited should fit within the context of epidemiological and laboratory findings for the outbreak wherever possible.
- Reporting of contributing factors should not be limited to outbreaks associated with food-service establishments such as restaurants. They can be reported when associated with other outbreak locations as well.

Contributing Factors Flowchart for Foodborne Disease Outbreaks



Question #3:
What type of etiologic agent (confirmed or suspected) was involved in the outbreak?

Bacterial

Viral or parasitic

Non-infectious or chemical etiologic agent

Question #4A: Were **contamination factors** applicable to the outbreak? (They almost always should be for bacterial pathogens.)

Question #4B: Were **proliferation / amplification factors** applicable to the outbreak? (They typically should be for bacterial pathogens.)

Question #4C: Were **survival factors** applicable to the outbreak?

Question #4A: Were **contamination factors** applicable to the outbreak? (They almost always should be for viral or parasitic pathogens.)

Question #4B – NONE. **Proliferation / amplification factors** are not applicable for viral or parasitic pathogens.

Question #4C: Were **survival factors** applicable to the outbreak?

Question #4A: Were **contamination factors** applicable to the outbreak? (They almost always should be for non-infectious/chemical agents.)

Question #4B – NONE. **Proliferation / amplification factors** are not applicable for non-infectious/chemical agents.

Question #4C – NONE. **Survival factors** are not applicable for non-infectious/chemical agents.

YES / **NO** Action: Select "C-N/A"

YES / **NO** Action: Select "P-N/A"

YES / **NO** Action: Select "S-N/A"

YES / **NO** Action: Select "C-N/A"

Action: Select "P-N/A"

YES / **NO** Action: Select "S-N/A"

YES / **NO** Action: Select "C-N/A"

NO Action: Select "P-N/A"

NO Action: Select "S-N/A"

Question #5A: Could **contamination factors** be determined?

Question #5B: Could **proliferation / amplification factors** be determined?

Question #5C: Could **survival factors** be determined?

Question #5A: Could **contamination factors** be determined?

Question #5C: Could **survival factors** be determined?

Question #5A: Could **contamination factors** be determined?

YES Action: Select all relevant contamination factors: C1 – C15.

YES Action: Select all relevant proliferation / amplification factors: P1 – P12.

YES Action: Select all relevant survival factors: S1 – S5.

YES Action: Select all relevant contamination factors: C1 – C15.

YES Action: Select all relevant survival factors: S1 – S5.

YES Action: Select all relevant contamination factors: C1 – C15.

NO Action: 1. Do NOT select any contamination factors. 2. Make a note in the "Remarks" section that contamination factors could not be determined by the investigation.

NO Action: 1. Do NOT select any proliferation / amplification factors. 2. Make a note in the "Remarks" section that proliferation / amplification factors could not be determined by the investigation.

NO Action: 1. Do NOT select any survival factors. 2. Make a note in the "Remarks" section that survival factors could not be determined by the investigation.

NO Action: 1. Do NOT select any contamination factors. 2. Make a note in the "Remarks" section that contamination factors could not be determined by the investigation.

NO Action: 1. Do NOT select any survival factors. 2. Make a note in the "Remarks" section that survival factors could not be determined by the investigation.

NO Action: 1. Do NOT select any contamination factors. 2. Make a note in the "Remarks" section that contamination factors could not be determined by the investigation.

For an outbreak with confirmed/suspected bacterial etiology:
 IF...
 Contamination factors are applicable but could not be determined,
AND
 Proliferation/amplification factors are applicable but could not be determined,
AND
 Survival factors are applicable but could not be determined...
 THEN...

Action:
 Check the "Contributing Factors Unknown" box.

For an outbreak with confirmed/suspected viral or parasitic etiology:
 IF...
 Contamination factors are applicable but could not be determined,
AND
 Survival factors are applicable but could not be determined...
 THEN....

Action:
 Check the "Contributing Factors Unknown" box.

For an outbreak with confirmed/suspected non-infectious agent or chemical etiology:
 IF....
 Contamination factors are applicable but could not be determined,
 THEN....

Action:
 Check the "Contributing Factors Unknown" box.

Legend for Flowchart

	Guiding questions for flowchart		Contamination Factors
	Contributing Factors Unknown		Contamination Factors – Not Applicable
	Etiologic Agent Undetermined/Unknown		Proliferation/Amplification Factors
	Double Arrow – Guiding questions #4A, #4B, and #4C must all be answered for each type of etiologic agent.		Proliferation/Amplification Factors – Not Applicable
			Survival Factors
			Survival Factors – Not Applicable

Contributing Factors Unknown		
Code	Factor	Description
CF Unknown	Contributing Factors Unknown	<p>Title CF Unknown – Contributing Factors Unknown</p> <p>Definition/Explanation After consideration of all epidemiological, laboratory, and environmental assessment information available, if contributing factors for this outbreak could not be determined, then at the top of the contributing factors section, the box “Contributing Factors Unknown” should be checked. If this box is checked, then the remainder of the contributing factors section should be left completely blank.</p>

Contamination Factors		
Factors that introduce or otherwise permit contamination; contamination factors relate to how the etiologic agent got onto or into the food vehicle.		
Code	Factor	Description
C1	Toxic substance part of tissue	<p>Title C1 – Toxic substance part of the tissue</p> <p>Definition/Explanation A natural toxin found in a plant or animal, or in some parts of a plant, animal, or fungus; -OR- A chemical agent of biologic origin that occurs naturally in the vehicle or bioaccumulates in the vehicle prior to or soon after harvest.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Mushroom poisoning due to consumption of toxic mushrooms. • Ciguatera fish poisoning due to consumption of tropical marine finfish which have bio accumulated naturally-occurring ciguatera toxins through their diet. • Scombroid fish poisoning due to consumption of fish containing elevated levels of histamine should be cited as C1. However, if there is environmental or traceback evidence of temperature abuse, then please also identify P4 or P5 (as appropriate) in addition to C1. <p>Notable Exceptions None.</p>

Code	Factor	Description
C2	Poisonous substance intentionally / deliberately added	<p>Title C2 – Poisonous substance intentionally/deliberately added</p> <p>Definition/Explanation A poisonous substance intentionally/deliberately added to a food in quantities sufficient to cause serious illness. Poisons added because of sabotage, mischievous acts, and attempts to cause panic or to blackmail a company fall into this category.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Cyanide or phenolphthalein deliberately added to food to cause illness. • Methomyl pesticide intentionally added to food to cause illness. <p>Notable Exceptions None.</p>
Code	Factor	Description
C3	Poisonous substance accidentally / inadvertently added	<p>Title C3 – Poisonous substance accidentally/ inadvertently added</p> <p>Definition/Explanation A poisonous substance or chemical agent was accidentally/inadvertently added to the vehicle. This addition typically occurs at the time of preparation or packaging of the vehicle.</p> <p>Misreading labels, resulting in either mistaking poisonous substances for foods or incorporating them into food mixtures, would also fall into this category.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Sanitizer or cleaning compound accidentally added to food. <p>Notable Exceptions None.</p>

Code	Factor	Description
C4	Addition of excessive quantities of ingredients that are toxic in large amounts	<p>Title C4 – Addition of excessive quantities of ingredients that are toxic in large amounts</p> <p>Definition/Explanation An approved ingredient in a food can be accidentally added in excessive quantities so as to make the food unacceptable for consumption.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Niacin poisoning in bread. • Too great an amount of nitrites in cured meat. • Too great an amount of ginger powder in gingersnaps. <p>Notable Exceptions None.</p>
Code	Factor	Description
C5	Toxic container	<p>Title C5 – Toxic container</p> <p>Definition/Explanation The container that held or conveyed the implicated food is made of toxic substances. The toxic substance either migrates into the food or leaches into solution by contact with highly acid foods.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Galvanized containers with acid food • A toxic metal (e.g. zinc coated) container used to store highly acid foods <p>Notable Exceptions For this contributing factor, there may be confusion between foodborne outbreaks and waterborne outbreaks. If the outbreak is waterborne, then the contributing factors should be listed in the waterborne section, not in this foodborne section. In general, waterborne disease includes contamination occurring in the source water or in the treatment or distribution of water to the end consumer. For example, in drink mix/soda machines, if the water enters a contaminated machine or if there is a problem with the internal plumbing of the machine resulting in contamination (e.g., cross-connections, backflow of carbonated water resulting in copper leaching) – it's waterborne and should not be entered in the foodborne section. For ice, if ice is made with contaminated water – it's waterborne and should not be entered in the foodborne section. However, if ice is already made and then it becomes contaminated because it was stored in a toxic container – it's a foodborne outbreak and it would be appropriate to list C5 as a contributing factor.</p>

Code	Factor	Description
C6	Contaminated raw product – food was intended to be consumed after a kill step	<p>Title C6 – Contaminated raw product – food was intended to be consumed after a kill step</p> <p>Definition/Explanation The vehicle or a component of the vehicle contained the agent when it arrived at the point of final preparation or service. This contributing factor applies to foods intended to be consumed after undergoing a kill step (such as cooking to the required temperature) but this food processing step was insufficient to lower the levels of the pathogen below an infectious dose.</p> <p><i>Note:</i> Lab confirmation or a formal traceback can support or confirm the identification of this contributing factor (i.e. a traceback identifies a flock, herd, or farm as the source of the pathogen). If a lab results are available or if a traceback was conducted, please complete the lab confirmation and/or the traceback sections (as appropriate) in this outbreak’s NORS report.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • A hamburger was ordered well-done or medium-well, but it was subsequently undercooked. • When it arrived at final preparation, raw chicken was contaminated with <i>Salmonella</i>, which was then <u>un</u>intentionally undercooked. <p>Notable Exceptions None.</p>
Code	Factor	Description
C7	Contaminated raw product – food was intended to be consumed raw or undercooked / under-processed	<p>Title C7 – Contaminated raw product – food was intended to be consumed raw or undercooked/under-processed</p> <p>Definition/Explanation Contaminated products are ingested raw without being first subjected to a cooking step or another form of a kill step sufficient to kill any pathogens present. This contributing factor applies to foods intended to be consumed raw, as well as foods intended to be consumed after mild heating, or another process which does not ensure pathogen destruction.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • A hamburger or steak ordered to be prepared “rare” • Raw milk • Raw oysters or other shellfish • Raw produce • Unpasteurized cider or juices • Certain dishes where raw or rare beef is consumed

		<ul style="list-style-type: none"> • Foods that are intentionally not fully-cooked such as hollandaise sauce containing raw egg yolk or sunny-side-up eggs where the yolk was not denatured. • Ceviche (citrus-marinated seafood appetizer which is intentionally served without prior heating) • Prosciutto (aged, dry-cured, spiced Italian ham which is served uncooked) • Salted cod (dry-salted cod fish which is served uncooked) or cold-smoked salmon <p><u>Notable Exceptions</u> None.</p>
Code	Factor	Description
C8	Foods originating from sources shown to be contaminated or polluted (such as a growing field or harvest area)	<p><u>Title</u> C8 – Foods originating from sources shown to be contaminated or polluted (such as a growing field or harvest area)</p> <p><u>Definition/Explanation</u> Foods that originated from sources shown to be contaminated or polluted (such as a growing field or harvest area).</p> <p><i>Note:</i> Formal traceback may support or confirm the identification of this contributing factor. This factor would typically be cited along with another contamination factor, such as C6 or C7.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Shellfish from sewage-polluted waters or closed beds • Crops watered by contaminated irrigation water • Produce grown in contaminated soil <p><u>Notable Exceptions</u> None.</p>
Code	Factor	Description
C9	Cross-contamination of ingredients (cross-contamination does not include ill food workers)	<p><u>Title</u> C9 – Cross-contamination of ingredients (cross-contamination does not include ill food workers)</p> <p><u>Definition/Explanation</u> The pathogen was transferred to the vehicle by contact with contaminated worker hands, equipment, or utensils; drippage or spillage. If worker hands were the mode of contamination, the worker was not infected with or a carrier of the pathogen.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Contaminated raw poultry was prepared on a cutting board, and later, a ready-to-eat food was cross-contaminated because it was prepared on this same cutting board without intervening cleaning.

		<ul style="list-style-type: none"> • A worker’s hands became contaminated by raw foods, and subsequently, a ready-to-eat food was cross-contaminated because the worker’s hands touched this ready-to-eat food without intervening hand-washing. • Cloths, sponges, and other cleaning aids are used to clean equipment that processed contaminated raw foods. Before next use, these cleaning items were not disinfected; instead, these cleaning items are used to wipe surfaces that come in contact with foods that are not subsequently heated. • Contaminated raw foods touch or fluids from them drip onto foods that are not subsequently cooked. <p><u>Notable Exceptions</u> This contributing factor only applies to foods that are cross-contaminated by other ingredients. If food contamination was the direct result of the storage environment, then it should be cited in C14 (storage in contaminated environment).</p>
Code	Factor	Description
C10	<i>Bare-hand contact by a food handler / worker / preparer who is suspected to be infectious</i>	<p><u>Title</u> C10 – <i>Bare-hand</i> contact by a food handler/worker/preparer who is suspected to be infectious</p> <p><u>Definition/Explanation</u> A food worker, who is suspected to be infectious, uses his/her <i>bare</i> hands to touch/prepare foods that are not subsequently cooked.</p> <p>The term “infectious” is an all-inclusive term used to describe all persons who are colonized by, infected with, a carrier of, or ill due to a pathogen.</p> <p>Potential reasons to suspect that a food worker is “infectious”: a) The food worker recently displays or admits a combination of foodborne disease symptoms (such as diarrhea, vomiting, nausea, fever, etc) that may be similar to symptoms identified in those who are ill in the outbreak investigation; b) If a food worker’s household member exhibits similar symptoms directly preceding the outbreak; c) The food worker tested positive for a foodborne pathogen; d) Other epidemiologically- or environmentally-linked reasons.</p> <p><i>Note:</i> C10 should only be cited if there is evidence of bare-hand contact of an implicated food item. If there is no evidence of bare-hand contact or it is unknown whether the food worker was wearing gloves or not, then cite C12 instead.</p> <p>If there is evidence for both bare-hand contact and gloved-hand contact with the implicated food item, both C10 and C11 should be cited.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • This is a typical situation that precedes outbreaks caused by norovirus or staphylococcal enterotoxins. <p><u>Notable Exceptions</u> None.</p>

Code	Factor	Description
C11	Glove-hand contact by a food handler / worker / preparer who is suspected to be infectious	<p>Title C11 – <i>Glove-hand</i> contact by a food handler/worker/preparer who is suspected to be infectious</p> <p>Definition/Explanation A food worker, who is suspected to be infectious, uses his/her <i>gloved</i>-hands to touch/prepare foods that are not subsequently cooked.</p> <p>The term “infectious” is an all-inclusive term used to describe all persons who are colonized by, infected with, a carrier of, or ill due to a pathogen.</p> <p>Potential reasons to suspect that a food worker is “infectious”: a) The food worker recently displays or admits a combination of foodborne disease symptoms (such as diarrhea, vomiting, nausea, fever, etc) that may be similar to symptoms identified in those who are ill in the outbreak investigation; b) If a food worker’s household member exhibits similar symptoms directly preceding the outbreak; c) The food worker tested positive for a foodborne pathogen; d) Other epidemiologically- or environmentally-linked reasons.</p> <p><i>Note:</i> C11 should only be cited if there is evidence of glove-hand contact of an implicated food item. If there is no evidence of glove-hand contact or it is unknown whether the food worker was wearing gloves or not, then cite C12 instead.</p> <p>If there is evidence for both bare-hand contact and gloved-hand contact with the implicated food item, both C10 and C11 should be cited.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • This is a typical situation that precedes outbreaks caused by norovirus or staphylococcal enterotoxins. <p>Notable Exceptions None.</p>
Code	Factor	Description
C12	Other mode of contamination (excluding cross-contamination) by a food handler / worker / preparer who is suspected to be infectious	<p>Title C12 – Other mode of contamination (excluding cross-contamination) by a food handler/worker/preparer who is suspected to be infectious</p> <p>Definition/Explanation A food worker, who is suspected to be infectious, contaminates the food by another mode of contamination other than bare-hand contact or glove-hand contact, or epidemiological/ environmental investigation determines that an infectious food worker contaminates food with his/her hands but the investigation is unable to determine whether or not the food worker was wearing gloves during food preparation. This contaminated food is subsequently not cooked.</p>

		<p>The term “infectious” is an all-inclusive term used to describe all persons who are colonized by, infected with, a carrier of, or ill due to a pathogen.</p> <p>Potential reasons to suspect that a food worker is “infectious”: a) The food worker recently displays or admits a combination of foodborne disease symptoms (such as diarrhea, vomiting, nausea, fever, etc) that may be similar to symptoms identified in those who are ill in the outbreak investigation; b) If a food worker’s household member exhibits similar symptoms directly preceding the outbreak; c) The food worker tested positive for a foodborne pathogen; d) Other epidemiologically- or environmentally-linked reasons.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Epidemiological or environmental investigation determines that an infectious food worker contaminates food with his/her hands but is unable to determine whether or not actual bare-hand contact or glove-hand contact contaminated the food. • In norovirus outbreaks, an ill food worker’s aerosolized vomitus contaminates ready-to-eat food. <p><u>Notable Exceptions</u></p> <p>None.</p>
Code	Factor	Description
C13	Foods contaminated by non-food handler / worker / preparer who is suspected to be infectious	<p><u>Title</u></p> <p>C13 – Foods contaminated by non-food handler/worker/preparer who is suspected to be infectious</p> <p><u>Definition/Explanation</u></p> <p>A person other than a food handler/worker/preparer who is suspected to be infectious, contaminates ready-to-eat foods that are later consumed by other persons, resulting in spread of the illness.</p> <p>A “non-food handler/worker/preparer” is considered to be any person who is not directly involved in the handling or preparation of the food prior to service.</p> <p>The term “infectious” is an all-inclusive term used to describe all persons who are colonized by, infected with, a carrier of, or ill due to a pathogen.</p> <p>Potential reasons to suspect that a non-food worker is “infectious”: a) The non-food worker recently displays or admits a combination of foodborne disease symptoms (such as diarrhea, vomiting, nausea, fever, etc) that may be similar to symptoms identified in those who are ill in the outbreak investigation; b) If a non-food worker’s household member exhibits similar symptoms directly preceding the outbreak; c) The non-food worker tested positive for a foodborne pathogen; d) Other epidemiologically- or environmentally-linked reasons.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • This is a typical situation when an ill person attends an event and contaminates ready-to eat-foods in a buffet

		<p>line by handling food prior to someone else consuming it. The original ill person is identified as a source of the pathogen.</p> <ul style="list-style-type: none"> • Pizza is prepared by a healthy food worker and arrives pathogen-free. A mother (a non-food worker) rearranges pizza slices onto plates before serving the slices to a group of children at a birthday party (regardless of whether it is taking place as a private party where the pizza has been ordered in or if the party is taking place in a restaurant). These children subsequently develop foodborne illness and the mother is identified as a source of the pathogen. <p><u>Notable Exceptions</u> None.</p>
Code	Factor	Description
C14	Storage in contaminated environment	<p><u>Title</u> C14 – Storage in contaminated environment</p> <p><u>Definition/Explanation</u> Storage in a contaminated environment (such as a store room or refrigerator) leads to contamination of the food vehicle or an ingredient in the vehicle.</p> <p>This usually involves storage of dry foods in an environment where contamination is likely from overhead drippage, flooding, airborne contamination, access of insects or rodents, and other situations conducive to contamination.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • A leaky roof permits condensation to seep into a walk-in refrigerator and contaminate food stored in it. <p><u>Notable Exceptions</u> This contributing factor only applies to stored foods contaminated directly by environmental sources in the storage environment, not cross-contamination by other ingredients.</p>

Code	Factor	Description
C15	Other source of contamination	<p>Title C15 – Other source of contamination</p> <p>Definition/Explanation A form of contamination that does not fit into the above categories; the factor should be specified in the “Remarks” section at the end of the report.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Food in an uncovered bowl contaminated by flies • Food that is being washed/soaked in a food preparation sink is contaminated by sewage backflow from the sink’s pipes <p>Notable Exceptions None.</p>
C-N/A	Contamination Factors - Not Applicable	<p>Title C-N/A – Contamination Factors - Not Applicable</p> <p>Definition/Explanation C-N/A is utilized if contamination factors were not related to the type of etiologic agent involved in the outbreak. C-N/A would rarely, if ever, be cited.</p> <p>If no contamination factors were identified, then leave all contamination factors blank. Then, please explain why contamination factors could not be identified in the “Remarks” section at the end of this report.</p>

Proliferation/Amplification Factors (*bacterial outbreaks only*)

Factors that allow proliferation of the etiologic agents; proliferation factors relate to how bacterial agents were able to increase in numbers and/or produce toxic products prior to the vehicle being ingested.

Code	Factor	Description
P1	Food preparation practices that support proliferation of pathogens (<i>during food preparation</i>)	<p>Title P1 – Food preparation practices that support proliferation of pathogens (<i>during food preparation</i>)</p> <p>Definition/Explanation During food preparation, one or more improper procedures occurred (such as improper or inadequate thawing) that allowed pathogenic bacteria and/or molds to multiply and generate to populations sufficient to cause illness or to elaborate toxins if toxigenic.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Improper thawing (such as allowing frozen food to thaw at room temperature or leaving frozen foods in standing water for prolonged periods) allows pathogens on the surface of the food to multiply and generate • Prolonged preparation time (such as prolonging preparation time by preparing too many foods at the same time) allows pathogens to multiply and generate <p>Notable Exceptions None.</p>
P2	No attempt was made to control the temperature of implicated food or the length of time food was out of temperature control (<i>during food service or display of food</i>)	<p>Title P2 – No attempt was made to control the temperature of implicated food or the length of time food was out of temperature control (<i>during food service or display of food</i>)</p> <p>Definition/Explanation During food service or display of food, there was no attempt made to control the temperature of the implicated food or no attempt was made to regulate the length of time food was out of temperature control.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Leaving foods out at ambient temperature for a prolonged time at a church supper • No time or temperature control on a buffet line <p>Notable Exceptions None.</p>

Code	Factor	Description
P3	Improper adherence of approved plan to use Time as a Public Health Control	<p>Title P3 – Improper adherence of approved plan to use Time as a Public Health Control</p> <p>Definition/Explanation Food was out of temperature control for more than the time allowed under an agreed-upon and pre-approved plan by a regulatory agency to use Time as a Public Health Control.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Foods are placed on a buffet table that is not capable of maintaining proper hot or cold temperatures. The establishment has a plan approved by a regulatory agency to use Time as a Public Health Control. The plan allows foods to be displayed for service on the buffet line at ambient temperature, and discarded after 4 hours. However, the food is held on the buffet table for longer than 4 hours (either inadvertently or intentionally). • A facility negotiates a plan to use Time as a Public Health Control with a regulatory agency; however, the facility improperly adheres to the plan because some of the dishes that the facility serves is traditionally held and served at room temperature longer than the time allowed in the approved plan. <p>Notable Exceptions None.</p>
P4	Improper cold holding due to malfunctioning refrigeration equipment	<p>Title P4 – Improper cold holding due to malfunctioning refrigeration equipment</p> <p>Definition/Explanation Malfunctioning refrigeration equipment (such as refrigerators that are improperly maintained or adjusted) causes foods to be held at an improper cold holding temperature.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Walk-in cooler malfunction causing elevated temperatures of food • The reach-in (or walk-in) refrigerator unit temperature is not monitored and stays consistently higher than 41 °F (or 45 °F) causing elevated temperatures of food • A broken or torn door gasket causes air leakage in a reach-in refrigerator and subsequently food remains above 41 °F (or 45 °F). <p>Notable Exceptions None.</p>

Code	Factor	Description
P5	Improper cold holding due to an improper procedure or protocol	<p>Title P5 – Improper cold holding due to an improper procedure or protocol</p> <p>Definition/Explanation Improper cold holding temperature occurs due to an improper procedure or protocol (such as an overloaded refrigerator or inadequately iced salad bar).</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Potentially hazard foods (PHF) such as tuna/egg salad are stacked above the top levels of the cold holding wells in a deli sandwich cold holding unit <p>Notable Exceptions None.</p>
P6	Improper hot holding due to malfunctioning equipment	<p>Title P6 – Improper hot holding due to malfunctioning equipment</p> <p>Definition/Explanation Equipment that is meant to be used for hot-holding malfunctions and causes foods to be held at an improper hot holding temperature.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • A steam table is improperly maintained or adjusted and causes food to be held at improper hot holding temperatures. <p>Notable Exceptions None.</p>
P7	Improper hot holding due to improper procedure or protocol	<p>Title P7– Improper hot holding due to improper procedure or protocol</p> <p>Definition/Explanation Improper hot holding temperature occurs due to an improper procedure or protocol.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • An inadequate number of Sterno cans are used for holding foods hot in chafing dishes • Exhausted Sterno cans are not replaced under chafing dishes which hold hot foods • Steam table was not turned on

		<p><u>Notable Exceptions</u> None.</p>
Code	Factor	Description
P8	Improper/slow cooling	<p><u>Title</u> P8 – Improper/slow cooling</p> <p><u>Definition/Explanation</u> Foods are refrigerated in large quantities or stored in devices where the temperature is poorly controlled allowing pathogens to multiply.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Foods are refrigerated in large quantities (i.e. in large masses or as large volumes of foods in containers), which does not allow proper cooling • Foods are stored in containers with tight-fitting lids, pans are stacked on top of others, or crowded storage in a refrigerator, all of which leads to inadequate air circulation and thus improper/slow cooling • Improperly cooling foods includes any procedures outside of these parameters: Cooling foods from 135°F to 70°F within 2 hours and cooling that food from 70°F to 41°F within the next 4 hours. <p><u>Notable Exceptions</u> None.</p>
Code	Factor	Description
P9	Prolonged cold storage	<p><u>Title</u> P9 – Prolonged cold storage</p> <p><u>Definition/Explanation</u> This situation is a concern for psychrotrophic pathogenic bacteria (e.g. <i>Listeria monocytogenes</i>, <i>Clostridium botulinum</i> type E, <i>Yersinia enterocolitica</i>, <i>Aeromonas hydrophila</i>) that multiply over sufficient time at ordinary refrigerator temperatures and generate to populations sufficient to cause illness or elaborate toxins if toxigenic (e.g. <i>C. botulinum</i>).</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Holding foods (that have been prepared in a food-service establishment) in cold storage for more than 7 days • Holding open containers of commercially prepared foods for several weeks <p><u>Notable Exceptions</u> None.</p>

Code	Factor	Description
P10	Inadequate modified atmosphere packaging	<p>Title P10 – Inadequate modified atmosphere packaging</p> <p>Definition/Explanation Food was stored in a container which provided an anaerobic environment. These factors create conditions conducive to growth of anaerobic or facultative bacteria in foods held in hermetically sealed cans or in packages in which vacuums have been pulled or gases added. All anaerobic bacteria must have a low oxygen reduction potential to initiate growth, but this factor is restricted only to foods that are put into the sealed package or container.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Vacuum-packed fish • Salad in gas-flushed bag <p>Notable Exceptions None.</p>
P11	Inadequate processing (acidification, water activity, fermentation)	<p>Title P11 – Inadequate processing (acidification, water activity, fermentation)</p> <p>Definition/Explanation There are certain non-temperature-dependent processes (such as acidification, water activity, fermentation) that are designed to prevent proliferation of pathogens. However, if these processes are inadequate, pathogens will multiply and generate to populations sufficient to cause illness.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Insufficient acidification (low concentration of acidic ingredients) in home canned foods • Insufficiently low water activity (low concentration of salt) in smoked/salted fish • Inadequate fermentation (starter culture failure or improper fermentation conditions) in processed meat or processed cheese <p>Notable Exceptions None.</p>

Code	Factor	Description
P12	Other situations that promoted or allowed microbial growth or toxic production	<p>Title P12 – Other situations that promoted or allowed microbial growth or toxic production</p> <p>Definition/Explanation A factor that promotes growth, proliferation, amplification, or concentration of etiologic agents but that does not fit into any of the other defined categories; the factor should be specified in the “Remarks” section at the end of the report.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • A box of tomatoes was unknowingly contaminated by <i>Salmonella</i> prior to its arrival at a restaurant. Soon after the delivery, some of the tomatoes were served to customers but these customers did not become ill. However, some of the other tomatoes from the box were not served soon after delivery – instead, these intact tomatoes were allowed to ripen at room temperature for several days, which allowed the <i>Salmonella</i> to amplify. Customers who ate these room-ripened tomatoes became ill. Although allowing intact tomatoes to ripen at room temperature is not a Food Code violation, this process likely led to bacterial proliferation. <p>Notable Exceptions None.</p>
Code	Factor	Description
P-N/A	Proliferation/Amplification Factors - Not Applicable	<p>Title P-N/A – Proliferation/Amplification Factors - Not Applicable</p> <p>Definition/Explanation P-N/A is utilized if proliferation/amplification factors are not related to the type of etiologic agent involved in the outbreak. For example, proliferation/amplification factors would not be cited in a viral outbreak.</p> <p>If no proliferation/amplification factors were identified, then leave all proliferation/amplification factors blank. Then, please explain why proliferation/amplification factors could not be identified in the “Remarks” section at the end of this report.</p>

Survival Factors (*microbial outbreaks only*)

Factors that allow survival or fail to inactivate the contaminant; survival factors refer to processes or steps that should have eliminated or reduced the microbial agent but did not because of one of these factors.

Code	Factor	Description
S1	Insufficient time and/or temperature during cooking/heat processing	<p><u>Title</u> S1 – Insufficient time and/or temperature control during initial cooking/heat processing</p> <p><u>Definition/Explanation</u> The time/temperature exposure during initial heat processing or cooking was inadequate to kill the pathogens. This does not include inactivation of preformed heat-stable toxins. In reference to cooking, but not retorting, it refers to the destruction of vegetative forms of bacteria, viruses, and parasites, but not bacterial spores. If the food under investigation was retorted, then spore-forming bacteria would be included.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Insufficient time and/or temperature control for roasted meats/poultry, canned foods, pasteurization <p><u>Notable Exceptions</u> Citation of S1 does not include inactivation of preformed heat-stable toxins or destruction of bacterial spores during cooking.</p>
S2	Insufficient time and/or temperature during reheating	<p><u>Title</u> S2 – Insufficient time and/or temperature during reheating</p> <p><u>Definition/Explanation</u> The time/temperature exposure during reheating or heat processing of a previously cooked food (which has often been cooled, frequently, overnight) was inadequate to kill the pathogens. This does not include inactivation of preformed heat-stable toxins.</p> <p><u>Common Examples</u></p> <ul style="list-style-type: none"> • Reheating of sauces or roasts to a temperature insufficient to reduce the level of contamination to below an infectious dose. <p><u>Notable Exceptions</u> Citation of S2 does not include inactivation of preformed heat-stable toxins.</p>

Code	Factor	Description
S3	Insufficient time and/or temperature control during freezing	<p>Title S3 – Insufficient time and/or temperature control during freezing</p> <p>Definition/Explanation In order to ensure the destruction of certain parasites, some foods such as fish may be frozen before raw service. This factor is cited when there was insufficient time and/or temperature control during freezing.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Pacific red snapper is the implicated food in an outbreak of <i>Anisakis</i> infection. The snapper was not frozen before service in raw sushi or the investigation revealed that the time and temperature required to kill parasites (-31 °F for 15 hours or 4 °F for 7 days) was not utilized. <p>Notable Exceptions Freezing is currently utilized for parasite destruction in fish served raw. In the future if it is determined that freezing can be used for pathogen destruction in other situations, then this factor would be cited if established procedures are not implemented or implemented incorrectly.</p> <p>Some species of tuna are not susceptible to harboring parasites of concern and thus freezing is not necessary. Care should be taken in determining if freezing would have been an appropriate pathogen destruction process for the fish in question before this factor is cited.</p>
Code	Factor	Description
S4	Insufficient or improper use of chemical processes designed for pathogen destruction	<p>Title S4 – Insufficient or improper use of chemical processes designed for pathogen destruction</p> <p>Definition/Explanation There are certain chemical processes (such as acidification, salting, and cold smoking) that are designed to prevent survival of pathogens. However, if these processes are insufficient or improperly used, pathogens will survive.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Inadequate acidification (such as insufficient quantity or concentration of acid) of canned tomatoes results in pathogen survival • Inadequate cold smoking of meat (such as insufficient time of contact of the smoke with the meat) results in pathogen survival <p>Notable Exceptions None.</p>

Code	Factor	Description
S5	Other process failures that permit pathogen survival	<p>Title S5 – Other process failures that permit pathogen survival</p> <p>Definition/Explanation A form of survival that does not fit into the above categories; the factor should be specified in the “Remarks” section at the end of the report.</p> <p>Common Examples</p> <ul style="list-style-type: none"> • Failures of other processes (such as subjecting foods to irradiation, high pressure, drying conditions) that permits pathogens to survive. <p>Notable Exceptions None.</p>
S-N/A	Survival Factors - Not Applicable	<p>Title S-N/A – Survival Factors - Not Applicable</p> <p>Definition/Explanation S-N/A is utilized if survival factors were not related to the type of etiologic agent involved in the outbreak. For example, survival factors would not be cited in a scombroid toxin outbreak.</p> <p>If no survival factors were identified, then leave all survival factors blank. Then, please explain why proliferation/amplification factors could not be identified in the “Remarks” section at the end of this report.</p>

The confirmed or suspected point of contamination (check one): Indicate if confirmed or suspected point of contamination occurred ‘Before preparation’ **or** at ‘Preparation.’ For example, if a multi-state outbreak was linked by PFGE to samples obtained from a processing plant, one might conclude that the contamination occurred ‘before preparation.’ Often, it will be difficult to make this delineation without a traceback, but please indicate based on your investigation whether you would conclude that contamination occurred before preparation or at preparation.

If the confirmed or suspected point of contamination occurred ‘before preparation,’ indicate if it occurred at ‘Pre-Harvest,’ ‘Processing,’ or ‘Unknown.’ Further evidence might permit determining whether the point of contamination occurred at ‘pre-harvest’ (FDA traceback to farm fields) or ‘processing’ (FDA traceback to leaking roof at plant).

Reason suspected (check all that apply) – Indicate the reason why the confirmed or suspected point of contamination was assumed. Such examples include environmental evidence, (e.g., soil sample collected contaminated lettuce field), epidemiologic evidence (e.g., implicated food identified through a case-control study), laboratory evidence (e.g., laboratory confirmation obtained from food specimen or patient specimen), or that prior experience makes this a likely source of contamination.

Was food worker implicated as the source of contamination? – Indicate if food worker was implicated. If *Yes*, indicate type of evidence that implicated the food worker, laboratory and/or epidemiologic evidence, or that prior experience makes this a likely source of contamination.

Food: School Questions (Complete this section only if school is checked in either sections “Location where food was prepared” or “Location of exposure (where food eaten)”)

1. Did the outbreak involve a single or multiple schools?

Indicate if a single or multiple schools were involved in the outbreak. If multiple schools were involved in the outbreak, enter the number of schools.

2. School characteristics (for all involved students in all involved schools):

a. Total approximate enrollment – Indicate the approximate number of students enrolled in the school. Indicate if the number of students is unknown.

b. Grade level(s)

Indicate the grade level of the students in the outbreak; if more than one grade level applies, indicate all grade levels that apply.

Preschool – An educational institution for children too young to attend elementary school

Grade school (grades K-12) – Formal school for children from kindergarten to grade 12. Indicate all grades affected.

College/university/technical school – Formal educational institution for students after high school age

Unknown or Undetermined – Indicate unknown or undetermined, if the grade level of the involved students are unknown or could not be determined

c. Primary funding of involved schools

Public – All tuition is funded through the state or county

Private – Parents of students cover all tuition.

Unknown – Funding for school is unknown

3. Describe the preparation of the implicated item: (*check all that apply*): indicate how the implicated food item was prepared.

Heat and serve (item mostly prepared or cooked off-site, reheated on-site) – Food has been prepared and cooked offsite but is heated and served on site

Served a-la-carte – The food was not part of a USDA reimbursable meal

Serve only (preheated or served cold) – Food is received hot at the school, held hot and served hot or received cold at the school, held cold and served cold

Cooked on site using primary ingredients – Food is cooked on site

Provided by a food service management company – Food is provided by a food service company

Provided by a fast-food vendor – Food provided by a fast-food vendor

Provided by a pre-plate company – Food that is already prepared and plated and usually just requires heating

Part of a club or fundraising event – Food that is served at a club or fundraiser event

Made in the classroom – Food that is prepared in a classroom

Brought by a student/teacher/parent – Food that is brought into school by a student, teacher or parent

Other (*describe in General/Remarks*) – If implicated item was prepared by a method that cannot be described from the above choices, please indicate ‘Other’ and describe in General Section/Remarks.

Unknown or Undetermined – Indicate if the preparation of the implicated item is unknown or cannot be determined

4. How many times has the state, county or local health department inspected this school cafeteria or kitchen in the 12 months before the outbreak?

Indicate how many times the school cafeteria or kitchen has been inspected in the last 12 months by state, county, or local health departments. If the school cafeteria or kitchen was not inspected, indicate ‘Not inspected’ or if the inspection status unknown or undetermined. If multiple schools are involved, please answer according to the most affected school.

5. Does the school have a HACCP (Hazard Analysis and Critical Control Point) plan in place for the school feeding program? – Indicate whether the school involved in the outbreak has a HACCP plan in place for the school feeding program. If multiple schools are involved, please answer according to the most affected school.

6. Was implicated food item provided to the school through the National School Lunch/Breakfast Program? – Indicate whether the implicated item was served as part of the National School Lunch/Breakfast Program, and used commodities purchased and distributed by USDA for use in schools

If Yes, was the implicated food item donated/purchased by:

If the school participates in the National School Lunch/Breakfast Program, indicate the source of the implicated food items: ‘USDA through the Commodity Distribution Program,’ ‘The state/school authority,’ ‘Other (provide name in General Section/Remarks),’ or ‘Unknown or Undetermined’

Food: Ground Beef (Complete this section only if ‘ground beef’ was indicated as the source of contamination)

1. What percentage of ill persons (for whom information is available) ate ground beef raw or undercooked? – Enter the percentage of ill persons who ate raw or undercooked ground beef. Base the percentage reported on whom information is available.

2. Was ground beef case-ready? Indicate whether the ground beef was case ready. Case-ready ground beef is meat that comes from a manufacturer packaged for sale that is not altered or repackaged by the retailer.

3. Was the beef ground or reground by the retailer? Indicate if the beef was ground or reground by the retailer. That is, the retailer altered the beef from the manufacturer by grinding or regrinding.

If Yes, was anything added to the beef during grinding? Indicate if any thing, such as shop trim or any product to alter the fat content, was added to the beef during grinding.

Food: Additional Salmonella Questions (Complete this section for Salmonella outbreaks only)

1. Phage type(s) of patient isolates – Enter the phage types of patient isolates, and if RDNC (Reacts, Does Not Conform), include the number.

Food: Eggs (Complete this section only if ‘egg’ was indicated as the source of contamination)

1. Were eggs (Check all that apply) – Indicate if the eggs were ‘in shell, unpasteurized,’ ‘in shell, pasteurized,’ ‘packaged liquid or dry,’ ‘stored with inadequate refrigeration during or after sale,’ ‘consumed raw,’ ‘consumed undercooked,’ or ‘pooled’

2. Was SE found on the farm? – Indicate if *Salmonella* enteritis was identified at the farm where the eggs originated.

Comment – Provide any additional information related to eggs and this outbreak, such as eggs and patients’ isolates matched by phage type



National Outbreak Reporting System



Foodborne Disease Transmission, Person-to-Person Disease Transmission, Animal Contact

This form is used to report enteric foodborne, person-to-person, and animal contact-related disease outbreak investigations. This form has 5 sections, General, Laboratory, Person to Person, Animal contact, and Food, as indicated by tabs at the top of each page. **Complete the General and Laboratory tabs for all modes of transmission and complete additional sections as indicated by the mode of transmission.** Please complete as much of all sections as possible.

CDC USE ONLY

CDC Report ID

State Report ID

Form Approved
OMB No. 0920-0004

General Section

Primary Mode of Transmission (check one)

- Food (Complete General, Lab, and Food tabs)
- Water (Complete CDC 52.12)
- Animal contact (Complete General, Lab, and Animal Contact tabs)
- Person-to-person (Complete General, Lab, and Person-to-Person tabs)
- Environmental contamination other than food/water (Complete General and Lab tabs)
- Indeterminate/Other/Unknown (Complete General and Lab tabs)

Investigation Methods (check all that apply)

- Interviews only of ill persons
- Case-control study
- Cohort study
- Food preparation review
- Water system assessment: Drinking water
- Water system assessment: Nonpotable water
- Treated or untreated recreational water venue assessment
- Investigation at factory/production/treatment plant
- Investigation at original source (e.g., farm, water source, etc.)
- Food product or bottled water traceback
- Environment/food/water sample testing
- Other

Comments

Dates (mm/dd/yyyy)

Date first case became ill (required) ____/____/____ Date last case became ill ____/____/____

Date of initial exposure ____/____/____ Date of last exposure ____/____/____

Date of report to CDC (other than this form) ____/____/____

Date of notification to State/Territory or Local/Tribal Health Authorities ____/____/____

Geographic Location

Reporting state: _____

- Exposure occurred in multiple states
- Exposure occurred in a single state, but cases resided in multiple states

Other states: _____

Reporting county: _____

- Exposure occurred in multiple counties in reporting state
- Exposure occurred in a single county, but cases resided in multiple counties in reporting state

Other counties: _____

City/Town/Place of exposure: _____

Do not include proprietary or private facility names

Primary Cases

Number of Primary Cases		Sex (estimated percent of the primary cases)				
# Lab-confirmed cases	(A)	Male		%		
# Probable cases	(B)	Female		%		
# Estimated total primary ill						
	# Cases	Total # of cases for whom info is available	Approximate percent of primary cases in each age group			
# Died			<1 year	%	20–49 years	%
# Hospitalized			1–4 years	%	50–74 years	%
# Visited Emergency Room			5–9 years	%	≥ 75 years	%
# Visited health care provider (excluding ER visits)			10–19 years	%	Unknown	%

Incubation Period, Duration of Illness, Signs or Symptoms for Primary Cases only

Incubation Period <i>(circle appropriate units)</i>			Duration of Illness <i>(among recovered cases-circle appropriate units)</i>		
Shortest		Min, Hours, Days	Shortest		Min, Hours, Days
Median		Min, Hours, Days	Median		Min, Hours, Days
Longest		Min, Hours, Days	Longest		Min, Hours, Days
Total # of cases for whom info is available			Total # of cases for whom info is available		
<input type="checkbox"/> Unknown incubation period			<input type="checkbox"/> Unknown duration of illness		

Signs or Symptoms *(*refer to terms from appendix, if appropriate, to describe other common characteristics of cases)*

Feature	# Cases with signs or symptoms	Total # cases for whom info available
Vomiting		
Diarrhea		
Bloody stools		
Fever		
Abdominal cramps		
HUS		
Asymptomatic		
*		
*		
*		

Secondary Cases

Mode of Secondary Transmission <i>(check one)</i>	Number of Secondary Cases	
<input type="checkbox"/> Food <input type="checkbox"/> Water <input type="checkbox"/> Animal contact <input type="checkbox"/> Person-to-person <input type="checkbox"/> Environmental contamination other than food/water <input type="checkbox"/> Indeterminate/Other/Unknown	# Lab-confirmed secondary cases	(A)
	# Probable secondary cases	(B)
	Total # of secondary cases	
	Total # of cases (Primary + Secondary)	

Environmental Health Specialists Network *(if applicable)*

EHS-Net Evaluation ID: 1.) _____ 2.) _____ 3.) _____

Traceback *(for food and bottled water only, not public water)*

Please check if traceback conducted

Source name <i>(If publicly available)</i>	Source type <i>(e.g. poultry farm, tomato processing plant, bottled water factory)</i>	Location of source		Comments
		State	Country	

Recall

Please check if any food or bottled water product was recalled

Type of item recalled:

Comments:

Reporting Agency

Agency name: _____ E-mail: _____
 Contact name: _____ Contact title: _____
 Phone no.: _____ Fax no.: _____

Remarks *Briefly describe important aspects of the outbreak not covered above. Please indicate if any adverse outcomes occurred in special populations (e.g., pregnant women, immunocompromised persons)*

Laboratory SectionEtiology known? Yes NoIf etiology is *unknown*, were patient specimens collected? Yes No Unknown

If yes, how many specimens collected? (provide numeric value) _____

What were they tested for? (check all that apply) Bacteria Chemicals/Toxins Viruses Parasites**Etiology***(Name the bacterium, chemical/toxin, virus, or parasite. If available, include the serotype and other characteristics such as phage type, virulence factors, and metabolic profile. Confirmation criteria available at http://www.cdc.gov/foodborneoutbreaks/guide_fd.htm or MMWR2000/Vol. 49/SS-1/App. B)*

Genus	Species	Serotype	Confirmed outbreak etiology	Other Characteristics	Detected in*	# Lab-confirmed cases
			<input type="checkbox"/> yes			
			<input type="checkbox"/> yes			
			<input type="checkbox"/> yes			
			<input type="checkbox"/> yes			

*Detected in (choose all that apply): 1 - patient specimen 2 - food specimen 3 - environment specimen 4 - food worker specimen

Isolates*(For bacterial pathogens, provide a representative for each distinct pattern; provide lab ID for all specimens submitted for viral sequencing)*

State Lab ID	PulseNet Outbreak Code	CDC PulseNet Pattern Designation for Enzyme 1	CDC PulseNet Pattern Designation for Enzyme 2	Other Molecular Designation	Other Molecular Designation

Person to Person**Major setting of exposure (choose one)**

- Camp Hotel Private setting (residential home) School
 Child day care Nursing home Religious facility Ship
 Community-wide Prison or detention facility Restaurant Workplace
 Hospital Other, please specify: _____

Attack rates for major settings of exposure

Group (based on setting)	Estimated exposed in major setting*	Estimated ill in major setting	Crude attack rate [(estimated ill / estimated exposed) x 100]
residents, guests, passengers, patients, etc.			
staff, crew, etc.			

*e.g., number of persons on ship, number of residents in nursing home or affected ward

Other settings of exposure (choose all that apply)

- Camp Hotel Private setting (residential home) School
 Child day care Nursing home Religious facility Ship
 Community-wide Prison or detention facility Restaurant Workplace
 Hospital Other, please specify: _____

Animals and their environment

Setting of exposure	Type of animal	Remarks

Food-specific data
 Food vehicle undetermined Total # of cases exposed to implicated food _____

Food	1	2	3
Name of food (excluding any preparation)			
Ingredient(s) (enter all that apply)			
Contaminated ingredients (enter all that apply)			
Reason(s) suspected (enter all that apply from list in appendix)			
Method of processing (enter all that apply from list in appendix)			
Method of preparation (select one from list in appendix)			
Level of preparation (select one from list in appendix)			
Contaminated food imported to US?	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No	<input type="checkbox"/> Yes, Country _____ <input type="checkbox"/> Yes, Unknown <input type="checkbox"/> No
Was product <i>both</i> produced under domestic regulatory oversight <i>and</i> sold?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown

Location where food was prepared (Check all that apply)**Location of exposure (where food was eaten)**
(Check all that apply)

<input type="checkbox"/> Restaurant – ‘Fast-food’ (drive up service or pay at counter)	<input type="checkbox"/> Nursing home, assisted living facility, home care	<input type="checkbox"/> Restaurant – ‘Fast-food’ (drive up service or pay at counter)	<input type="checkbox"/> Nursing home, assisted living facility, home care
<input type="checkbox"/> Restaurant – Sit-down dining	<input type="checkbox"/> Hospital	<input type="checkbox"/> Restaurant – Sit-down dining	<input type="checkbox"/> Hospital
<input type="checkbox"/> Restaurant – Other or unknown type	<input type="checkbox"/> Child day care center	<input type="checkbox"/> Restaurant – Other or unknown type	<input type="checkbox"/> Child day care center
<input type="checkbox"/> Private home	<input type="checkbox"/> School	<input type="checkbox"/> Private home	<input type="checkbox"/> School
<input type="checkbox"/> Banquet Facility (food prepared and served on-site)	<input type="checkbox"/> Prison, jail	<input type="checkbox"/> Banquet Facility (food prepared and served on-site)	<input type="checkbox"/> Prison, jail
<input type="checkbox"/> Carterer (food prepared off-site from where served)	<input type="checkbox"/> Church, temple, religious location	<input type="checkbox"/> Carterer (food prepared off-site from where served)	<input type="checkbox"/> Church, temple, religious location
<input type="checkbox"/> Fair, festival, other temporary or mobile services	<input type="checkbox"/> Camp	<input type="checkbox"/> Fair, festival, other temporary or mobile services	<input type="checkbox"/> Camp
<input type="checkbox"/> Grocery store	<input type="checkbox"/> Picnic	<input type="checkbox"/> Grocery store	<input type="checkbox"/> Picnic
<input type="checkbox"/> Workplace, not cafeteria	<input type="checkbox"/> Other (describe in Prepared/Remarks)	<input type="checkbox"/> Workplace, not cafeteria	<input type="checkbox"/> Other (describe in Eaten/Remarks)
<input type="checkbox"/> Workplace cafeteria	<input type="checkbox"/> Unknown	<input type="checkbox"/> Workplace cafeteria	<input type="checkbox"/> Unknown

Remarks:

Remarks:

Contributing Factors (Check all that contributed to this outbreak) Contributing factors unknown**Contamination Factor** C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C-N/A**Proliferation/Amplification Factor** (bacterial outbreaks only) P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P-N/A**Survival Factor** S1 S2 S3 S4 S5 S-N/A**The confirmed or suspected point of contamination** (Check one) Before preparation PreparationIf 'before preparation': Pre-Harvest Processing Unknown**Reason suspected** (Check all that apply) Environmental evidence Laboratory evidence Epidemiologic evidence Prior experience makes this a likely sourceWas food-worker implicated as the source of contamination? Yes No**If yes, please check only one of the following**

- Laboratory **and** epidemiologic evidence
- Epidemiologic evidence
- Laboratory evidence
- Prior experience makes this a likely source

School Questions

(Complete this section only if school is checked in either sections "Location where food was prepared" or "Location of exposure (where food eaten)")

1. Did the outbreak involve a single or multiple schools?

- Single
- Multiple (If yes, number of schools ____)

2. School characteristics (for all involved students in all involved schools)a. Total approximate enrollment
____ (number of students) Unknown or undetermined

b. Grade level(s)

 Preschool Grade school (grades K-12)Please check all grades affected: K 1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th College/university/technical school Unknown or Undetermined

c. Primary funding of involved schools

 Public Private Unknown**3. Describe the preparation of the implicated item:**
(check all that apply)

- Heat and serve (item mostly prepared or cooked off site, reheated on-site)
- Served a-la-carte
- Serve only (preheated or served cold)
- Cooked on-site using primary ingredients
- Provided by a food service management company
- Provided by a fast-food vendor
- Provided by a pre-plate company
- Part of a club or fundraising event
- Made in the classroom
- Brought by a student/teacher/parent
- Other (describe in General/Remarks)
- Unknown or Undetermined

4. How many times has the state, county or local health department inspected this school cafeteria or kitchen in the 12 months before the outbreak?*

- Once
- Twice
- More than two times
- Not inspected
- Unknown or Undetermined

5. Does the school have a HACCP plan in place for the school feeding program?*

- Yes
- No
- Unknown or Undetermined

*If multiple schools are involved, please answer according to the most affected school

6. Was implicated food item provided to the school through the National School Lunch/Breakfast Program?

- Yes
 No
 Unknown or Undetermined

If yes, was the implicated food item donated/purchased by:

- USDA through the Commodity Distribution Program
 The state/school authority
 Other (*describe in General/Remarks*)
 Unknown or Undetermined

Ground Beef

1. What percentage of ill persons (*for whom information is available*) ate ground beef raw or undercooked? _____ %
2. Was ground beef case-ready? Yes No Unknown
(*Case-ready ground beef is meat that comes from a manufacturer packaged for sale that is not altered or repackaged by the retailer*)
3. Was the beef ground or reground by the retailer?
 Yes No Unknown
- If yes, was anything added to the beef during grinding (*such as shop trim or any product to alter the fat content*)?: _____

Additional Salmonella Questions

(*Complete this section for Salmonella outbreaks*)

1. Phage type(s) of patient isolates:

_____ if RDNC* then include # _____

* Reacts, Does Not Conform

Eggs

1. Were eggs (*check all that apply*)

- in shell, unpasteurized?
 in shell, pasteurized?
 packaged liquid or dry?
 stored with inadequate refrigeration during or after sale?
 consumed raw?
 consumed undercooked?
 pooled?

2. Was Salmonella enteritidis found on the farm? Yes No Unknown

Comment (*e.g., eggs and patients isolates matched by phage type*): _____

National Outbreak Reporting System (NORS) Appendix

Signs and Symptoms: Choose all that apply. NORS users may enter new signs and symptoms if it is not listed below.

Abdominal Cramps	Facial weakness	Paresthesia
Alopecia (absence of hair)	Faintness	Periorbital edema
Anaphylaxis	Fasciculations (bundling nerve/muscle fibers)	Pharyngitis
Anorexia	Fatigue	Photophobia
Appendicitis	Fever	Prostration
Arthralgia	Flushing	Ptosis
Asymptomatic	Gas	Quadriplegia
Ataxia	Hallucinations	Rapid pulse
Backache	Headache	Rash
Bedridden	Heartburn	Redness
Bloating	Hemorrhage	Respiratory arrest
Blood pressure flux	Histamine reaction	Rhinitis
Bloody Stools	Hives	Seizures
Bloody vomitus	Hoarse	Septicemia
Blurred vision	Hot flash/flush	Shakes
Body ache	HUS (Hemolytic Uremic Syndrome)	Shock
Bradycardia	Hypotension	Shortness of breath
Bullous skin lesions	Insomnia	Sore throat
Burning	Itching	Speech difficulty
Burns in mouth	Jaundice	Stiff neck
Chest pain	Joint pain	Stiffness
Chills	Lethargy	Stomach ache
Coma	Light-headed	Sweating
Congestion	Liver necrosis	Swelling
Cough	Loss of appetite	Swollen glands
Dark Urine	Loss of consciousness	Swollen tongue
Dehydration	Lymphadenopathy	Tachycardia
Descending paralysis	Malaise	Taste Disturbance
Diarrhea	Memory loss	Temperature reversal
Difficulty breathing	Meningitis	Temperature variant
Difficulty swallowing	Mucus	Thick tongue
Dilated pupils	Mucus in stool	Thirst
Diplopia (double vision)	Muscle breakdown	Thrombocytopenia
Disoriented	Muscle fatigue	Tingling
Dizziness	Muscle spasm	Trembling
Dry mouth	Myalgia	TTP (Thrombotic thrombocytopenic purpura)
Dysconjugate gaze	Nausea	Urinary problems
Dysesthesia (impairment of a sense, esp. touch)	Neurological symptoms	Urticaria
Ear ache	Nightmares	Vomiting
Ears ringing	Numbness	Weak pulse
Edema	Oral Swelling	Weakness
Eosinophil	Pain	Weight loss
Erythema	Palpitations	Wheezing
Excess saliva	Paralysis	
Eye problems		

Reason(s) suspected: Choose all that apply.

- 1 – Statistical evidence from epidemiological investigation
- 2 – Laboratory evidence (e.g., identification of agent in food)
- 3 – Compelling supportive information
- 4 – Other data (e.g., same phage type found on farm that supplied eggs)
- 5 – Specific evidence lacking but prior experience makes it likely source

Method of processing (Prior to point-of-service: Processor): Choose all that apply.

- P1 – Pasteurized (e.g., liquid milk, cheese, and juice etc)
- P2 – Unpasteurized (e.g., liquid milk, cheese, and juice etc)
- P3 – Shredded or diced produce
- P4 – Pre-packaged (e.g., bagged lettuce or other produce)
- P5 – Irradiation
- P6 – Pre-washed
- P7 – Frozen
- P8 – Canned
- P9 – Acid treatment (e.g., commercial potato salad with vinegar, etc)
- P10 – Pressure treated (e.g., oysters, etc)
- P11 – None or Unknown

Method of Preparation (At point-of-service: Retail: restaurant, food store): Select only one

- R1 – Prepared in the home
- R2 – Ready to eat food- No manual preparation, No cook step. (e.g., sliced cheese, pre-packaged deli meats; whole raw fruits; raw oysters, etc)
- R3 – Ready to eat food – Manual preparation, No cook step. (e.g., fresh vegetables, cut fresh fruits, chicken salad made from canned chicken, ect)
- R4 – Cook and Serve Foods: Immediate service. (e.g., soft-cooked eggs, hamburgers, etc)
- R5 – Cook and hot hold prior to service. (e.g., fried chicken, soups, hot vegetables, hot dogs, mashed potatoes, etc)
- R6 – Advance preparation: Cook, cool, serve (e.g., sliced roast beef from a whole cooked roast, etc)
- R7 – Advance preparation: Cook, cool, reheat, serve (e.g., lasagna, casseroles, soups, gravies, sauces, chili, etc)
- R8 – Advance preparation: Cook, cool, reheat, hot hold, serve (e.g., chili, refried beans, etc)
- R9 – Advance preparation: Cook-chill and Reduced Oxygen Packaging (ROP) (e.g., sauces, gravies, cheeses, etc packaged under ROP)
- R10 – None/ Unknown

Level of preparation: Select only one

- 1 – Foods eaten raw with minimal or no processing. (e.g., washing, cooling)
- 2 – Foods eaten raw with some processing. (e.g., no cooking, fresh cut and/or packaged raw)
- 3 – Foods eaten heat processed. (e.g., cooked: a microbiological kill step was involved in processing)

Contributing Factors: Choose all that apply.

Contamination Factors:

- C1** – Toxic substance part of the tissue
- C2** – Poisonous substance intentionally/deliberately added
- C3** – Poisonous substance accidentally/inadvertently added
- C4** – Addition of excessive quantities of ingredients that are toxic in large amounts
- C5** – Toxic container
- C6** – Contaminated raw product – food was intended to be consumed after a kill step
- C7** – Contaminated raw product – food was intended to be consumed raw or undercooked/under-processed
- C8** – Foods originating from sources shown to be contaminated or polluted (such as a growing field or harvest area)
- C9** – Cross-contamination of ingredients (cross-contamination does not include ill food workers)
- C10** – Bare-hand contact by a food handler/worker/preparer who is suspected to be infectious
- C11** – Glove-hand contact by a food handler/worker/preparer who is suspected to be infectious
- C12** – Other mode of contamination (excluding cross-contamination) by a food handler/worker/preparer who is suspected to be infectious
- C13** – Foods contaminated by non-food handler/worker/preparer who is suspected to be infectious
- C14** – Storage in contaminated environment
- C15** – Other source of contamination
- C-N/A** – Contamination Factors - Not Applicable

Proliferation/Amplification Factors:

- P1** – Food preparation practices that support proliferation of pathogens (during food preparation)
- P2** – No attempt was made to control the temperature of implicated food or the length of time food was out of temperature control (during food service or display of food)
- P3** – Improper adherence of approved plan to use Time as a Public Health Control
- P4** – Improper cold holding due to malfunctioning refrigeration equipment
- P5** – Improper cold holding due to an improper procedure or protocol
- P6** – Improper hot holding due to malfunctioning equipment
- P7** – Improper hot holding due to improper procedure or protocol
- P8** – Improper/slow cooling
- P9** – Prolonged cold storage
- P10** – Inadequate modified atmosphere packaging
- P11** – Inadequate processing (acidification, water activity, fermentation)
- P12** – Other situations that promoted or allowed microbial growth or toxic production
- P-N/A** – Proliferation/Amplification Factors - Not Applicable

Survival Factors:

- S1** – Insufficient time and/or temperature control during initial cooking/heat processing
- S2** – Insufficient time and/or temperature during reheating
- S3** – Insufficient time and/or temperature control during freezing
- S4** – Insufficient or improper use of chemical processes designed for pathogen destruction
- S5** – Other process failures that permit pathogen survival
- S-N/A** – Survival Factors - Not Applicable

What is *Helicobacter pylori* (*H. pylori*)?

It is bacteria found in the mucus layer of the stomach lining or first part of the small intestine, which causes more than 90% of ulcers. Ulcers are sores in the lining of the stomach. Before 1982, when this bacterium was discovered, spicy food, acid, stress, and lifestyle were considered the major causes of ulcers. Since we now know that most ulcers are caused by an infection with *H. pylori*, most cases can be treated and cured with appropriate antibiotics.

What are the symptoms of *H. pylori*?

The most common ulcer symptom is gnawing or burning pain in the stomach area between the breastbone and the navel. Commonly, the pain occurs when the stomach is empty, between meals and in the early morning hours, but it can also occur at other times of the day. Less common ulcer symptoms include nausea, vomiting, and loss of appetite. Bleeding can also occur; prolonged bleeding may cause anemia leading to weakness and fatigue. If bleeding is heavy, one or more of the following signs may occur: vomiting blood, passing bloody stools, and/or the presence of dark stools or dark vomit, which may indicate old bleeding.

How is *H. pylori* spread?

It is not known how *H. pylori* is transmitted or why some people become symptomatic while others do not. The bacteria are most likely spread from person to person through fecal-oral or oral-oral routes. Possible environmental reservoirs include contaminated water sources.

Who gets *H. pylori*?

About two-thirds of the world's population is infected with *H. pylori*. In the United States, *H. pylori* are found more often in older adults, African Americans, Hispanics, and among people in lower socioeconomic groups. We do not know how *H. pylori* get into the body or why some people with *H. pylori* become ill while others do not. The bacteria most likely spread from person to person through the fecal-oral route (when infected fecal matter comes in contact with hands, food, or water and is swallowed) or the oral-oral route (when infected saliva or vomit comes in contact with hands, food, or water and is swallowed).

What is the treatment for this illness?

The treatment for *H. pylori* infection consists of 1-2 weeks of one or two effective antibiotics. Successful treatment rates range from 70 to 90% depending on the regimen used. Antibiotic resistance and patient noncompliance are the two major reasons for treatment failure.

What can be done to help prevent the spread of these viruses?

Since the source of *H. pylori* is not yet known, recommendations for avoiding infection have not been made. In general, it is always wise for persons to wash hands thoroughly, to eat food that has been properly prepared, and to only drink water from a safe, clean source.

What is Hand, Foot and Mouth Disease?

Hand, foot, and mouth disease (HFMD) is a common illness of infants and children caused by a Coxsackie virus.

What are the symptoms of Hand, Foot and Mouth Disease?

It is characterized by fever, sores in the mouth, and a rash with blisters. HFMD begins with a mild fever, poor appetite, malaise ("feeling sick"), and frequently a sore throat. One or 2 days after the fever begins, painful sores develop in the mouth. They begin as small red spots that blister and then often become ulcers. The sores are usually located on the tongue, gums, and inside of the cheeks. The skin rash develops over 1 - 2 days with flat or raised red spots, some with blisters. The rash does not itch, and it is usually located on the palms of the hands and soles of the feet. It may also appear on the buttocks. A person with HFMD may have only the rash or the mouth ulcers.

How soon do symptoms appear?

The usual period from infection to onset of symptoms ("incubation period") is 3 - 5 days. Fever is often the first symptom of HFMD.

How are these viruses spread?

The virus is spread when an infected person coughs, sneezes, or kisses someone else. The virus is also spread by coming in contact with the stool of an infected person, as when changing diapers. HFMD is not transmitted to or from pets or other animals.

Who gets Hand, Foot and Mouth Disease?

Anyone, especially children.

For how long is a person infectious?

A person is most likely to spread the disease to others during the first week of the illness. The Coxsackie virus may be found in the throat of an infected person for 2 weeks (even if there are no lesions in the mouth) and in the stool for several weeks after infection. Infected persons who do not appear to be ill may also spread the virus.

What is the treatment for this illness?

No specific treatment is available. Symptomatic treatment is given to provide relief from fever, aches, or pain from the mouth ulcers. Patients almost always fully recover.

Do infected people need to be excluded from school, work, or child care?

HFMD outbreaks in child care facilities usually coincide with an increased number of cases in the community. Keeping children and adults from activities outside the home usually will not reduce spreading of the disease because people may spread the virus without becoming very ill, and others who become ill may continue to have the virus in their bowel movements for weeks after recovering.

Therefore, a child does not need to be kept away from child care unless:

- The child is unable to participate comfortably because of their illness.
- Child care staff determine they cannot care for the child without compromising the care of other children in the group. Example: Managing an infant with excessive drooling due to mouth sores may be difficult due to the nature of group infant care and the infectious nature of the drool. The infant may need to be kept away from a child care center until the sores heal up in the mouth.
- The child meets other exclusion criteria such as fever, diarrhea, vomiting, etc.

Adults are not usually kept away from work since most adults with this virus will not have any symptoms.

What can be done to help prevent the spread of Hand, Foot and Mouth Disease?

Good handwashing, especially after handling soiled tissues, using the bathroom or changing diapers, is the best way to prevent infection with the Coxsackie virus. Healthcare workers should wear disposable gloves when handling sheets or clothes soiled with the feces or saliva of persons who are ill.

In child care facilities:

- Make sure that all children and adults use good handwashing technique, especially after toileting, assisting with toileting, diaper changes, sneezing or coughing and wiping noses.
- Thoroughly clean contaminated surfaces and items and sanitize with properly diluted bleach water.

Wash Your Hands!

How you wash and dry your hands makes a difference:

- Use soap and warm or hot running water.
- Wash for at least 15 seconds.
- Wash all surfaces, including wrists, palms, backs of hands, between fingers, and as much as possible under fingernails, by rubbing vigorously.
- Rinse hands under running water.
- Away from home, dry hands with disposable paper towels or the hot air blower.

At home, provide a separate towel for each member of the household, and wash towels regularly in hot water and detergent.

When should I wash my hands?**Before you:**

- Eat
- Prepare food for yourself or others
- Treat a break or cut in the skin
- Care for an ill or injured person or animal
- Insert or remove contact lenses

Immediately after you:

- Use the restroom
- Handle uncooked foods (especially raw meat poultry or fish)
- Change a diaper
- Blow your nose, sneeze, or cough
- Touch an animal (especially a reptile), including animals in petting zoos and fairs.

Why is handwashing important?

Your skin constantly makes oil that stays on its surface. Germs that get on your skin are trapped in the oil. Skin does not have to look dirty to be loaded with tiny germs that can cause big problems – like the common cold, diarrhea, and more serious diseases. Washing your hands with soap and warm running water is one of the best and easiest things you can do to stay healthy.

But I wash my hands a lot –

We are all in a hurry – to eat, get back to work, make that important meeting or class. Too often we forget or “don’t have time,” or we think a quick cold-water rinse will do. But that doesn’t “cut it”...literally!

Oils, and any attached germs, must be removed from the skin. A splash of cold water and a quick rub with a towel doesn’t do much good. You need to use warm water and soap to get the oil and germs off your skin.

When you’ve been touching things many people have handled, routine handwashing can help reduce your chances of getting an infection.

Should I use antibacterial soap?

The most important thing to remember is to wash with warm running water and soap. If you want to use antibacterial soap, keep in mind that it helps kill some germs – but not all. Some germs can’t be killed, no matter how strong the soap is or how long it is on your hands. You may not always have special soap with you. That is why it’s very important to spend enough time and care to wash germs away.

You may wish to use an antimicrobial soap or alcohol based hand rub if you are ill or caring for someone who is, or has a weakened immune system.

To do the most good, washing your hands has to become a habit. You’re more likely to learn a new habit and stick with it if it’s easy. Most of the time, proper handwashing is easy.

Should I use towelettes?

Antimicrobial towelettes may be used in place of regular soap and water. They are not as effective as alcohol based hand rubs or antimicrobial soaps, so are not a substitute for them.

Can I use a waterless hand sanitizer lotion or gel with alcohol?

Using this type of product is ok, except when hands look dirty; then washing your hands with soap and warm water is a must. Alcohol is not as effective at killing germs when dirt is present.

When using, use the amount of an alcohol-based hand rub recommended by the manufacturer. Apply the product to the palm of one hand, and rub hands together, covering all surfaces of the hands and fingers, until hands are dry.

What is histoplasmosis?

A fungus called *Histoplasma capsulatum*, which exists in two distinct forms, a mold and yeast, causes histoplasmosis. The mold form is found in the soil, often in areas where bird and bat droppings are located. The bird droppings are found to enhance growth of the fungus. The yeast form is found in infected people. Histoplasmosis is a disease that usually involves the lungs, but may affect other areas of the body. In the U.S., most cases are found along the Ohio and Mississippi River Valleys.

What are the symptoms of histoplasmosis?

Most infected persons have no apparent ill effects. Respiratory symptoms, a general ill feeling, fever, chest pains, and a dry or nonproductive cough characterize the acute respiratory disease. Distinct patterns may be seen on a chest x-ray. Chronic lung disease resembles tuberculosis and can worsen over months or years. The disseminated form is fatal unless treated.

Five disease forms are recognized:

1. An "asymptomatic form" where no illness occurs, but people may have an altered laboratory test.
2. An "acute benign respiratory form" with flu-like symptoms that vary from a mild respiratory illness to a short term illness with general tiredness, fever, chills, headache, muscle aches, chest pains and non-productive cough.
3. An "acute disseminated (scattered throughout) form" with fever, vomiting or diarrhea, and enlarged lymph nodes and or spleen. Without treatment this form may be fatal. This stage usually occurs in infants, young children, and immune compromised people.
4. A "chronic disseminated form" with fever (which may come and go), weight loss, weakness, enlarged liver and spleen, and mild blood abnormalities. Other areas of the body may be affected, including the heart and the covering of the brain or spinal cord. Ulcers of the mouth, larynx, stomach or bowel may also occur. This form usually develops over 10-11 months and is usually fatal unless treated.
5. A "chronic pulmonary form," which resembles tuberculosis of the lungs both in symptoms and on x-ray. The symptoms may include night sweats, loss of weight, loss of appetite and a chronic cough lasting longer than three weeks. This form occurs most often in middle-aged and elderly men with other lung diseases.

How soon do symptoms appear?

Symptoms usually occur within 3-17 days after exposure. Many infections are overlooked; since they either have no symptoms or cause such a minor, brief respiratory illness that the person does not seek medical care. If you have questions regarding any of the above symptoms contact your healthcare provider or the Iowa Department of Public Health at (800) 362-2736.

How is histoplasmosis spread?

The fungus is found in the soil and transmitted through the air. Transmission occurs when soil is disturbed, causing the fungus to become airborne. People then breathe in the fungus. Once inside a person's body the fungus will start growing and cause disease. The disease cannot be transmitted from one person to another.

Who gets histoplasmosis?

Anyone can be infected.

For how long is a person infectious?

The disease cannot be transmitted from one person to another.

What is the treatment for this illness?

Histoplasmosis is sensitive to many drugs. The treatment may be long term lasting from several months up to a year. Antifungal medications are used to treat severe cases of acute histoplasmosis and all cases of chronic and disseminated disease. Mild disease usually resolves without treatment. Past infection results in partial protection against ill effects if reinfected. See your healthcare provider for more specific treatment information.

Do infected people need to be excluded from school, work, or child care?

No, the disease cannot be transmitted from one person to another.

What can be done to help prevent the spread of this fungus?

Workers cleaning up or disturbing soil at possibly contaminated sites should wear a mask. Before disturbing soil, spray the area with water or oil to minimize spread.

What is histoplasmosis?

Histoplasma capsulatum is a mycotic organism that exists in two distinct forms. The mold form is found in the soil, often in areas where bird and bat feces are located. The excrement is found to enhance growth of the fungus. The yeast form is located in infected living tissue. In the U.S., most cases are found along the Ohio, Missouri, and Mississippi River valleys and usually involve the immunocompromised population including children, the elderly or HIV-infected humans.

What are the symptoms of histoplasmosis?

Most infected persons have no apparent ill effects. Respiratory symptoms, a general ill feeling, fever, chest pains, and a dry or nonproductive cough characterize the acute respiratory disease, otherwise indistinguishable from other common respiratory infections. Distinct patterns may be seen on a chest x-ray. Chronic lung disease resembles tuberculosis and can worsen over months or years. The disseminated form is fatal unless treated.

Five disease forms are recognized

1. An "asymptomatic form," where no illness occurs, but people may have an altered laboratory test.
2. An "acute benign respiratory form", with flu-like symptoms that varies from a mild respiratory illness to a short term illness with general tiredness, fever, chills, headache, muscle aches, chest pains and non-productive cough.
3. An "acute disseminated (scattered throughout) form" with fever, vomiting or diarrhea, and enlarged lymph nodes and or spleen. Without treatment this form may be fatal.
4. A "chronic disseminated form," with fever (which may come and go), weight loss, weakness, enlarged liver and spleen and mild blood abnormalities. Other areas of the body may be affected including the heart, and the covering of the brain or spinal cord. Ulcers of the mouth, larynx, stomach or bowel may also occur. This form usually develops over 10-11 months and is usually fatal unless treated.
5. A "chronic pulmonary form", which resembles tuberculosis of the lungs both in symptoms and on x-ray. The symptoms may include night sweats, loss of weight, loss of appetite and a chronic cough lasting longer than three weeks. This form occurs most often in middle-aged and elderly men with other lung diseases.

How soon do symptoms appear?

Symptoms usually occur within 3-17 days after exposure. Many infections are overlooked; since they either have no symptoms or cause such a minor, brief respiratory illness that the person does not seek medical care. If you have questions regarding any of the above symptoms contact your health-care provider or the Iowa Department of Public Health at (800) 362-2736.

How is histoplasmosis spread?

The spores of the fungus are found in the soil and transmitted through the air. Spores inhaled by susceptible individuals will then germinate and produce disease. The infective form of the organism cannot be transmitted from an infected person to another.

Who gets histoplasmosis?

Anyone can be infected.

For how long is a person infectious?

The disease cannot be transmitted from one person to another.

What is the treatment for this illness?

Histoplasma capsulatum is sensitive to many antifungals including amphotericin B, itraconazole, ketoconazole, and fluconazole. Treatment is long term requiring several months up to a year.

Do infected people need to be excluded from school, work, or child care?

No, the disease cannot be transmitted from one person to another.

What can be done to help prevent the spread of this fungus?

The disease is relatively rare and is often associated with soil contaminated with bird or bat droppings. Minimize exposure to dust in a known or potentially contaminated environment. Spray with water or oil to reduce dust. Workers cleaning up possible contaminated sites should wear masks or respirators. In certain settings decontamination with 5% formaldehyde solution may be necessary. Immunocompromised individuals like HIV infected people or the elderly should be made aware of the risks of mycotic pneumonia and avoid high risk situations

Influenza

La gripe es una enfermedad respiratoria contagiosa causada por virus de la influenza. El virus de la gripe es altamente contagioso que afecta la nariz, la garganta, los bronquios, y los pulmones. Puede causar una enfermedad moderada o grave, y en ocasiones puede causar la muerte. En los niños pequeños, los ancianos y aquellos que tienen condiciones médicas serias, la infección puede conducir a complicaciones serias como la pulmonía.

Síntomas de la gripe

- Fiebre (usualmente ≥ 100 °F)
- Dolores de cabeza
- Cansancio extremo
- Tos seca
- Dolor de garganta
- Congestión o flujo nasal
- Dolores musculares
- Los síntomas estomacales, como náuseas, vómitos y diarrea pueden ocurrir pero son más comunes en niños que en adultos.

Señales de emergencia de la influenza

En los niños, las señales de emergencia que necesitan atención médica urgente incluyen:

- Respiración rápida o falta de aliento
- Color azulado de la piel
- No está tomando suficientes líquidos
- No quiere despertarse ni interactuar con los demás
- Está tan irritable que el niño no quiere que se le abraze
- Los síntomas de la gripe mejoran pero luego regresan con fiebre y tos
- Fiebre con sarpullido

¿Cómo se puede prevenir la gripe?

La mejor manera de prevenir la gripe es vacunarse cada año. Hay dos tipos de vacuna:

- La inyección contra la "gripe" - una vacuna inactiva (contiene el virus muerto) que se inyecta con una aguja. La vacuna contra la gripe está aprobada para su uso por personas de seis meses en adelante, incluyendo a las personas sanas y personas con condiciones médicas crónicas.

- La vacuna contra la gripe se aplica con un espray nasal - una vacuna hecha de virus de la gripe que están vivos pero atenuados que no causan la gripe [a veces llamado la LAIV (vivos, atenuados vacuna contra la influenza) y que significa "vacuna contra la influenza atenuada viva".] LAIV está aprobado para su uso en personas sanas de 2 a 49 años de edad y que no están embarazadas.

Unas dos semanas después de la vacunación, los anticuerpos crecen para proteger contra la infección del virus de la influenza. La vacuna contra la gripe no protegerá contra las enfermedades que se asemejan a la gripe ni contra los virus que no sean influenza.

Si usted se enferma

- Quédese en casa
- Descanse mucho, beba muchos líquidos y evite el alcohol y el tabaco.
- Existen medicamentos de venta libre (OTC = over the counter) que alivian los síntomas de la gripe (pero nunca le dé aspirina a niños o adolescentes con síntomas de gripe, especialmente fiebre)
- Recuerde que la seriedad de la gripe es más común en ciertos grupos de personas, incluyendo a las de 65 y más años de edad, mujeres embarazadas, niños pequeños y personas con ciertas condiciones médicas crónicas.
- Consulte con su médico tan pronto como sea posible para obtener el mejor tratamiento, pero tenga presente que hay señales de emergencia que podrían requerir atención médica urgente.

¿Por qué debe usted recibir la vacuna contra la gripe todos los años?

El virus de la gripe cambia cada año ya que se abre camino en todo el mundo. Dado que los virus exactos de la gripe casi nunca son los mismos año con año, las cepas de la influenza en la vacuna también cambian cada año. Esta es la razón por lo que necesita para obtener una vacuna contra la gripe cada año. La vacuna le protege contra la gripe durante un año.

Vacunación

La vacunación anual contra la gripe debe comenzar tan pronto como la vacuna esté disponible, por lo general a principios del otoño. Esto proporcionará la protección de toda la temporada de gripe.

¿Quién debe vacunarse?

La vacunación anual contra la gripe se recomienda para casi todo el mundo más de 6 meses de edad, y es especialmente importante para aquellas personas con alto riesgo de desarrollar complicaciones relacionadas con la gripe, como los niños menores de cinco años, adultos de 65 años de edad y mayores, mujeres embarazadas, y personas con ciertas condiciones médicas como problemas del corazón y pulmón, y la diabetes.

Vacuna de espray nasal

La vacunación con la vacuna de la influenza de espray nasal (Flu Mist ®) es una opción para las personas saludables de 2 a 49 años de edad que no están embarazadas o son personas saludables que viven o cuidan a aquellas que en su grupo están en alto riesgo. La única excepción es para las personas saludables que cuidan a personas cuyo sistema inmunológico está severamente débil y que requieren de un ambiente protegido. Estas personas deberían recibir la vacuna inactiva.

Medicamentos antivirales

Los medicamentos antivirales contra la influenza son medicinas recetadas (pastillas, líquido o un inhalador) que combaten la influenza al evitar que el virus de la influenza se reproduzca en el cuerpo. Los medicamentos antivirales pueden acelerar su recuperación. También pueden prevenir complicaciones serias de la gripe. Esto podría ser especialmente importante para las personas en alto riesgo. Estos medicamentos son efectivos solo si se inician dentro de las 48 horas del inicio de los síntomas. También se pueden usar los medicamentos antivirales para prevenir la enfermedad en personas que han sido expuestas a alguien infectado con la influenza.

¿Qué puedo hacer para protegerme a mí y a mi familia de la gripe?

- **Lávese las manos** frecuentemente con agua y jabón durante al menos 15-20 segundos. Lávese las manos antes y después de comer, ir al baño o tocar animales domésticos, los teléfonos, o los teclados.
- **Utilice un desinfectante para las manos.** Si no puede lavarse las manos, usted podría utilizar un desinfectante con alcohol si sus manos no están visiblemente sucias.
- **Quédese en casa en vez de ir al trabajo o a la escuela cuando está enfermo,** y convenga a los demás a hacer lo mismo.
- **Manténgase alejado de los que sabe están enfermos.** Es menos probable que se enferme si se mantiene a una distancia mínima de tres pies de alguien que está tosiendo o estornudando.
- **Vacunación.** El primer paso para defenderse de la gripe es vacunarse contra la gripe cada año.

Póngase en contacto con su médico. Si usted tiene síntomas parecidos a la gripe, llame a su médico. Su médico puede recetar medicamentos antivirales para acortar la duración de la enfermedad y prevenir la infección.

- **Limpie con frecuencia y correctamente.** Limpie con frecuencia las superficies de uso común como picaportes, pasamanos, áreas donde se come, los juguetes y teléfonos. Se utilizan desinfectantes comerciales o soluciones blanqueadoras. (Mezcle ¼ de taza de blanqueador en 1 galón de agua para preparar la solución de cloro.)

Algunos virus pueden permanecer vivos en algunas áreas de 20 minutos a dos horas o más.

Revisado en octubre de 2010

Recomendaciones para el público en general

Para obtener más información acerca de la influenza, visite nuestro sitio Web: [www.idph.state.ia.us / adper / flu.asp](http://www.idph.state.ia.us/adper/flu.asp)

Fact Sheet

Influenza

Influenza Antiviral Drugs: General Public

Antiviral medication with activity against influenza viruses are an important second line of defense in the prevention and treatment of influenza.

- Influenza antiviral drugs can be used to treat influenza if given within 48 hours of symptom onset.
- These medications are also used to prevent influenza in people who have been exposed to the virus.
- Vaccination is the best way to prevent influenza because vaccination can be given well before influenza virus exposures occur, and it provides safe and effective immunity throughout the influenza season.
- Antiviral medications are 70% to 90% effective in preventing influenza.

Treatment with Antiviral Medications

Antiviral drugs are used to prevent and to treat viral illnesses, like influenza. They often are used to control influenza outbreaks in long-term care facilities, such as nursing homes or in people who are at risk for serious complications due to influenza.

- Influenza antiviral medications should be started as soon as possible after symptom onset. These medications have not been shown to be effective if administered more than 48 hours after onset of symptoms.

Approved Antiviral Medications

Two FDA-approved influenza antiviral medications are recommended for use in the United States: oseltamivir (Tamiflu®) and zanamivir (Relenza®).

- Oseltamivir (brand name Tamiflu ®) is approved to both treat and prevent influenza A and B virus infection in people one year of age and older.
- Zanamivir (brand name Relenza ®) is approved to treat influenza A and B virus infection in people 7 years and older and to prevent influenza A and B virus infection in people 5 years and older.

There is a second class of influenza antiviral medications known as adamantanes that are licensed in the U.S. for the treatment and prevention of influenza. However, because a high proportion of circulating influenza viruses in the U.S. in recent years have been resistant to the adamantanes, CDC recommends that neither be used for the treatment or prevention of influenza in the United States.

Where can I get antiviral medication?

Antiviral medications are available by prescription only through your health care provider.

What are the possible side effects of antiviral medication?

There are different side effects for each of the antiviral drugs. If your health care provider and/or pharmacist have given you antiviral drugs, ask how to take them and any possible side effects.

Who will be helped most from antiviral drugs?

- People 65 years of age and older
- Children 12 months of age and older
- Immunocompromised individuals (people with HIV or those receiving immunosuppressive medications like chemotherapy)
- People with chronic medical conditions (e.g., heart or lung disease, diabetes)
- Prevention for people who have been vaccinated for less than two weeks
- Prevention for unvaccinated people caring for those at high risk (e.g., employees of hospitals, clinics, nursing homes)
- Prevention for people who cannot receive influenza vaccine due to an egg allergy or other contradiction
- Treatment of persons with influenza who live with or care for high risk people
- Treatment of high risk persons with influenza

What can you do to protect yourself and others from influenza?

- Get your influenza (flu) vaccination
- Cover your mouth when coughing with disposables tissue or cough into your upper arm
- Wash your hands often using soap for at least 15-20 seconds, especially after coughing or touching drainage from your nose, or after shaking hands with a lot of people
- Use alcohol-based hand sanitizers
- Disinfect surfaces regularly
- Stay home from work or school when sick
- Practice healthy behaviors such as eating right and exercising regularly

Letak sa činjenicama

Gripa

Preporuke za preduzeća

Šta je gripa?

Gripa je zarazna bolest respiratornog sistema uzrokovana virusima influence. Može da uzrokuje blage ili teške bolesti, te u nekim slučajevima dovesti do smrti. Najbolji način da se spriječi influence je godišnja vakcinacija protiv gripe.

Uobičajeni simptomi gripe

- groznica (obično visoka temperatura)
- glavobolja
- jako izražen umor
- suhi kašalj
- upaljeno grlo
- začepljen nos
- bolovi u mišićima
- stomachni simptomi kao što su mučnina, povraćanje i dijareja, takođe se mogu pojaviti, ali su češći kod djece nego u odraslih

Zašto biste trebali dobiti vakcinu protiv gripe svake godine

Virus gripe se mijenja svake godine kao što to čini njegov put oko svijeta. Budući da virus gripe skoro nikad nije isti iz godine u godinu, virus gripe u vakcini se mijenja svake godine. To je razlog zašto vam je potrebno da biste dobili novu vakcinu protiv gripe svake godine. Vakcina samo štiti od gripe jednu godinu.

Vakcinacija

Godišnje vakcinacija gripe treba započeti čim vakcina bude dostupan, obično rano u jesen. To će pružiti zaštitu za cijelu sezonu gripe.

Tko bi trebao dobiti vakcinu?

Godišnja vakcinacija se preporučuje za gotovo sve osobe preko 6 mjeseci starosti, te je osobito važno za one ljude sa visokim rizikom za razvoj komplikacija usljed gripe, kao što su djeca ispod pet godina, odrasli preko 65 godina, trudnice i ljudi s određenim medicinskim stanjima kao što su srčani i plućni problemi i dijabetes.

Širenja gripe

Virusi gripe uglavnom se prenose s osobe na osobu kašljem ili kihanjem ljudi zaraženim gripom. Ponekad se ljudi mogu zaraziti dodiranjem nečega na čemu se nalaze virusi gripe, a zatim dodiranjem usta ili nosa. Većina zdravih odraslih osoba može zaraziti druge u roku od jednog dana prije početka simptoma i do pet dana nakon izbijanja simptoma. To znači da možete jednostavno prenijeti virus na drugu osobu prije nego što znate da ste

bolesni, kao i za vrijeme bolesti.

Što mogu učiniti kako bih spriječio/smanjio širenje gripe u vašem radnom prostoru?

- **Najbolji način da se spriječi influenza je godišnja vakcinacija protiv gripe.**
- **Ostanite kod kuće, ako ste bolesni.** Zaposlenici koji imaju simptome gripe ne bi trebali ići na posao. Izostajanje bolesnih zaposlenika sa radnog mjesta može smanjiti širenje bolesti na druge zaposlenike. Dopuštajući zaposleniku rad kod kuće, dok su bolesni, takođe može smanjiti širenje bolesti.
- **Perite ruke često.** Ljudi često dobijaju gripu i druge viruse, tako što ih pokupe svojim rukama, a zatim dodiruju nos, oči ili usta. Perite ruke nekoliko puta na dan sa sapunom i toplom vodom 15-20 sekundi (kao i obično pjevajući abecedu). Osušite ruke s papirnim ručnicima ili automatskim sušenjem. Potrebno je redovno provjeravati da li ima dovoljno sapuna i papirnih ručnika za zaposlenike.
- **Pokrijte usta i nos kad kašljete ili kišete.** Gripa se često prenosi kašljanjem ili kihanjem. Provjerite da u radnom prostoru ima dovoljno papirnatih maramica za zaposlenike kojima curi iz nosa ili zaposlenike koji kišu. Pojedinci uvijek trebaju pokriti usta sa maramicom prilikom kašlja i koristiti maramice kada kišu ili čiste nos. Maramicu odmah bacite u smeće i operite ruke poslije.
- **Koristite sredstvo za dezinfekciju ruku.** Podstičite korištenje sredstva za dezinfekciju na bazi alkohola među zaposlenicima. Ta sredstva učinkovito ubijaju bakterije na rukama kad ruke nisu vidljivo zaprljane. Dezinfekcija je važna za ruke koje će se koristiti nakon kašljanja, kihanja ili dodira zaražene površine (npr., tipkovnica).
- **Obratite se svom liječniku.** Zaposlenici se trebaju obratiti svom liječniku ako se razbole tokom sezone influence. Antivirusni lijekovi mogu smanjiti intenzitet i trajanje bolesti ako se uzimaju na početku bolesti. Da bi bili učinkoviti, anti-virus lijekove treba uzeti u roku od 48 sati od početka.
- **Izbjegavajte bliski kontakt.** Zaposlenici trebaju izbjegavati razmjenu pljuvačke sa ostalim zaposlenicima tako što neće koristiti iste čaše, viljuške, kašike, itd.
- **Često čistite radne površine.** Područja koja se zajednički koriste, kao što su fontana za vodu, ručke na vratima, rukohvati, površine na kojima se jede, stolovi i telefoni često se moraju čistiti dezinfekcionim sredstvom. Komercijalno sredstvo sa izbjeljivačem čini odgovarajuće rješenje. (Izbjeljivač – varikina - sredstvo se dobija miješanjem ¼ šalice varikine sa 1 galonom vode. Sredstvo treba iznova izmiješati svaki dan).

Ako se razbolite

- Ostanite kod kuće
- Dosta se odmarajte, pijte puno tečnosti i izbjegavajte korištenje alkohola i duvana
- Postoje lijekovi koji se mogu kupiti bez recepta (OTC) za ublažavanje simptoma gripe (ali nikada ne davati aspirin djeci ili tinejdžerima koji imaju simptome koji

nalikuju gripi, osobito groznica)

- Imajte na umu da u nekim grupa ljudi, među kojima su ljudi starijih od 65 godina, trudnice, ljudi koji pate od neke hronične bolesti i mala djeca, postoji veća vjerovatnoća dobijanja gripe.
- Na početku bolesti, obratite se svom liječniku za preporuku najboljeg tretmana, ali također obratite pažnju na simptome koji ukazuju da vam je potrebna hitna medicinska pomoć

Znakovi upozorenja da vam je potrebna hitna medicinska pomoć zbog gripe

Za odrasle, upozorenja da vam je potrebna hitna medicinska pomoć uključuje:

- otežano disanje ili ostajanje bez daha
- bol ili osjećaj pritiska u prsima ili stomaku
- iznenadna vrtoglavica
- zbunjenost
- visoke temperature ili kontinuirano povraćanje

¿Qué es la influenza?

La gripe es una enfermedad respiratoria contagiosa causada por virus de la influenza. El virus de la gripe es altamente contagioso que afecta la nariz, la garganta, los bronquios, y los pulmones. Puede causar una enfermedad moderada o grave, y en ocasiones puede causar la muerte. La mejor manera de prevenir la gripe es vacunándose cada año.

Síntomas comunes de la gripe

- Fiebre (usualmente ≥ 100 °F)
- Dolores de cabeza
- Cansancio extremo
- Tos seca
- Dolor de garganta
- Congestión o flujo nasal
- Dolores musculares
- Los síntomas estomacales, como náuseas, vómitos y diarrea pueden ocurrir pero son más comunes en niños que en adultos.

Período contagioso

Las personas pueden infectar a otros desde un día antes de aparecer los síntomas hasta 10 días después de estar enfermos.

Contagio de la gripe

El virus de la gripe se propaga principalmente de persona a persona cuando las personas con gripe tosen o estornudan. A veces las personas pueden infectarse al tocar algo que tiene el virus de la gripe y luego se tocan la boca o la nariz. La mayoría de los adultos sanos pueden infectar a otros desde un día antes de desarrollar los síntomas hasta 5 días después de caer enfermo. Eso significa que usted puede transmitir la gripe a alguien antes de saber que está enfermo, así como cuando está enfermo.

¿Por qué usted debe vacunarse contra la gripe todos los años?

El virus de la gripe cambia cada año ya que se abre camino en todo el mundo. Dado que los virus de la gripe casi nunca son los mismos año con año, las cepas de la influenza en la vacuna cambian cada año. Esta es la razón por la cual se necesita obtener una vacuna contra la gripe cada año. La vacuna le protege contra la gripe durante un año.

Vacunación

La vacunación anual contra la gripe debe comenzar tan pronto como la vacuna esté disponible, por lo general a principios del otoño. Esto proporcionará la protección de

toda la temporada de la gripe.

¿Quién debería vacunarse?

La vacunación anual contra la gripe se recomienda a casi todos los que son mayores de 6 meses de edad. Es especialmente importante para aquellas personas con alto riesgo de desarrollar complicaciones relacionadas con la gripe, como los niños menores de cinco años, adultos de 65 años y de mayor edad, mujeres embarazadas, y personas con ciertas condiciones médicas como problemas del corazón y pulmón, y la diabetes.

Vacuna de espray nasal

La vacunación con la vacuna de espray nasal para la gripe (Flu Mist®) es una opción para las personas saludables de 2 a 49 años de edad que no están embarazadas o son personas saludables que viven o cuidan a aquellas que en su grupo están en alto riesgo. La única excepción es para las personas saludables que cuidan a personas cuyo sistema inmunológico está severamente débil y que requieren de un ambiente protegido. Estas personas deberían recibir la vacuna inactiva.

Propagación de la gripe

Los virus de la gripe se propagan principalmente de persona a persona cuando las personas con gripe tosen o estornudan. A veces las personas pueden infectarse al tocar algo con el virus de la gripe y luego tocarse la boca o la nariz. La mayoría de los adultos sanos pueden infectar a otras personas tal vez un día antes de desarrollar síntomas y hasta cinco días después de caer enfermos. Eso significa que usted puede transmitir la gripe a alguien antes de saber que está enfermo, así como cuando está enfermo.

¿Qué puedo hacer para prevenir o retardar la propagación de la gripe en mi oficina?

La mejor manera de prevenir la gripe es vacunarse cada año.

- **Quédese en casa cuando esté enfermo.** Los empleados con síntomas de gripe no deben presentarse a trabajar. Excluyendo a los empleados enfermos del lugar de trabajo pueden ayudar a reducir la propagación de la enfermedad a otros empleados. Siempre que sea posible, permitir a los empleados trabajar desde su hogar en caso de enfermedad. Puede ayudar a reducir la propagación de la enfermedad.

- **Lávese las manos con frecuencia.** A menudo las personas contraen la gripe y otros virus en sus manos y luego se tocan la nariz, los ojos o la boca. Lávese las manos varias veces al día, usando agua tibia y jabón durante 15-20 segundos (por lo general toma el tiempo requerido para cantar la canción del alfabeto.) Séquese las manos con toallas de papel o use secadores automáticos. Los baños deberían ser controlados regularmente para asegurarse que el jabón y las toallas de papel están disponibles para uso de los empleados.

• **Cubra su tos y estornudos.** A menudo la influenza se transmite al toser y estornudar. Asegúrese que hayan pañuelos desechables disponibles en las áreas de trabajo en caso de secreción nasal y estornudos. Las personas deberían cubrirse siempre la boca con la parte superior del brazo o con un pañuelo desechable al toser, estornudar o sonarse la nariz. Los pañuelos deberían botarse inmediatamente y las manos deberían lavarse.

• **Utilice un desinfectante para las manos.** Fomente el uso de desinfectante para manos en los escritorios de los empleados. El desinfectante para manos es eficaz para matar los gérmenes en las manos cuando no están visiblemente sucias. Los tiempos apropiados para usar desinfectante para manos son después de toser, estornudar o al tocar una superficie infectada (por ejemplo, el contacto con un teclado).

• **Póngase en contacto con su médico.** Los empleados deben comunicarse con el médico cuando están enfermos durante la temporada de influenza. Los medicamentos antivirales pueden reducir la severidad y duración de la enfermedad cuando el medicamento se toma durante el inicio de la enfermedad. Los medicamentos antivirales deben tomarse dentro de las 48 horas de contraer la enfermedad para que puedan entrar en vigor.

• **Evite el contacto cercano.** Los empleados deben evitar el intercambio de saliva por lo que no deben compartir vasos, tenedores, cucharas, etc.

• **Lave las superficies con frecuencia.** Las superficies comunes como fuentes de agua, picaportes, pasamanos, áreas donde se come, escritorio y teléfono debe limpiar a menudo con un desinfectante. Los desinfectantes comerciales o soluciones de cloro son las adecuadas. (Mezcle $\frac{1}{4}$ de taza de blanqueador en 1 galón de agua para preparar la solución de cloro. Una mezcla debe estar preparada de nuevo todos los días).

Si usted se enferma

- Quédese en casa.
- Descanse mucho, beba muchos líquidos y evite el alcohol y el tabaco.
- Existen medicamentos de venta libre (OTC= over the counter) que alivian los síntomas de la gripe (pero nunca le dé aspirina a niños o adolescentes con síntomas de gripe, especialmente fiebre).
- Recuerde que la seriedad de la gripe es más común en ciertos grupos de personas, incluyendo a las de 65 y más años de edad, mujeres embarazadas, niños pequeños y personas con ciertas condiciones médicas crónicas.
- Consulte con su médico tan pronto como sea posible para obtener el mejor tratamiento, pero tenga presente que hay señales de emergencia que podrían requerir atención médica urgente

Señales de emergencia de la influenza en adultos

- Dificultad para respirar o falta de aliento
- Dolor o presión en el pecho o en el abdomen
- Mareo repentino
- Confusión
- Vómito severo o persistente

(Pie de página)

Departamento de Salud Pública de Iowa 10.8 Recomendaciones revisadas para Empresas

Para obtener más información acerca de la influenza visite nuestro sitio Web: [www.idph.state.ia.us / adper / flu.asp](http://www.idph.state.ia.us/adper/flu.asp).

Fact Sheet

Influenza

Recommendations for Businesses

What is influenza?

The flu is a contagious respiratory illness caused by influenza viruses. Influenza is a highly contagious virus that affects mainly the nose, throat, chest, and lungs. It can cause mild to severe illness, and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year.

Common Symptoms of Influenza

- Fever (typically $\geq 100^{\circ}$ F)
- Headache
- Extreme tiredness
- Dry cough
- Sore throat
- Runny or stuffy nose
- Muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults.

Infectious Period

People may be able to infect each other one day before symptoms occur and up to 10 days after being sick.

The Spread of Influenza

Flu viruses mainly spread from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. Most healthy adults may be able to infect others beginning one day before symptoms develop and up to five days after becoming sick. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick.

Why you should get the flu vaccine every year

The influenza virus changes every year as it makes its way around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why you need to get a new flu vaccine every year. The vaccine only protects you from influenza for one year.

Vaccination

Yearly flu vaccination should begin as soon as the vaccine is available, usually early in the fall. This will provide protection for the entire flu season.

Who should get vaccinated?

Yearly flu vaccination is recommended for almost everyone over 6 months of age, and is especially important for those people at high risk for developing flu-related complications, such as children younger than five; adults 65 years of age and older; pregnant women; and people with certain medical conditions like heart and lung problems, and diabetes.

The Nasal Spray Vaccine

Vaccination with the nasal spray flu vaccine (FluMist[®]) is an option for healthy people 2-49 years of age who are not pregnant and healthy persons who live with or care for those in a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems who require a protected environment; these healthy persons should get the inactivated vaccine.

The Spread of Influenza

Flu viruses mainly spread from person-to-person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. Most healthy adults may be able to infect others beginning one day before symptoms

develop and up to five days after becoming sick. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick.

What things can I do to prevent or reduce the spread of influenza in my office?

- **Annual influenza vaccination is the best way to prevent influenza.**
- **Stay home when sick.** Employees with symptoms of influenza should not come to work. Excluding ill employees from the work place can help reduce the spread of the illness to other employees. If possible, allowing employees to work from home when ill can help reduce the spread of disease.
- **Wash hands often.** People often catch influenza and other viruses by picking up the virus on their hands, and then touching their nose, eyes, or mouth. Wash hands several times a day, using soap and warm water for 15-20 seconds (this is generally around the time it takes to sing the ABC song). Dry hands with paper towels or automatic hand dryers. Restrooms should be checked regularly to ensure that soap and paper towels are available for employee use.
- **Cover your coughs and sneezes.** Influenza is often spread by coughs and sneezes. Make sure disposable tissues are available in work areas for runny noses and sneezing. Individuals should always cover their mouths with their upper arm or a tissue when coughing and use a tissue when sneezing or blowing their nose. Tissues should be thrown away immediately, and then hands should be washed.
- **Use hand sanitizer.** Encourage the use of alcohol-based hand sanitizer at employee desks. Hand sanitizer is effective in killing germs on hands when they are not visibly soiled. Appropriate times to use hand sanitizer are after coughing, sneezing, or contact with infected surfaces (e.g. contact with a keyboard).
- **Contact your health care provider.** Employees should contact their physician when they become ill during influenza season. Anti-viral drugs may reduce the severity and length of illness when they are taken early in the illness. Antivirals need to be started within 48 hours of becoming ill to be effective.
- **Avoid close contact.** Employees should avoid sharing of saliva by not sharing glasses, forks, spoons, etc.
- **Clean surfaces often.** Common use surfaces, such as water fountains, door handles, handrails, eating surfaces, desks, and phones should be cleaned frequently with disinfectants. Commercial disinfectants or bleach solutions are appropriate. (Mixing ¼ cup bleach with 1 gallon of water makes bleach solution. This should be mixed fresh daily).

If you get sick

- Stay home
- Get lots of rest, drink plenty of liquids, and avoid using alcohol and tobacco
- There are over-the-counter (OTC) medications to relieve the symptoms of the flu (but never give aspirin to children or teenagers who have flu-like symptoms, particularly fever)
- Remember that serious illness from the flu is more likely in certain groups of people including people 65 and older, pregnant women, people with certain chronic medical conditions and young children
- Consult your health care provider early for the best treatment, but also be aware of emergency warning signs that require urgent medical attention

Emergency Warning Signs of Influenza in adults

- Difficult breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Confusion
- Severe or persistent vomiting

Preporuke za ustanove za čuvanje djece

Šta je gripa?

Gripa je zarazna bolest respiratornog sistema uzrokovana virusima influence. Može da uzrokuje blage ili teške bolesti, te u nekim slučajevima dovesti do smrti. Najbolji način da se spriječi influence je godišnja vakcinacija protiv gripe.

Širenja gripe

Virusi gripe uglavnom se prenosi s osobe na osobu kašljem ili kihanjem ljudi zaraženim gripom. Ponekad se ljudi mogu zaraziti dodiranjem nečega na čemu se nalaze virusi gripe, a zatim dodiranjem usta ili nosa. Većina zdravih odraslih osoba može zaraziti druge u roku od jednog dana prije početka simptoma i do pet dana nakon izbijanja simptoma. To znači da možete jednostavno prenijeti virus na drugu osobu prije nego što znate da ste bolesni, kao i za vrijeme bolesti.

Prevenција u ustanovama za čuvanje djece

- **Ostanite kod kuće kada ste bolesni.** Svo osoblje i sva djeca sa mogućim simptomima gripe ne smiju doći u ustanovu za brigu o djeci.
- **Perite ruke često.** Perite ruke često sa sapunom i vodom najmanje 15-20 sekundi (kao i obično pjevajući abecedu). Osušite ruke s papirnim ručnicima ili automatskim sušenjem. Ako koristite krpane ručnike, mijenjajte ih nekoliko puta dnevno. Svako dijete treba imati ručnik za ruke. Djeci bi trebalo pomoći i naučiti ih kako da pravilno operu ruke. Redovno provjeravajte da li ima dovoljno sapuna i ručnika.
- **Operite ruke nakon brisanja nosa.** Pravilno pranje ruku je posebno važno nakon brisanja nosa, svog ili neke druge osobe, te nakon kontakta sa slinom iz usta ili nosa.
- **Gripa se može prenijeti kašljanjem ili kihanjem.** Provjerite imate li dovoljno papirnih maramica za djecu kojima curi iz nosa ili koja kišu. Osoblje i djeca bi trebala pokriti usta maramicom prilikom kašljanja i koristiti maramice kada kiši ili čiste nos. Maramicu odmah bacite u smeće i operite ruke poslije. Pobrinite se da institucija dnevne njege za djecu ili vozila za prevoz djece uvijek imaju dovoljno papirnih maramica za djecu kojima curi nos ili koja kišu.
- **Upozoravajte djecu da ne dodiruju oči, nos ili usta.** Na taj način, često nose klice.
- **Koristite sredstva za dezinfekciju ruku.** Podstičite korištenje sredstva za dezinfekciju na bazi alkohola među zaposlenicima. Ta sredstva učinkovito ubijaju bakterije na rukama kad ruke nisu vidljivo zaprljane (npr. poslije kontakta s telefonom, djetetovog nosa ili ručke na vratima).
- **Ako je moguće nemojte zatvarati svoju ustanovu. Zatvaranje ustanova za**

čuvanja djece u slučaju izbijanja epidemije po pravilu se ne preporučuje. Ako zatvorite svoj centar roditelji bolesne i zdrave djece će vjerovatno odvesti svoju djecu u druge ustanove i na taj način proširiti gripu i na druge institucije.

- **Izbjegavajte bliski kontakt.** Sva djeca i osoblje bi trebali izbjegavati razmjenu pljuvačke sa ostalim djecom ili osobljem tako što neće koristiti iste čaše, viljuške, kašike, itd.
- **Očistite često i na odgovarajući način.** U ustanovi za brigu o djeci često čistite površine koje su zajedničke, npr. ručke vrata, rukohvati, površine na kojima se jede, igračke i telefone. Komercijalno sredstvo sa izbjeljivačem čini odgovarajuće riješenje. (Izbjeljivač – varikina - sredstvo se dobija miješanjem $\frac{1}{4}$ šalice varikine sa 1 galonom vode)

Zašto biste trebali dobiti vakcinu protiv gripe svake godine

Virus gripe se mijenja svake godine kao što to čini njegov put oko svijeta. Budući da virus gripe skoro nikad nije isti iz godine u godinu, virus gripe u vakcini se mijenja svake godine. To je razlog zašto vam je potrebno da biste dobili novu vakcinu protiv gripe svake godine. Vakcina samo štiti od gripe jednu godinu.

Vakcinacija

Godišnje vakcinacija gripe treba započeti čim vakcina bude dostupan, obično rano u jesen. To će pružiti zaštitu za cijelu sezonu gripe.

Tko bi trebao dobiti vakcinu?

Godišnja vakcinacija se preporučuje za gotovo sve osobe preko 6 mjeseci starosti, te je osobito važno za one ljude sa visokim rizikom za razvoj komplikacija usljed gripe, kao što su djeca ispod pet godina, odrasli preko 65 godina, trudnice i ljudi s određenim medicinskim stanjima kao što su srčani i plućni problemi i dijabetes.

Što ako se razbolite?

Većina zdravih osoba se oporavi od gripe bez komplikacija. Ako dobijete gripu:

- Ostanite kod kuće
- Dosta se odmarajte, pijte puno tečnosti i izbjegavajte korištenje alkohola i duvana
- Postoje lijekovi koji se mogu kupiti bez recepta (OTC) za ublažavanje simptoma gripe (ali nikada ne davati aspirin djeci ili tinejdžerima koji imaju simptome koji nalikuju gripi, osobito groznica)
- Imajte na umu da u nekim grupa ljudi, među kojima su ljudi starijih od 65 godina, trudnice, ljudi koji pate od neke hronične bolesti i mala djeca, postoji veća vjerovatnoća dobijanja gripe.
- Na početku bolesti, obratite se svom ljekararu za preporuku najboljeg tretmana, ali takođe obratite pažnju na simptome koji ukazuju da vam je potrebna hitna medicinska pomoć

Znakovi upozorenja da vam je potrebna hitna medicinska pomoć zbog gripe

Kod djece, znaci da im je potrebna hitna medicinska pomoć može uključivati:

- nedostatak daha ili poteškoće s disanjem
- plava boje kože
- nedovoljan unos tekućine
- dijete se ne može probuditi ili odbija interakciju
- dijete je razdražljivo ili odbija da se nosi na rukama
- simptomi slični gripi se ponekad povuku i zatim se vrate u kombinaciji s groznicom i jačim kašljem
- groznica u kombinaciji sa osipom kože

¿Qué es la influenza?

La gripe es una enfermedad respiratoria contagiosa causada por virus de la influenza. El virus de la gripe es altamente contagioso que afecta la nariz, la garganta, los bronquios, y los pulmones. Puede causar una enfermedad moderada o grave, y en ocasiones puede causar la muerte. La mejor manera de prevenir la gripe es vacunándose cada año.

Contagio de la gripe

El virus de la gripe se propaga principalmente de persona a persona cuando las personas con gripe tosen o estornudan. A veces las personas pueden infectarse al tocar algo con el virus de la gripe y luego se tocan la boca o la nariz. La mayoría de los adultos sanos pueden infectar a otras personas desde un día antes de que se desarrollen los síntomas hasta 5 días después de caer enfermo. Eso significa que usted puede transmitir la gripe a alguien antes de saber que está enfermo, así como cuando está enfermo.

Período contagioso

Las personas pueden infectar a otras desde un día antes de aparecer los síntomas hasta 10 días después de estar enfermos.

Prevención en los Centros de Cuidado Infantil

- **Quédese en casa cuando esté enfermo.** Cualquier miembro del personal o niño sospechoso de tener influenza, no debería acudir al centro de cuidado infantil.
- **Lávese las manos con frecuencia.** Lávese las manos frecuentemente con agua tibia y jabón durante 15-20 segundos (lo que normalmente se tarda en cantar la canción del alfabeto.) Séquese las manos con toallas de papel o use secadoras de manos automáticas de ser posible. Si usa toallas de tela, reemplácelas con toallas de limpieza varias veces al día. Cada niño debe tener su propia toalla de tela. Se les debe enseñar y ayudar a los niños pequeños a lavarse las manos para asegurarse que lo hagan correctamente. Los baños deben ser controlados regularmente para asegurarse que el jabón y las toallas están disponibles.
- **Lávese después de sonarse la nariz.** El lavado de manos adecuado es especialmente importante después de limpiarse su propia nariz o la nariz de los demás, o después del contacto con la saliva o secreción nasal.

- La gripe se puede propagar a través de la tos y los estornudos. Asegúrese que hayan pañuelos desechables disponibles en caso de secreción nasal y estornudos. El personal y los niños deberían cubrirse la boca con la parte superior del brazo o un pañuelo desechable al toser, estornudar o sonarse la nariz. Los pañuelos deben ser desechados inmediatamente y las manos deben ser lavadas. Asegúrese que los pañuelos desechables, para la secreción nasal y estornudos, y los medios para transportarlos estén disponibles en el centro.

- **Recuerde a los niños de no tocar los ojos, la nariz o la boca.** Los gérmenes se propagan de esta manera.

- **Utilice un desinfectante para manos.** Fomente el uso de desinfectantes para manos cuando usted no pueda lavarse las manos. El desinfectante de manos es eficaz para matar los gérmenes en las manos cuando no están visiblemente sucias (por ejemplo, al tocar el teléfono, la nariz de un niño, y el pomo de la puerta).

- **Mantenga su centro abierto si es posible.** El cierre de un centro infantil no se recomienda en caso de un brote. Si un centro cierra, los padres tienen más probabilidades de llevar a sus hijos enfermos y a los sanos a otros centros, provocando la propagación de la enfermedad a otros centros.

- **Evite el contacto cercano.** Los niños y el personal deben evitar el intercambio de saliva por lo que no deben compartir vasos, tenedores, cucharas, cepillos de dientes y juguetes.

- **Limpie con frecuencia y correctamente.** En los viveros, limpie las superficies de uso común como picaportes, pasamanos, áreas donde se come, los juguetes y teléfonos. Los desinfectantes comerciales o soluciones de cloro deben ser utilizados. (Mezcle ¼ de taza de blanqueador en 1 galón de agua para preparar la solución de cloro.)

¿Por qué deben los niños y todo el personal vacunarse contra la gripe todos los años?

El virus de la gripe cambia cada año ya que se abre camino en todo el mundo. Dado que los virus de la gripe casi nunca son los mismos año con año, las cepas de la influenza en la vacuna cambian cada año. Esta es la razón por la cual se necesita obtener una vacuna contra la gripe cada año. La vacuna le protege contra la gripe durante un año.

Vacunación

La vacunación anual contra la gripe debe comenzar tan pronto como la vacuna esté disponible, por lo general a principios del otoño. Esto proporcionará la protección de toda la temporada de la gripe.

Vacuna de espray nasal

La vacunación con la vacuna de la influenza de espray nasal (Flu Mist ®) es una opción para las personas saludables de 2 a 49 años de edad que no están embarazadas o son personas saludables que viven o cuidan a aquellas que en su grupo están en alto riesgo. La única excepción es para las personas saludables que cuidan a personas cuyo sistema inmunológico está severamente débil y que requieren de un ambiente protegido. Estas personas deberían recibir la vacuna inactiva.

Si usted se enferma

La mayoría de las personas sanas se recuperan de la gripe sin complicaciones. Si le da la gripe:

- Quédese en casa.
- Existen medicamentos de venta libre (OTC= over the counter) que alivian los síntomas de la gripe (pero nunca le dé aspirina a niños o adolescentes con síntomas de gripe, especialmente fiebre)
- Recuerde que la seriedad de la gripe es más común en ciertos grupos de personas como las personas de 65 años de edad, mujeres embarazadas y personas con ciertas condiciones médicas crónicas y los niños pequeños
- Consulte con su médico tan pronto como sea posible para obtener el mejor tratamiento, pero tenga presente que hay señales de emergencia que podrían requerir atención médica urgente

Señales de emergencia de la influenza

En los niños, las señales de emergencia que indican la necesidad de atención médica urgente incluyen:

- Respiración rápida o falta de aliento
- Color azulado de la piel
- No está tomando suficientes líquidos
- No quiere despertarse ni interactuar con los demás
- Está tan irritable que el niño no quiere que se le abrace
- Los síntomas de la gripe mejoran pero luego regresan con fiebre y tos
- Fiebre con sarpullido

Recomendaciones para la vacunación de los niños

Los Centros para el Control y Prevención de Enfermedades (los CDC por sus siglas en inglés) recomiendan que cada niño reciba una vacuna para la gripe desde los seis meses de edad.

Revisado en octubre de 2010

Recomendaciones para los centros de atención infantil

Para obtener más información acerca de la influenza, visite nuestro sitio Web: [www.idph.state.ia.us / adper / flu.asp](http://www.idph.state.ia.us/adper/flu.asp)

Fact Sheet

Influenza

Recommendations for Child Care Facilities

What is influenza?

The flu is a contagious respiratory illness caused by influenza viruses. Influenza is a highly contagious virus that affects mainly the nose, throat, chest, and lungs. It can cause mild to severe illness, and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year.

The Spread of Influenza

Flu viruses mainly spread from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. Most healthy adults may be able to infect others beginning one day before symptoms develop and up to five days after becoming sick. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick.

Infectious Period

People may be able to infect each other one day before symptoms occur and up to 10 days after being sick.

Prevention in Child Care Facilities

- **Stay home when sick.** Any staff or child suspected of having influenza should not attend child care.
- **Wash hands often.** Wash hands frequently using soap and warm water for 15-20 seconds (this is generally around the time it takes to sing the ABC's). Dry hands with paper towels or automatic hand dryers, if possible. If cloth towels are used, replace them with clean towels several times a day. Each child should have their own cloth towel. Young children should be instructed and assisted to ensure proper hand washing. Restrooms should be checked regularly to ensure that soap and towels are available.
- **Wash after wiping noses.** Proper hand washing is particularly important after wiping your own or someone else's nose, or after contact with drool, saliva or nose drainage.
- Influenza can be spread from coughs or sneezes. Make sure tissues are available for runny noses and sneezing. Staff and children should cover their mouth with their upper arm or a tissue when coughing and use a tissue when sneezing or blowing their nose. Tissues should be thrown away immediately, and then hands should be washed. Make sure tissues are available in the day-care business and transport vehicles for runny noses and sneezing.
- **Remind children not to touch their eyes, nose, or mouth.** Germs often spread this way.
- **Use hand sanitizer.** Encourage the use of alcohol-based hand sanitizer when hand washing is not possible. Hand sanitizer is effective in killing germs on hands when they are not visibly soiled. (e.g., contact with phone, child's nose, and doorknob).
- **Keep your business open if possible.** Closing a child care business in the event of an outbreak is usually not recommended. If a center closes parents are more likely to take sick and well children to other centers, which spreads the illness to other centers.
- **Avoid close contact.** All children and staff should avoid sharing of saliva by not sharing glasses, forks, spoons, toothbrushes, and toys.
- **Clean frequently and appropriately.** In the child care, frequently clean commonly used surfaces, such as door handles, handrails, eating surfaces, toys, and phones. Commercial disinfectants or bleach solutions should be used. (Mixing ¼ cup bleach with 1 gallon of water makes bleach solution.)

Why children and child care workers should get the flu vaccine every year

The influenza virus changes every year as it makes its way around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why you need to get a new flu vaccine every year. The vaccine only protects you from influenza for one year.

Vaccination

Yearly flu vaccination should begin as soon as the vaccine is available, usually early in the fall. This will provide protection for the entire flu season.

Nasal-Spray Vaccine

Vaccination with the nasal spray flu vaccine (FluMist®) is an option for healthy people 2-49 years of age who are not pregnant, healthy persons who live with or care for those is a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems who require a protected environment; these healthy persons should get the inactivated vaccine.

If you get sick

Most healthy people recover from the flu without complications. If you get the flu:

- Stay home
- Get lots of rest, drink plenty of liquids, and avoid using alcohol and tobacco
- There are over-the-counter (OTC) medications to relieve the symptoms of the flu (but never give aspirin to children or teenagers who have flu-like symptoms, particularly fever)
- Remember that serious illness from the flu is more likely in certain groups of people including people 65 years of age and older, pregnant women, people with certain chronic condition and young children
- Consult your doctor early for the best treatment, but also be aware of emergency warning signs that require urgent medical attention

Emergency Warning Signs of Influenza

In **children**, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

Vaccination Guidelines for Children

The CDC and the IDPH recommend that all children six months of age or older receive influenza vaccination.

Fact Sheet

Influenza Recommendations for the Home

Influenza

The flu is a contagious illness caused by influenza viruses. Influenza is a highly contagious viral infection that affects mainly the nose, throat, chest and lungs. It can cause mild to severe illness, and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year.

Symptoms of Influenza

The symptoms of influenza include:

- Fever (typically $\geq 100^{\circ}$ F)
- Headache
- Extreme tiredness
- Dry cough
- Sore throat
- Runny or stuffy nose
- Muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults.

Emergency Warning Signs of Influenza

In **children**, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

Infectious Period

People may be able to infect each other one day before symptoms occur and up to 10 days after being sick.

What can you do to prevent or reduce the spread of influenza in your home?

- **Get vaccinated!** The influenza vaccine is the BEST way to prevent influenza infection.
- **Stay home when ill.** Any family member suspected of having the influenza should not attend work or school. Ill family members should be encouraged to rest and drink plenty of fluids.
- **Wash hands often.** Wash hands frequently by using soap and warm water and rub your hands for 15-20 seconds (this is generally around the time it takes to sing the ABC's). Dry hands with as clean a towel as possible. Towels should be changed frequently. Young children should be instructed and assisted to make sure they wash their hands properly. Bathrooms should be checked regularly to ensure that soap and towels are available for your family's use.
- **Cover coughs and sneezes.** Influenza can be spread by coughs or sneezes. Family members should cover their mouths using their upper arm or a tissue when coughing and use a disposable tissue when sneezing or blowing their noses. Tissues should be thrown away immediately, and then hands should be washed. (If you cannot wash hands, rub hands with an alcohol hand gel.) Make sure tissues are available in the home and cars for runny noses and sneezing.
- **Use hand sanitizer.** Encourage the use of alcohol-based hand sanitizer when hand washing is not possible. Hand sanitizer is effective in killing germs on hands when they are not visibly soiled. Appropriate times to use hand sanitizer are after coughing, sneezing, eating or contact with infected surfaces (e.g., contact with phone, child's nose, and doorknob).
- **Avoid close contact.** Spread of influenza in homes is likely. Families should avoid sharing of saliva by not sharing glasses, forks, spoons, toothbrushes, etc.

- **Clean surfaces frequently.** Clean surfaces, such as door handles, handrails, kitchen table, and phones frequently with household cleaner or bleach solution. (Mixing ¼ cup bleach with 1 gallon of water makes a bleach solution. This should be mixed fresh daily.) If disinfectant is not available, hot water and soap can be used.
- **If ill, consult a health care provider.** If family members get influenza, especially if they are elderly or have other medical problems, you may wish to contact their physicians immediately. Their doctors can prescribe antiviral drugs, which may stop them from getting seriously ill. However the medications must be given within 48 hours of the onset of illness. The medication may also be given to household contacts to prevent them from becoming ill.

Why you should get the flu vaccine every year

The influenza virus changes every year as it makes its way around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why you need to get a new flu vaccine every year. The vaccine only protects you from influenza for one year.

Vaccination

Yearly flu vaccination should begin as soon as the vaccine is available, usually early in the fall. This will provide protection for the entire flu season.

Who should get vaccinated

Yearly flu vaccination is recommended for almost everyone over 6 months of age, and is especially important for those people at high risk for developing flu-related complications, such as children younger than five; adults 65 years of age and older; pregnant women; and people with certain medical conditions like heart and lung problems, and diabetes.

The Nasal Spray Vaccine

Vaccination with the nasal spray flu vaccine (FluMist®) is an option for healthy people 2-49 years of age who are not pregnant; even healthy persons who live or care for those in a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems who require a protected environment; these healthy persons should get the inactivated (injectable) vaccine.

Letak sa činjenicama

Gripa

Opća javnost

Gripa

Gripa je vrlo zarazna virusna infekcija koja uglavnom zahvata nos, grlo, bronhije i ponekad pluća. Gripa može izazvati blage ili teške bolesti, a ponekad dovesti i do smrti. Kod veoma male djece, starijih osoba i osoba koje pate od drugih ozbiljnih bolesti, infekcija može uzrokovati ozbiljne komplikacije kao što su upala pluća.

Simptomi gripe

Simptomi gripe su:

- groznica
- glavobolja
- jako izražen umor
- suhi kašalj
- upaljeno grlo
- začepljen nos
- bol u mišićima
- stomačni simptomi kao što su mučnina, povraćanje i dijareja, takođe se mogu pojaviti, ali su češći kod djece nego u odraslih

Širenja gripe

Virusi gripe uglavnom se prenose s osobe na osobu kašljem ili kihanjem ljudi zaraženim gripom. Ponekad se ljudi mogu zaraziti dodiranjem nečega na čemu se nalaze virusi gripe, a zatim dodiranjem usta ili nosa. Većina zdravih odraslih osoba može zaraziti druge u roku od jednog dana prije početka simptoma i do pet dana nakon izbijanja simptoma. To znači da možete jednostavno prenijeti virus na drugu osobu prije nego što znate da ste bolesni, kao i za vrijeme bolesti.

Sprječavanje gripe

Kako se prehlada može spriječiti?

Najbolji način da spriječite gripu je da se vakcinišete svake godine. Postoje dvije vrste vakcina:

- Vakcina protiv gripe u obliku injekcije - neaktivirana vakcina (sadrži ubio virus) koji se ubrizgava sa iglom. Vakcina je odobrena za osobe starije od šest mjeseci, uključujući zdrave osobe i osobe s hroničnim bolestima.
- Cjepivo protiv gripe u vidu spreja za nos - cjepivo koje je napravljeno sa živim,

oslabljenim virusom gripe koji ne uzrokuje gripu (ponekad se naziva LAIV, što znači "živa razrijeđena vakcina protiv gripa"). LAIV je odobren za upotrebu kod zdravih ljudi u dobi od 2 do 49 godine isključujući trudnice.

Oko dvije sedmice nakon cijepljenja su potrebne za razvoj antitijela koja štite od infekcije virusom gripe. Cjepivo protiv gripe ne štiti od bolesti koje nalikuju na gripu i druge bolesti uzrokovane virusima.

Zašto biste trebali dobiti cjepivo protiv gripe svake godine

Virus gripe se mijenja svake godine kao što to čini njegov put oko svijeta. Budući da virus gripe skoro nikad nije isti iz godine u godinu, virus gripe u vakcini se mijenja svake godine. To je razlog zašto vam je potrebno da biste dobili novu vakcinu protiv gripe svake godine. Vakcina samo štiti od gripe jednu godinu.

Vakcinacija

Godišnje vakcinacija gripe treba započeti čim vakcina bude dostupan, obično rano u jesen. To će pružiti zaštitu za cijelu sezonu gripe.

Tko bi trebao dobiti vakcinu?

Godišnja vakcinacija se preporučuje za gotovo sve osobe preko 6 mjeseci starosti, te je osobito važno za one ljude sa visokim rizikom za razvoj komplikacija usljed gripe, kao što su djeca ispod pet godina, odrasli preko 65 godina, trudnice i ljudi s određenim medicinskim stanjima kao što su srčani i plućni problemi i dijabetes.

Antivirusni lijekovi

Antivirusni lijekovi protiv gripe (tablete, tekućine ili sredstva za inhalaciju) su lijekovi koji se dobijaju na recept i koji se bore protiv gripe tako što spriječavaju razmnožavanje virusa u vašem tijelu. Antivirusni lijekovi mogu pomoći da se osjećate bolje za kratko vrijeme. Oni također mogu spriječiti ozbiljne komplikacije uslijed gripe. To bi moglo biti posebno važno za ljude s visokim rizikom od komplikacija.

Što trebamo činiti kako bi zaštitili sebe i svoju porodicu od gripe?

- **Perite ruke često sa sapunom i vodom najmanje 15-20 sekundi.** Perite ruke prije i poslije jela, odlaska u toalet ili dodirivanja kućnih ljubimaca, telefona ili tastature.
- **Koristite sredstva za dezinfekciju ruku.** Ako ne možete oprati ruke, možete koristiti sredstva za čišćenje na bazi alkohola, ako vaše ruke ne izgledaju prljavo.
- **Nemojte ići na posao ili u školu ako ste bolesni i potaknuti druge da učine isto.**
- **Ostanite daleko od drugih za koje znate da su bolesni.** Manja je vjerojatnoća da ćete postati bolesni ako ste najmanje 1 metar udaljeni od osobe koja kašlje ili kiše.
- **Vakcinacija.** Glavni način borbe protiv influence je godišnja vakcinacija protiv gripe.
- **Obratite se svom liječniku.** Ako dobijete simptome nalik na gripu, obratite se svom liječniku. On će biti u mogućnosti da vam propiše antivirusne lijekove koji

će skratiti trajanje bolesti i spriječiti njeno prosljeđivanje drugima.

- **Čistite često i na odgovarajući način.** Područja koja se zajednički koriste, kao što su fontana za vodu, ručke na vratima, rukohvati, površine na kojima se jede, stolovi i telefoni često se moraju čistiti dezinfekcionim sredstvom. Komercijalno sredstvo sa izbjeljivačem čini odgovarajuće rješenje. (Izbjeljivač – varikina – sredstvo se dobija miješanjem $\frac{1}{4}$ šalice varikine sa 1 galonom vode). Neki virusi u nekim područjima ne mogu preživjeti više od 20 minuta do 2 sata ili više.

Fact Sheet

Influenza General Public

Influenza

Influenza is a highly contagious viral infection that affects mainly the nose, throat, chest and lungs. The flu may cause mild to severe illness, and may even lead to death. In the very young, the elderly, and those with other serious medical conditions, infection can lead to severe complications such as pneumonia.

Symptoms of Influenza

Symptoms of influenza include:

- Fever (typically $\geq 100^{\circ}$ F)
- Headache
- Extreme tiredness
- Dry cough
- Sore throat
- Runny or stuffy nose
- Muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults

Emergency Warning Signs of Influenza

In **children**, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

Infectious Period

People may be able to infect each other one day before symptoms occur and up to 10 days after being sick.

The Spread of Influenza

Flu viruses mainly spread from person to person through coughing or sneezing of people with influenza. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose. Most healthy adults may be able to infect others beginning one day before symptoms develop and up to five days after becoming sick. That means that you may be able to pass on the flu to someone else before you know you are sick, as well as while you are sick.

How can you prevent the flu?

The single best way to prevent the flu is to get vaccinated each year. There are two types of vaccines:

- The “flu” shot- an inactivated vaccine (containing killed virus) that is given with a needle. The flu shot is approved for use in people six months of age and older, including healthy people and people with chronic medical conditions.
- The nasal-spray flu vaccine- a vaccine made with live, weakened flu viruses that do not cause the flu (sometimes called LAIV for “Live Attenuated Influenza Vaccine” or FluMist®). LAIV is approved for use in healthy people 2-49 years of age who are not pregnant.

About two weeks after vaccination, antibodies develop that protect against influenza virus infection. Flu vaccines will not protect against flu-like illnesses caused by non-influenza viruses.

If you get the flu:

- Stay home from work or school
- Make sure and get plenty of rest and water
- Over-the-counter medications may relieve symptoms
- Consult your doctor

Why you should get the flu vaccine every year

The influenza virus changes every year as it makes its way around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why you need to get a new flu vaccine every year. The vaccine only protects you from influenza for one year.

Vaccination

Yearly flu vaccination should begin as soon as the vaccine is available, usually early in the fall. This will provide protection for the entire flu season.

Who should get vaccinated

Yearly flu vaccination is recommended for almost everyone over 6 months of age, and is especially important for those people at high risk for developing flu-related complications, such as children younger than five; adults 65 years of age and older; pregnant women; and people with certain medical conditions like heart and lung problems, and diabetes.

The Nasal Spray Vaccine

Vaccination with the nasal spray flu vaccine (FluMist®) is an option for healthy people 2-49 years of age who are not pregnant, even healthy persons who live with or care for those in a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems who require a protected environment; these healthy persons should get the inactivated (injectable) vaccine.

Antiviral Medications

Influenza antiviral drugs are prescription medicines (pills, liquid, or an inhaler) that fight against the flu by keeping flu viruses from reproducing in your body. Antiviral drugs can make you feel better faster. They may also prevent serious flu complications. This could be especially important for people at high risk. These medications are only effective if started within 48 hours after symptoms start. Influenza antiviral medication may also be used to prevent sickness in people who have been exposed to someone with influenza.

What should I do to protect myself and my family from the flu?

- **Washing your hands** often with soap and water for at least 15-20 seconds. Wash your hands before and after eating, going to the bathroom, or touching pets, phones, or keyboards.
- **Use hand sanitizer.** If you cannot wash your hands, alcohol-based hand cleaner may be used if your hands do not look dirty.
- **Stay home** from work or school when you are ill, and encourage others to do the same.
- **Stay away from others you know are ill.** You are less likely to become ill if you stay at least three feet from someone who is coughing or sneezing.
- **Vaccination.** The first line of defense against influenza is to get your influenza vaccination each year.
- **Contact your health care provider.** If you experience flu-like symptoms contact your physician. Your physician may be able to prescribe antiviral medications for you to shorten the duration of the illness and prevent transmission.
- **Clean frequently and appropriately.** Frequently clean commonly used surfaces, such as door handles, handrails, eating surfaces, toys, and phones. Commercial disinfectants or bleach solutions should be used. (Mixing ¼ cup bleach with 1 gallon of water makes bleach solution. Must be made fresh daily) Some viruses can live from 20 minutes up to two hours or more on some surfaces.

Fact Sheet

Influenza

Recommendation for the Vaccination of Health Care Professionals

Why should health care professionals be immunized for influenza?

Individual, family and patient protection- health care professionals are at an increased risk for acquiring influenza and the influenza vaccine is the best defense against infection.

Herd immunity- more people vaccinated for influenza results in fewer people getting influenza and spreading it in the community. The influenza vaccine works in the same way that other vaccines do- once a significant proportion of the population has received the vaccine disease incidence drops sharply.

Influenza vaccine reduces the likelihood of becoming ill with influenza or transmitting influenza to others.

There are two types of vaccines:

- Trivalent influenza vaccine (TIV) - TIV is an inactivated vaccine (containing killed virus) that is given by injection. TIV is approved for use in people older than 6 months, including healthy persons and those with chronic medical conditions. TIV formulations include a regular injection for those 6 months old or older, a higher dose formulation for those 65 and older, and an intradermal formulation for those 18 to 64 years old.
- Live, attenuated influenza vaccine (LAIV or FluMist®) – LAIV contains a live, weakened influenza virus that is administered intranasally by sprayer. LAIV is approved for use in healthy people 5 years to 49 years of age who are not pregnant.

TIV is preferred over LAIV for health care professionals who are in close contact with immunosuppressed persons (e.g. stem cell transplant patients) when patients require a protective environment.

Timing of vaccination

To avoid missed opportunities for vaccination of persons at increased risk for serious complications of influenza, vaccine may be offered as early as September if available. The optimal time for vaccination efforts is usually during October- November. Vaccine should continue to be sought and administered throughout the influenza season even after influenza activity has been established in the community.

Why people should get the flu vaccine every year

The influenza virus changes every year as it spreads around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why people need to get a new flu vaccine every year. The vaccine only protects people from influenza for one year.

Who should get vaccinated?

Yearly flu vaccination is recommended for almost everyone over 6 months of age, and is especially important for those people at high risk for developing flu-related complications, such as children younger than five; adults 65 years of age and older; pregnant women; and people with certain medical conditions like heart and lung problems, and diabetes.

Other things health care facilities can do to ensure influenza vaccination

In June, 2006 the Joint Commission on Accreditation of Healthcare Organizations approved an infection control standard that required accredited organizations to offer influenza vaccinations to staff and volunteers who have close patient contact. The following are recommendations provided by HICPAC/ACIP* for hospitals:

- Educate health care professionals (HCP) on the benefits of influenza vaccination.
- Offer influenza vaccine annually to all eligible HCP. Use either TIV or LAIV for eligible persons.
- Provide influenza vaccination to HCP at the work site and at no cost.
- Obtain signed declination from HCP who decline influenza vaccination for non-medical reasons.
- Monitor influenza vaccination coverage and declination at regular intervals throughout the season.
- Use the level of HCP influenza vaccination coverage as one measure of a patient-safety quality program. Although vaccination rates for health care professionals are typically <40%, with moderate effort, organized campaigns can attain higher rates of vaccination among this population. Physicians, nurses, and other professionals with direct patient contact, including medical emergency-response professionals (paramedics and emergency medical technicians), should be vaccinated, as should employees of nursing home and long-term care facilities.

* Healthcare Infection Control Practices Advisory Committee (HICPAC) and the Advisory Committee on Immunization Practices (ACIP)

Fact Sheet

Influenza

Recommendations for Long-Term Care Facilities

Influenza

The flu is a contagious illness caused by influenza viruses. Influenza is a highly contagious viral infection that affects mainly the nose, throat, chest and lungs. It can cause mild to severe illness and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year.

Infectious Period

People may be able to infect each other one day before symptoms occur and up to 10 days after being sick.

Prevention of Influenza

The single best way to prevent the flu is to get the vaccination each year. There are two types of vaccines:

- The “flu” shot- an inactivated vaccine (containing killed virus) that is given with a needle. The flu shot is approved for use in people six months of age and older, including healthy people and people with chronic medical conditions. A higher dose formulation is available for people 65 and older.
- The nasal-spray flu vaccine- a vaccine made with live, weakened flu viruses that do not cause the flu sometimes called LAIV (FluMist®) for “Live Attenuated Influenza Vaccine”. LAIV is approved for use in healthy people 2-49 years of age who are not pregnant.

About two weeks after vaccination, antibodies develop that protect against influenza virus infection. Flu vaccines will not protect against flu-like illnesses caused by non-influenza viruses.

Uses of vaccination and antiviral medication to prevent and treat influenza

- **Who should be vaccinated?** Employees of nursing homes and long-term care facilities who have direct patient/resident contact and residents should be vaccinated against influenza.
- **What are influenza antiviral drugs?** Influenza antiviral drugs are prescription medicines (pill, liquid, and inhaler) that fight against the flu by keeping flu viruses from reproducing in people. Antiviral drugs can make influenza illness milder and make people feel better faster. They may also prevent serious flu complications. This could be especially important for people at high risk.
- **How antiviral medications are used for the flu.** Receiving a flu vaccine each year is the best way to protect people from the flu; antiviral drugs can be used as a second line of defense to treat the flu or to prevent flu infection. For treatment, antiviral drugs work best if started soon after getting sick (within two days of symptoms). When used this way, these drugs can reduce the severity of flu symptoms and shorten the time people are sick by one or two days. They also may make people less contagious to other people.
- **How effective are antiviral drugs?** When used to prevent the flu, antiviral drugs are about 70% to 90% effective. It's important to remember that flu antiviral drugs are not a substitute for getting a flu vaccine. Antiviral medication is only effective if taken within 48 hours of symptom onset.
- **Antiviral medications approved for influenza.**
For seasonal guidelines about the use of antiviral medications, visit: www.cdc.gov/flu/antivirals/index.htm.

Actions to take to prevent or reduce the spread of influenza in your facility

- **Cover coughs and sneezes.** Transmission commonly occurs from unprotected coughs or sneezes. Make sure tissues are available at all times. Encourage residents and staff to cover their mouths when coughing and use a tissue when sneezing or blowing their nose. Tissues should be disposed of immediately, followed by proper hand washing (alcohol hand gels may be used).
- **Stay home when ill.** Any staff member suspected of having influenza should be sent home and stay home for the duration of the illness.
- **Use standard and droplet precautions.** Staff should use Standard and Droplet Precautions when caring for clients with influenza.

- **Practice good hand hygiene.** Staff and residents should be encouraged to practice good hand hygiene at all times. This means using warm water and soap for at least 15-20 seconds each time. Alcohol hand gels may be used if hands are not soiled.
- **Clean frequently.** Common use surfaces such as door handles, handrails, game table surfaces, and phones should be cleaned regularly (approximately twice daily) with disinfectant. (Bleach solutions or commercial disinfectants are appropriate.)
- **Isolate ill residents.** Ill residents should stay in their rooms. Non-ill roommates should be relocated to other rooms. If many residents are ill, cohorting to a specific area or ward may be considered. If cohorting of residents is practiced, staff should be cohorted also, i.e., those staff caring for ill residents should not also care for the well residents.
- **Screen for illness in visitors.** Family members and other visitors with respiratory illness should not be allowed into the facility.

Why you should get the flu vaccine every year

The influenza virus changes every year as it makes its way around the world. Since the exact flu viruses are almost never the same from year to year, the strains of influenza in the vaccine changes each year. This is why people need to get a new flu vaccine every year. The vaccine only protects people from influenza for one year.

Vaccination

Yearly flu vaccination should begin as soon as the vaccine is available, usually early in the fall. This will provide protection for the entire flu season.

Who should get vaccinated?

Yearly flu vaccination is recommended for almost everyone over 6 months of age, and is especially important for those people at high risk for developing flu-related complications, such as children younger than five; adults 65 years of age and older; pregnant women; and people with certain medical conditions like heart and lung problems, and diabetes.

The Nasal Spray Vaccine

Vaccination with the nasal spray flu vaccine (FluMist®) is an option for healthy people 2-49 years of age who are not pregnant and healthy persons who live with or care for those in a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems that require a protected environment; these healthy persons should get the inactivated vaccine.

Gripa

Gripa je vrlo zarazna virusna infekcija koja uglavnom zahvata nos, grlo, bronhije i ponekad pluća. Gripa može izazvati blage ili teške bolesti, a ponekad dovesti i do smrti. Kod veoma male djece, starijih osoba i osoba koje pate od drugih ozbiljnih bolesti, infekcija može uzrokovati ozbiljne komplikacije kao što su upala pluća.

Simptomi gripe

Simptomi gripe su:

- groznica
- glavobolja
- jako izražen umor
- suhi kašalj
- upaljeno grlo
- začepljen nos
- bol u mišićima
- stomakni simptomi kao što su mučnina, povraćanje i dijareja, takođe se mogu pojaviti, ali su češći kod djece nego u odraslih

Što možete učiniti za sprečavanje ili smanjenje širenja gripe u vašem domu?

- **Vakcinacija protiv gripe je najbolji način da se spriječi influenza.**
- **Ostanite kod kuće kada ste bolesni.** Svi članovi obitelji koji pokazuju simptome gripe trebali bi odsustvovati s posla ili škole. Podsticati bolesne članova obitelji na odmor i da piju puno tečnosti.
- **Perite ruke često.** Perite ruke često sa sapunom i toplom vodom i trljajte ih tako 15-20 sekundi (kao i obično pjevajući abecedu). Osušiti ruke čistim ručnikom i mijenjati prljave ručnike sa čistim često. Djecu bi trebala naučiti i pomoći im da pravilno peru ruke. Redovno provjerite da u kupaonici ima dovoljno sapuna i ručnika za čitavu porodicu.
- **Pokrijte usta i nos kad kašljete ili kišete.** Gripa se može prenijeti kašljanjem ili kihanjem. Članovi porodice trebaju pokriti usta kada kašlju i koristiti maramicu kada kišu ili brišu nos. Maramicu treba odmah baciti u smeće i oprati poslije toga ruke. (Ako ne možete oprati ruke, onda ih očistite sredstvom za dezinfekciju sa alkoholom.) Provjerite da ima dovoljno papirnih maramica u kući i automobilu za članove porodice koji kišu ili kašlju.
- **Izbjegavajte bliski kontakt.** Velika je vjerovatnoća da se virus na taj način proširi u domaćinstvu. Članovi porodice bi trebali izbjegavati razmjenu pljuvačke, tako što neće koristiti iste čaše, viljuške, kašike, četkice za zube, itd.
- **Često čistite zajedničke površine.** Područja koja se zajednički koriste, kao što

su fontana za vodu, ručke na vratima, rukohvati, površine na kojima se jede, stolovi i telefoni često se moraju čistiti dezinfekcionim sredstvom. Komercijalno sredstvo sa izbjeljivačem čini odgovarajuće rješenje. (Izbjeljivač – varikina – sredstvo se dobija miješanjem $\frac{1}{4}$ šalice varikine sa 1 galonom vode. Sredstvo treba iznova izmiješati svaki dan). Ako vam nije dostupno ovo sredstvo za čišćenje, koristite toplu vodu i sapun.

- **Ako ste bolesni, obratite se svom ljekaru.** Ako članovi vaše obitelji dobiju gripu, pogotovo ako su stariji ili pate od drugih zdravstvenih problema, odmah kontaktirajte svog ljekara. On će biti u mogućnosti da im propiše antivirusni lijek koji će spriječiti ozbiljno razvijanje bolesti. Međutim, ove lijekove treba uzeti u roku od 48 sati od početka bolesti. Ostali članova domaćinstva takođe mogu uzeti lijek kako bi se spriječili dobijanje.

Zašto biste trebali dobiti vakcinu protiv gripe svake godine

Virus gripe se mijenja svake godine kao što to čini njegov put oko svijeta. Budući da virus gripe skoro nikad nije isti iz godine u godinu, virus gripe u vakcini se mijenja svake godine. To je razlog zašto vam je potrebno da biste dobili novu vakcinu protiv gripe svake godine. Vakcina samo štiti od gripe jednu godinu.

Vakcinacija

Godišnje vakcinacija gripe treba započeti čim vakcina bude dostupan, obično rano u jesen. To će pružiti zaštitu za cijelu sezonu gripe.

Tko bi trebao dobiti vakcinu?

Godišnja vakcinacija se preporučuje za gotovo sve osobe preko 6 mjeseci starosti, te je osobito važno za one ljude sa visokim rizikom za razvoj komplikacija usljed gripe, kao što su djeca ispod pet godina, odrasli preko 65 godina, trudnice i ljudi s određenim medicinskim stanjima kao što su srčani i plućni problemi i dijabetes.

Influenza

La gripe es una enfermedad respiratoria contagiosa causada por virus de la influenza. El virus de la gripe es altamente contagioso que afecta la nariz, la garganta, los bronquios, y los pulmones. Puede causar una enfermedad moderada o grave, y en ocasiones puede causar la muerte. La mejor manera de prevenir la gripe es vacunándose cada año.

Síntomas de la gripe

- Fiebre (usualmente ≥ 100 °F)
- Dolores de cabeza
- Cansancio extremo
- Tos seca
- Dolor de garganta
- Congestión o flujo nasal
- Dolores musculares
- Los síntomas estomacales, como náuseas, vómitos y diarrea pueden ocurrir pero son más comunes en niños que en adultos.

Señales de emergencia de la influenza

En los niños, las señales de emergencia que necesitan atención médica urgente incluyen:

- Respiración rápida o falta de aliento
- Color azulado de la piel
- No está tomando suficientes líquidos
- No quiere despertarse ni interactuar con los demás
- Está tan irritable que el niño no quiere que se le abrace
- Los síntomas de la gripe mejoran pero luego regresan con fiebre y tos
- Fiebre con sarpullido

El período contagioso

Las personas pueden infectar a otros desde un día antes de aparecer los síntomas hasta 10 días después de estar enfermos.

¿Qué puede hacer para prevenir o reducir la propagación de la gripe en su casa?

Obtener la vacuna contra la gripe es la MEJOR manera de prevenir la infección de la gripe.

- **Quédese en casa cuando esté enfermo.** Cualquier miembro de la familia que se sospecha de padecer la gripe no debe asistir al trabajo o a la escuela. Los miembros

enfermos de la familia deben descansar y beber líquidos en abundancia.

Lávese las manos con frecuencia. Lávese las manos frecuentemente con agua tibia y jabón y frótese las manos durante 15-20 segundos (por lo general toma el tiempo requerido para cantar la canción del alfabeto.) Séquese las manos con una toalla lo más limpia posible. Las toallas deben cambiarse con frecuencia. Usted debe enseñar y ayudar a los niños pequeños para asegurar que se laven las manos correctamente. Los baños deben revisarse con regularidad para asegurarse de que el jabón y las toallas están disponibles para uso familiar.

- **Cubra su tos y estornudos.** La influenza puede transmitirse a través de la tos y los estornudos. Los miembros de la familia deben cubrirse la boca con la parte superior del brazo o con un pañuelo desechable al estornudar o sonarse la nariz. Los pañuelos deberían botarse inmediatamente y las manos deberían lavarse. (Si no puede lavarse las manos, frótelas con un desinfectante.) Asegúrese que los pañuelos desechables estén disponibles en el hogar y vehículos en caso de secreción nasal y estornudos.

- **Utilice un desinfectante para las manos.** Fomente el uso de desinfectantes de manos cuando el lavado no es posible. El desinfectante de manos es eficaz para matar los gérmenes en las manos cuando no están visiblemente sucias. Los tiempos apropiados para usar desinfectante de manos son después de toser, estornudar, comer o al tocar superficies infectadas (por ejemplo, el contacto con el teléfono, la nariz de un niño y el pomo de la puerta).

- **Evite el contacto cercano.** La propagación de la gripe en el hogar es probable. Los familiares deben evitar el intercambio de saliva por lo cual no deberían compartir vasos, tenedores, cucharas, cepillos de dientes, etc.

- **Limpie las superficies con frecuencia.** Limpie con frecuencia las superficies como las perillas de las puertas, pasamanos, mesa de la cocina, y los teléfonos con un limpiador doméstico o solución de cloro. (Mezcle $\frac{1}{4}$ de taza de blanqueador en 1 galón de agua para preparar la solución de cloro, prepare una mezcla fresca diariamente.) Si el desinfectante no está disponible, use agua caliente jabón.

- **Si está enfermo, consulte a su médico.** Si un miembro de la familia contrae la gripe, especialmente los ancianos o si un familiar tiene otros problemas médicos, puede ponerse en contacto con su médico inmediatamente. Los médicos pueden recetar medicamentos antivirales, que pueden evitar que se enfermen gravemente. Sin embargo, los fármacos deben administrarse en las 48 horas del inicio de la enfermedad. El medicamento también puede administrarse a las personas que tienen contacto con el hogar para evitar que se enfermen.

Por qué usted debe vacunarse contra la gripe todos los años

El virus de la gripe cambia cada año ya que se abre camino en todo el mundo. Dado que el virus exacto de la gripe casi nunca es el mismo año con año, las cepas de la influenza en la vacuna cambian cada año. Esta es la razón por lo que se necesita una

nueva vacuna contra la gripe cada año. La vacuna le protege contra la gripe durante un año.

Vacunación

La vacunación anual contra la gripe debe comenzar tan pronto como la vacuna esté disponible, por lo general a principios del otoño. Esto proporcionará la protección de toda la temporada de la gripe.

¿Quién debería vacunarse?

La vacunación anual contra la gripe se recomienda a casi todas las personas mayores de 6 meses de edad. Es especialmente importante para aquellas personas con alto riesgo de desarrollar complicaciones relacionadas con la gripe, como los niños menores de cinco años, adultos de 65 años de edad y mayores, mujeres embarazadas, y personas con ciertas condiciones médicas como problemas del corazón y pulmón, y la diabetes.

Vacuna de espray nasal

La vacunación con la vacuna de la influenza de espray nasal (Flu Mist ®) es una opción para las personas saludables de 2 a 49 años de edad que no están embarazadas o son personas saludables que viven o cuidan a aquellas que en su grupo están en alto riesgo. La única excepción es para las personas saludables que cuidan a personas cuyo sistema inmunológico está severamente débil y que requieren de un ambiente protegido. Estas personas deberían recibir la vacuna inactiva.

Revisado en octubre de 2010

Recomendaciones para el hogar

Para obtener más información acerca de la influenza, visite nuestro sitio Web: [www.idph.state.ia.us / adper / flu.asp](http://www.idph.state.ia.us/adper/flu.asp)

Fact Sheet

Influenza

Control of Influenza and Other Respiratory Outbreaks in Schools

Influenza in Schools

Outbreaks of influenza and respiratory illness are common in the winter months. There are many school-based strategies for limiting spread of illness that should be considered when school absences due to illness reaches or exceeds 10 percent of the school enrollment.

Infectious Period

Students and staff may be able to infect each other one day before symptoms occur and up to ten days after being sick.

The following are key intervention measures for schools to reduce transmission and potentially contain outbreaks of influenza and other respiratory diseases:

- **Collaborate.** Work with the local public health agency (LPHA) to decrease transmission of these viruses and possibly decrease the school's outbreak impact on the community at large
- **Ramp up cleaning.** Conduct thorough environmental cleaning daily. Include stair hand rails, doorknobs, and other commonly touched surfaces.
- **Notify and educate parents.** Send an information letter home to parents as early in the outbreak as possible. Be sure to include the following items:
 - Symptoms of influenza, to aid in recognition of when a child has the flu;
 - When a child has the flu, they should stay home; and
 - The importance of yearly influenza vaccine, especially children with health problems like asthma.
- **Hand washing.** Teach and encourage children and staff to wash hands regularly with warm water and soap. Consider having children wash hands with soap and water for at least 15-20 seconds before and after eating, recess, gym class and every other situation involving frequent child to child interaction. Be a good role model.
- **Use hand sanitizer.** Consider the use of alcohol-based hand sanitizers in the classroom when soap and water are not readily available.
- **Limit gatherings.** Limit assemblies, large group gatherings and interactions with other schools during periods of high absence (when absence is at or above 10%).
- **Think about vaccination.** Consider holding influenza vaccine clinics. Work with LPHA to determine feasibility and logistics. This is best done before outbreaks occur. Once an outbreak is occurring, vaccination of children can help to control the outbreak or limit spread within a school district and/or county. Target more than the affected school to yield the best results.
- **Utilize resources.** Use the resources at the Iowa Department of Public Health (IDPH) as well as the Center for Disease Control (CDC). Visit the influenza web site at www.idph.state.ia.us/Cade/Influenza.aspx?pg=FluHome or www.cdc.gov/flu/index.htm for fact sheets, student activities, and more.

School absence due to illness meeting or exceeding 10% should be reported to the Center for Acute Disease Epidemiology at the Iowa Department of Public Health. Please report the following for each day the school meet or exceeds 10%:

1. Reporter name
2. School name and location
3. Number absent due to illness and enrolled OR% absenteeism
4. Common illness complaints

Submit reports on the web at www.idph.state.ia.us/surveys/school_outbreaks/default.asp or by calling 1-800-362-2736.

Fact Sheet

Influenza

Recommendations for Schools

FAST FACTS

- Approximately 1/5 of the U.S. population attends or works in schools.
- Some viruses and bacteria can live from 20 minutes up to two hours or more on surfaces like cafeteria tables, doorknobs, and desks.
- Nearly 22 million school days are lost annually due to the common cold alone.
- Addressing the spread of germs in schools is essential to the health of our youth, our schools, and our nation.
- Students need to get plenty of sleep and physical activity, drink water, and eat good food to help them stay healthy in the winter and all year.
- Nearly 1/3 of the population is infected with flu every year.

Influenza

The flu is a contagious respiratory illness caused by influenza viruses. Influenza is a highly contagious virus that affects mainly the nose, throat, chest, and lungs. It can cause mild to severe illness, and at times can lead to death. The best way to prevent the flu is by getting a flu vaccination each year.

Symptoms of Influenza

Symptoms of influenza include:

- Fever (typically $\geq 100^{\circ}$ F)
- Headache
- Extreme tiredness
- Dry cough
- Sore throat
- Runny or stuffy nose
- Muscle aches
- Stomach symptoms, such as nausea, vomiting, and diarrhea, also can occur but are more common in children than adults

Emergency Warning Signs of Influenza

In **children**, emergency warning signs that need urgent medical attention include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- Not waking up or not interacting
- Being so irritable that the child does not want to be held
- Flu-like symptoms improve but then return with fever and worse cough
- Fever with a rash

Infectious Period

People may be able to infect each other one day before symptoms occur and up to ten days after being sick.

How can you prevent the flu?

The single best way to prevent the flu is to get vaccinated each year. There are two types of vaccines:

- The “flu” shot- an inactivated vaccine (containing killed virus) that is given with a needle. The flu shot is approved for use in people six months of age and older, including healthy people and people with chronic medical conditions.
- The nasal-spray flu vaccine (FluMist ®) - a vaccine made with live, weakened flu viruses that do not cause the flu (sometimes called LAIV for “Live Attenuated Influenza Vaccine”. LAIV is approved for use in healthy people 2-49 years of age who are not pregnant.

About two weeks after vaccination, antibodies develop that protect against influenza virus infection. Flu vaccines will not protect against flu-like illnesses caused by non-influenza viruses.

If you get the flu:

- Stay home from work or school
- Make sure and get plenty of rest and water
- Over-the-counter medications may relieve symptoms
- Consult your doctor

Vaccination

Yearly flu vaccination should begin early in the fall and provide protection for the entire flu season.

Who should get vaccinated?

In general, anyone who wants to reduce the chances of getting the flu can get vaccinated. However, certain people should get vaccinated each year either because they are at high risk of having serious flu-related complications or because they live with or care for high risk persons. During flu seasons when vaccine supplies are limited or delayed, the Advisory Committee on Immunization Practices (ACIP) makes recommendations regarding priority groups for vaccination.

People who fall into high risk categories for influenza complications and transmission include:

- Children aged six months up until their 19th birthday
- Pregnant women
- People 50 years of age and older
- People of any age with certain chronic medical conditions
- People who live in nursing homes and other long-term care facilities
- People who live with or care for those at high risk for complications from flu, including:
 - Health care workers
 - Household contacts of persons at high risk for complications from the flu
 - Household contacts and out-of-home caregivers of children less than six months of age (these children are too young to be vaccinated)

The Nasal Spray Vaccination

Vaccination with the nasal spray flu vaccine (FluMist®) is an option for healthy people ages 2-49 years who are not pregnant, even healthy persons who live with or care for those in a high risk group. The one exception is healthy persons who care for persons with severely weakened immune systems who require a protected environment; these healthy persons should get the inactivated vaccine.

What should be done to prevent or reduce the spread of influenza in schools?

- **Stay home when ill.** Any employee, student, teacher, or staff suspected of having influenza should not attend school.
- **Wash hands often.** Wash hands several times a day using soap and warm water for 15-20 seconds (this is generally around the time it takes to sing the ABC's). Dry hands with paper towels or automatic hand dryers if possible. In school, allow regular breaks for the students and teachers to wash hands. Young children should be instructed and assisted to ensure proper hand hygiene. Restrooms should be checked regularly to ensure that soap and paper towels are always available.
- **Throw away tissues.** Influenza can be spread from coughs or sneezes. Make sure tissues are available in all classrooms. Students and staff should cover their mouths with their upper arm or a tissue when coughing and use a tissue when sneezing or blowing their noses. Tissues should be thrown away immediately followed by proper hand hygiene.
- **Use alcohol-based hand sanitizer.** Alcohol-based hand gels may be used in classrooms to minimize disruption. Hand sanitizer is effective in killing germs on hands when they are not visibly soiled. Appropriate times to use hand sanitizer are after coughing, sneezing, or contact with infected surfaces (e.g., desk, doorknob).

- **Report absence 10 percent or greater.** Schools with 10 percent or more of their total enrollment absent on a given day due to illness should report this to their local health department and the Iowa Department of Public Health (1-800-362-2736). Reporting outbreaks assists in disease surveillance and understanding the impact of influenza on the community.
- **It is not necessary to cancel school due to influenza cases.** Closure of individual schools in the event of an outbreak has not proven to be an effective way of stopping the spread of influenza but that decision should be made by the appropriate school officials based on other considerations.
- **Avoid close contact.** Schools should be extra-vigilant that ill students be excluded from sports activities, choir or any activities that may involve close contact, since transmission of influenza may be easier in these situations. All students and staff should avoid sharing of saliva, i.e., sharing glasses, water bottles, other drinks, spoons/forks, or kissing, etc.
- **Don't forget about the school bus.** School buses, because of the enclosed space, may allow for easy spread of influenza. Tissues should be available on the buses, and students should be encouraged to cover nose and mouth while coughing or sneezing. Disinfect commonly handled interior surfaces (i.e., door handles, hand rails, etc.) between groups of students, if possible. Consider making alcohol-based hand gel available on buses since hand washing facilities are not available.
- **Clean surfaces frequently.** In the school, clean commonly used surfaces such as door handles, handrails, eating surfaces, desks, etc., frequently with disinfectant (bleach solutions or commercial disinfectants are appropriate).

LEPTOSPIROSIS

Also known as: Weil Disease, Hemorrhagic Jaundice, Mud Fever, Swineherd Disease, Canicola Fever

Responsibilities:

Hospital: None.

Lab: None.

Physician: None.

Local Public Health Agency (LPHA): None.

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Leptospirosis is a bacterial disease caused by the spirochetes of the genus *Leptospira*.

B. Clinical Description

Symptoms: consist of nonspecific constitutional symptoms of fever, chills, headache, severe muscle pain (calves and thighs), conjunctival suffusion (red, watery eyes), and malaise. Gastrointestinal tract symptoms and a rash can also occur. Asymptomatic infections can occur, and disease severity depends on the infecting serotype.

Onset: is usually abrupt with symptoms listed above.

Complications: Subsequently, the patient can have hepatic involvement (abnormal liver function tests, enlargement of the liver, jaundice, and liver failure), renal involvement (abnormal urinalysis, presence of nitrogen-containing compounds in the blood, and renal failure), cardiovascular involvement (hemolytic anemia, hemorrhage into skin and mucous membranes, and myocarditis), pulmonary involvement (with or without coughing up of blood), and central nervous system involvement (aseptic meningitis and altered mental awareness). Inflammation of certain muscle groups is common. Conjunctival suffusion, the most characteristic physical finding, occurs in about 30% of patients.

C. Reservoirs

Common reservoirs: Wild and domestic animals are the reservoir for leptospirosis. Many animals have prolonged leptospiuria without suffering from the disease themselves. The infection is common in rodents, livestock (cattle, horses, sheep, goats, swine), canines, and wild mammals.

D. Modes of Transmission

Spread: is by direct or indirect contact of nasal, oral, or eye mucosal membranes or abraded or traumatized skin with urine or carcasses of infected animals.

Urine: Indirect exposure through water, soil, or foods contaminated by urine from infected animals is the most common route. After a short period of circulating high levels of the spirochete in their blood, animals shed the spirochete in their urine, contaminating the environment. Inhalation of droplet aerosols of contaminated fluids can occasionally occur.

Person-to-person: transmission is rare.

E. Incubation period

The incubation period is usually 5-14 days, with range of 2-30 days

F. Period of Communicability or Infectious Period

Person-to-person transmission is considered extremely rare. Infected animals can spread the disease during the leptospirosis phase, which can be prolonged (1–3 months or longer). Humans with leptospirosis usually excrete the organism in urine for 4 - 6 weeks, but leptospirosis has been observed in humans and in animals for as long as 11 months after acute infection

G. Epidemiology

In the United States, 100–200 cases of leptospirosis are identified annually, with about 50% of the cases occurring in Hawaii. The disease is considered to be under-diagnosed. Although the incidence of disease in the United States is relatively low, leptospirosis is considered to be the most widespread zoonotic disease in the world, particularly in tropical areas with heavy rainfall and neutral or alkaline soils. The greatest numbers of cases are seen in the summer months after heavy rainfalls or periods of flooding.

Leptospirosis is an occupational hazard for people who work outdoors or with animals (for example, farmers, sewer workers, veterinarians, fish workers, dairy farmers, or military personnel). It is a recreational hazard for campers or those who participate in outdoor sports in contaminated areas, and it has been associated with swimming, wading, and whitewater rafting in contaminated lakes, farm ponds and rivers. Outbreaks have been associated with triathlons in the Midwest and extreme sports contests in Asia.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting

- To assess the magnitude of the disease in different areas and among different risk groups.
- To assess need for prophylaxis after high-risk exposures.
- To identify outbreaks as soon as possible.
- To identify animal sources of infection.
- To design more effective control or prevention methods.
- To assure proper diagnosis and treatment of those affected.

B. Laboratory and Healthcare Provider Reporting Requirements

Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the health care provider must report outbreaks due to leptospirosis. The reporting number for IDPH Center for Acute Disease Epidemiology (CADE) is (800) 362-2736

Laboratory Testing Services Available

The University of Iowa State Hygienic Laboratory (SHL) tests single serum samples for Leptospirosis utilizing agglutination. The Hygienic Laboratory will forward specimens to the Centers for Disease Control and Prevention (CDC) for additional testing. Accurate information about date of collection, date of onset of symptoms, travel history, vaccination and disease history are essential for test interpretation. For additional information on submitting samples or testing, contact the State Hygienic Laboratory at (319) 335-4500.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation

- a. Case investigation Leptospirosis in Iowa residents will be directed by IDPH Center for Acute Disease Epidemiology (CADE).
- b. Following notification of IDPH, the LPHA(s) may be asked to assist in completing an official IDPH investigation. Contact CADE for proper forms. Forms can be completed by interviewing the case and others who may be able to provide pertinent information. Most of the information required can be obtained from the healthcare provider or the medical record.
- c. Use the following guidelines to assist in completing the investigation:
 - 1) Record "Leptospirosis" as the disease being reported.
 - 2) Record the case's demographic information.
 - 3) Record the date of symptom onset, symptoms, date of diagnosis, hospitalization information (if applicable), and outcome of disease (*e.g.*, recovered, died).
 - 4) Exposure history: use the incubation period range for leptospirosis (4 –19 days). Specifically, focus on the period beginning a minimum of 4 days prior to the case's onset date back to no more than 19 days before onset for the following exposures:
 - a) Travel history: determine the date(s) and geographic area(s) traveled to by the case.
 - b) Animal contact: ask the case about potential direct or indirect occupational or recreational exposures to animals. This information can then be documented in the "Comments" section.
 - 5) Complete the import status section to indicate where leptospirosis was acquired. If unsure, check "Unknown." Include any additional comments regarding the case.
 - 6) If several attempts have been made to obtain case information, but have been unsuccessful (*e.g.*, the case or healthcare provider does not return calls or respond to a letter, or the case refuses to divulge information or is too ill to be interviewed), please fill out the form with as much information as has been gathered. Please note on the form the reason why it could not be filled out completely.
- d. After completing the form, attach lab report(s) and mail (in an envelope marked "confidential") to IDPH, Center for Acute Disease Epidemiology. The mailing address is:

IDPH, CADE
Lucas State Office Building, 5th Floor
321 E. 12th Street
Des Moines, IA 50319-0075

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

None.

B. Protection of Contacts of a Case

There is no need for prophylaxis for contacts of a case. Since a patient with leptospirosis usually excretes the organism in urine for 4 to 6 weeks, proper precautions (gloves, handwashing, etc.) should be used when handling urine or any articles soiled with urine.

C. Managing Special Situations

Reported Incidence Is Higher than Usual/Outbreak Suspected

If an outbreak is suspected, investigate clustered cases in an area or institution to determine source of infection and mode of transmission. A common vehicle, such as contaminated water, should be sought and applicable preventive or control measures instituted. Consult with CADE at (800) 362-2736.

D. Preventive Measures

Environmental Measures

To prevent illness, prevent contamination of living, working and recreational areas by urine of infected animals.

- Control rodent populations in areas of human habitation.
- Domestic animal owners should take necessary precautions to minimize their animal's potential contact with wildlife (*e.g.*, do not feed pets outside or allow animals to roam unsupervised).
- Do not allow animals to urinate in or near ponds or pools.
- Keep animals away from gardens, playgrounds, sandboxes, and other places children may play.
- Among domesticated animals, vaccination of swine, cattle, and dogs is effective in preventing symptoms of disease, but it does not protect completely against infection and shedding of organisms in the urine.

Preventive Measures/Education

To prevent leptospirosis, the public may need to be educated on how the disease is transmitted and the importance of proper food storage and garbage disposal. The public should also be counseled to minimize their contact with fresh water, mud, and vegetation that might be contaminated with the urine of infected animals. If their occupation or recreational activities require such exposure, education on use of personal protective measures (*i.e.*, proper clothing, footwear and gloves) should be given. Additional preventive measures include:

- Always wash hands thoroughly after touching items potentially soiled by an animal's urine.
- Use an antibacterial cleaning solution or a solution of 1 part bleach in 100 parts water to clean areas or items soiled by the animal's urine.
- Doxycycline is effective post-exposure prophylaxis (200 mg/once a week) and should be considered for high-risk occupational groups during periods of high exposure. (See Section 1)G. at the beginning of this chapter for examples of high-risk occupations.) However, indications for doxycycline use in children have not been established. There is no licensed vaccine to prevent leptospirosis in humans.

4) ADDITIONAL INFORMATION

The Council of State and Territorial Epidemiologists (CSTE) surveillance case definitions for Leptospirosis can be found at: www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top

CSTE case definitions should not affect the investigation or reporting of a case that fulfills the criteria in this chapter. (CSTE case definitions are used by the state health department and the CDC to maintain uniform standards for national reporting.)

References

- American Academy of Pediatrics. *2003 Red Book: Report of the Committee on Infectious Diseases, 26th Edition*. Illinois, American Academy of Pediatrics, 2003.
- Heymann, D.L., ed. *Control of Communicable Diseases Manual, 19th Edition*. Washington, DC, American Public Health Association, 2008.
- CDC Web site. www.cdc.gov/nczved/divisions/dfbmd/diseases/leptospirosis/

What is leptospirosis?

Leptospirosis is an infection caused by several strains of a bacterium called *Leptospira*.

What are the symptoms of leptospirosis?

The symptoms can be fever, headache, and severe muscle pain, fatigue, chills, jaundice, and anemia, sometimes rash and gastrointestinal upset. Less frequently, it can result in meningitis (swelling of the covering of the brain), liver and kidney dysfunction, and eye inflammation. Severe cases are more common in older individuals and can result in death.

How soon do symptoms appear?

The symptoms usually start 5-14 days after exposure, with a range of 2-30 days.

How is leptospirosis spread?

Many species of wild and domestic animals (including dogs, cattle, horses, swine, rodents, and deer) are susceptible to leptospirosis and can excrete the bacteria in their urine. The urine can then contaminate water, moist soil, or vegetation with the *Leptospira* bacterium. Humans can acquire the infection if this contaminated material contacts broken skin, mucous membranes, or is swallowed. Because infected humans can also pass the bacteria in their urine, person-to-person transmission is possible but rarely occurs.

Who gets leptospirosis infection?

Although all persons are susceptible, this uncommon infection occurs mainly in persons whose occupation brings them into contact with animals or with material contaminated with animal urine. Farmers, veterinarians, slaughterhouse workers, sewer workers, and miners are at greater risk of exposure. Although very rare, exposures can also occur during recreational activities such as camping or swimming, when there may be contact with or ingestion of contaminated water. Leptospirosis occurs most often in the summer and in warm climates.

How long is a person infectious?

Direct transmission from human to human is rare, but the bacteria can be found in urine as long as 11 months after illness.

How is leptospirosis diagnosed?

The diagnosis can be made by growing the *Leptospira* bacterium from body fluids, or by finding elevated levels of antibodies to the bacterium in a person's blood.

Can a person get leptospirosis more than once?

There are several strains of the organism. Infection with one usually provides immunity to that organism but not to other strains; therefore a person could get leptospirosis from a different strain of *Leptospira*.

What is the treatment for this illness?

The antibiotics of choice are penicillin or doxycycline. Kidney dialysis may be necessary.

Do infected people need to be excluded from school, work, or child care?

No.

What can be done to help prevent the spread of this disease?

For persons in high-risk occupations, the use of protective clothing, boots, and gloves will minimize exposure. Recognizing and avoiding potentially contaminated water and soil during recreational activities, and rodent control in areas where human and domestic animals live can also reduce the risk of exposure.

What are lice?

Lice are small insects that live in the hairy parts of the body. The eggs (nits), larvae, or adult lice are visible if present on the head or body. Lice move by crawling, they cannot hop or fly. Lice feed on human blood by biting, which can result in severe itching.

Are there different types of lice?

Yes, there are three different types of lice that may infest humans.

- 1) Head lice are found on the scalp
- 2) Pubic lice (crabs) are found in the groin (pubic) area
- 3) Body lice can be found in clothing, especially along inside seams that touch the body.

This fact sheet specifically addresses head lice.

What are the symptoms of head lice infestation?

- “Tickling” or feeling of something moving in the hair.
- Itching, caused by an allergic reaction to the bites of the head louse.
- Irritability and difficulty sleeping; head lice are most active in the dark.
- Sores on the head caused by scratching. These sores can sometimes become infected with bacteria found on the person's skin.

How long after head lice infestation will symptoms to start?

- People with head lice may not have any symptoms, especially if this is the first time they have had head lice. Itching is the most common symptom of head lice and is caused by an allergic reaction to louse bites.
- It may take four to six weeks for itching to appear the first time a person has head lice.

Where on the head and scalp are head lice most commonly found?

- Head lice and head lice nits are found almost exclusively on the scalp, particularly around and behind the ears and near the neckline at the back of the head.
- Head lice or head lice nits sometimes are found on the eyelashes or eyebrows but this is uncommon.
- Head lice hold tightly to hair with hook-like claws at the end of each of their six legs; head lice nits are cemented firmly to the hair shaft and can be difficult to remove.

How are head lice spread?

- Head-to-head contact with an already infested person is the most common way to get head lice.
 - Head-to-head contact is common during play at school, at home, and elsewhere (sports activities, playground, slumber parties, camp).
- Rarely, head lice are spread by sharing clothing or belongings onto which lice or nits may have crawled or fallen. Examples include:
 - sharing clothing (hats, scarves, coats, sports uniforms) or articles (hair ribbons, barrettes, combs, brushes, towels, stuffed animals) recently worn or used by an infested person;
 - or lying on a bed, couch, pillow, or carpet that has recently been in contact with an infested person. The risk of getting an infestation by a louse or nit that has fallen onto a carpet or furniture is very small.
- Dogs, cats, and other pets do not play a role in the spread of human lice.

How are head lice treated?

- The Iowa Department of Public Health recommends a 14-day treatment process. For a brochure detailing treatment recommendations, please visit:
www.idph.state.ia.us/hcci/common/pdf/headlice_brochure.pdf

How effective are home remedies?

Never use kerosene, gasoline, or other dangerous substances. There is no proof that use of mayonnaise, vinegar, various types of vegetable oils, Crisco, or Vaseline are effective forms of treatment.

Do infected people need to be excluded from school, work, or child care?

- No. For more information on IDPH recommendations for lice in schools, please visit: www.idph.state.ia.us/hcci/common/pdf/headlice_brochure.pdf

What can be done to help prevent and control the spread of head lice?

- Avoid head-to-head (hair-to-hair) contact during play and other activities at home, school, and elsewhere (sports activities, playground, slumber parties, camp).
- Do not share clothing such as hats, scarves, coats, sports uniforms, hair ribbons, or barrettes
- Do not share combs, brushes, or towels. Disinfest combs and brushes used by an infested person by soaking them in hot water (at least 130°F) for 5-10 minutes
- Do not lie on beds, couches, pillows, carpets, or stuffed animals that have recently been in contact with an infested person.
- Do not use fumigant sprays or fogs; they are not necessary to control head lice and can be toxic if inhaled or absorbed through the skin.
- Only ordinary house cleaning, vacuuming, and washing bedding and clothes in hot water are needed. No special efforts or sprays are needed to clean your home. Only dead or dying lice are found on clothing, bedding, or furniture.

To help control a head lice outbreak in a community, school, or camp, children can be taught to avoid activities that may spread head lice.

FACT SHEET

Information for Health Professionals

LICE

(Pediculosis or Head lice)

What are head lice?

Lice are wingless insects that are host-adapted to humans and do not live on household pets or in the general environment. An adult head louse can live about 30 days on a person's head but will die within one or two days if it falls off a person.

How are they transmitted?

Lice do not fly or jump. Transmission is almost always through direct contact. Fomites and the environment are extremely infrequent sources. As a rule of thumb, over 95% are transmitted through person-to-person contact and less than 5% through indirect exposure. Lice are transmitted in community settings where close contact from play and living activities occur. While lice infestations are recognized in elementary schools, it is safe to assume that only a minority of lice infestations in school-age youngsters was actually acquired while at school.

What are the risk factors for transmission?

Small children at play are the primary setting for transmission. Increasing risk would also be associated with crowding, such as two families living in one dwelling or in a child-care center and any activity that brings youngsters together in informal settings such as sleep-overs, scouts, youth sports activities, etc. While schools are of lesser importance, best friends or playmates present risk from close associations at recess and during transportation such as in school buses.

What is the best approach to screening?

Screening requires a close visual examination of the individual's head for crawling lice and nits (eggs). A small hand lens may help but is not essential. Good lighting is desirable. Examine the hair and scalp for at least 15 minutes to be reasonably sure the child does not have head lice. Most individuals have fewer than 10 adult lice. The characteristic itching caused by lice may not develop for 30 days or longer after infestation. A flashlight or ultraviolet light may help in detecting lice or nits. Ideally parents should screen their own youngsters periodically, perhaps weekly, while they are in child-care or in the early grades at school.

What is the best approach to treatment?

The natural pyrethrins contained in over-the-counter products such as Rid, A-200 Pyrinate, Pronto, and various store brands are perhaps the best class of insecticide because they are effective on lice and are minimally toxic to humans. Lindane is not recommended because of its toxic potential and demonstrated lice resistance. The Iowa Department of Public Health recommends a 14-day treatment process. For a brochure detailing treatment recommendations, please visit: www.idph.state.ia.us/hcci/common/pdf/headlice_brochure.pdf.

What causes treatment failure?

The following are several common reasons why treatment for head lice may fail:

- Misdiagnosis. The symptoms are not caused by an active head lice infestation.
- Applying the treatment to hair that has been washed with conditioning shampoo or rinsed with hair conditioner. Conditioners can act as a barrier that keeps the head lice medicine from adhering to the hair shafts; this can reduce the effectiveness of the treatment.
- Not following following the treatment instructions carefully. Some examples of this are not applying a second treatment if instructed to do so, or retreating too soon after the first treatment before all the nits are hatched and the newly hatched head lice can be killed, or retreating too late after new eggs have already been deposited.
- Resistance of the head lice to the treatment used. The head lice may have become resistant to the treatment. Many strains of lice have developed resistance to the permethrin and lindane insecticides. Also, all products have minimal ovicidal (nit killing) activity so nits remain viable, resulting in nymphal lice emerging after treatment, thus a second treatment 7-10 days later is recommended.
- Reinfestation. The person was treated successfully and the lice were eliminated, but then the person becomes infested again by lice spread from another infested person.

If the over-the-counter therapy continues to fail, the healthcare professional may wish to consider other prescription options (see the CDC website: www.cdc.gov/lice/head/treatment.html) or “extra-label” use of oral ivermectin (Stromectol - Merck). Reference: “Drugs for Head Lice,” *The Medical Letter On Drugs and Therapeutics* 47: August 15/29, 2005.

How effective are home remedies?

Never use kerosene, gasoline, or other dangerous substances. There is no clear scientific evidence that use of mayonnaise, vinegar, various types of vegetable oils, Crisco, or Vaseline are effective forms of treatment.

Is it necessary to remove all the nits?

Removal of all nits after successful treatment with a pediculicide is not necessary to prevent further spread. Removal of nits after treatment with a pediculicide may be done for aesthetic reasons, or to reduce diagnostic confusion and the chance of unnecessary retreatment. Because pediculicides are not 100% ovicidal (i.e., do not kill all the egg stages), some experts recommend the manual removal of nits that are attached within 1 cm of the base of the hair shaft.

How important is the environment in lice transmission?

Laundering of linens and vacuuming of upholstered furniture is more than adequate. Environmental spraying should not be done. The pyrethrin sprays are not without risk and can aggravate the health problems of children with asthma.

What can one do to prevent lice?

The best defense is frequent screening of those at highest risk followed by diligent treatment, if necessary. Assume there are lice in the community at all times of the year.

FACT SHEET

Knowing the Difference: Head, Body, and Pubic Lice (Pediculosis)

Head Lice

Pediculus humanus capitis

Description

- Adult lice 2.1-3.3 mm in length
- Infest the head and neck regions
- Not known to transmit disease

Transmission

- Spread through direct contact or rarely through sharing combs, brushes or towels, or through items that have been in contact with an infested person.

Treatment and Prevention

- IDPH recommends a 14-day treatment process.
- For a brochure detailing head lice treatment visit: www.idph.state.ia.us/hcci/comm/pdf/headlice_brochure.pdf

Body Lice

Pediculus humanus corporis

Description

- Adult lice 2.3-3.6 mm in length
- Live on clothing and move to skin to feed
- Can spread disease

Transmission

- Spread by direct contact or through items that have been in contact with an infested person
- Generally associated with overcrowding and poor hygiene

Treatment and Prevention

- Primarily improved hygiene
- Medication is usually not necessary

Pubic Lice (Crabs)

Phthirus pubis

Description

- Adult lice 1.1-1.8 mm in length
- Primarily found in pubic area but less frequently can be found in coarse hair elsewhere on the body (for example, eyebrows, eyelashes, beard, mustache, chest, armpits, etc.).

- Not known to transmit disease

Transmission

- Usually spread through sexual contact

Treatment and Prevention

- Over the counter or prescription medications are available

Characteristics common to all 3 types of lice:

- Dogs, cats, and other pets do not play a role in the transmission of any type of human lice.
- Lice move by crawling; they cannot hop or fly.
- Human lice survive by feeding on human blood.

Differences between the 3 types of lice:

- **Size:**
 - Pubic lice are the smallest and vary from 1.1-1.8 mm in length.
 - Head lice are generally 2.1-3.3 mm in length
 - Body lice are typically the largest and vary from 2.3-3.6 mm in length
- **Location:**
 - Head lice are mainly found on the head and neck region.
 - Body lice are found on clothing and attach to the body only when feeding.
 - Pubic lice are found in the pubic hair or other coarse hair on the body.
- **Transmission:**
 - Head lice are transmitted through head to head contact or rarely through sharing hats, combs, towels, etc.
 - Body lice are transmitted through close contact and usually under un-sanitary or crowded conditions.
 - Pubic lice are transmitted mainly through sexual contact.
- **Treatment:**
 - Varies from over-the-counter and prescription medication in head and public lice to practicing good hygiene and maintaining a clean environment in body lice.

For more information visit:

Head Lice: www.cdc.gov/lice/head/index.html

Body Lice: www.cdc.gov/lice/body/index.html

Pubic Lice: www.cdc.gov/lice/pubic/index.html

IOWA RECOMMENDATIONS ON HEAD LICE PREVENTION AND CONTROL FOR SCHOOLS

Head lice continue to be a problem for Iowa school-aged children. School nurses may spend a disproportionate amount of their time addressing head lice issues considering that they pose no health hazard. The Iowa Department of Public Health (IDPH) recommends the following prevention and control measures for managing head lice in Iowa schools.

- 1. Discontinue routine school-based screening.** Current evidence does not support classroom or school-wide screening as a method to stop head lice transmission. Instead, schools should educate parents and staff about lice detection, treatment, and prevention. Parents should be encouraged to regularly screen their children for lice. It should be assumed that head lice are in the community and schools at all times.
- 2. Discontinue “no nit” policies.** “No-nits” policies that require a child to be free of nits before they can return to school are not recommended. Children should not be excluded from school. Head lice can be a nuisance but have not been shown to spread disease.
- 3. Children should remain in school for the rest of the day if head lice are detected.** Notify parents by phone, provide educational materials on treatment, and review treatment protocols. It is reasonable to expect that treatment be started before the child returns to school the next day.
- 4. Do not use environmental sprays or chemical cleaners at home or in the classrooms, lockers, or on gym mats or other school equipment.**
Head lice do not live “off” the body. The head louse must maintain a constant warm temperature. Only ordinary cleaning, vacuuming, and washing in hot water are needed. Do not use chemical sprays on such items as audio/video headsets, tables or mats, carpet, upholstered chairs, school bus benches, or bed linens. Sprays and other chemicals can be potentially harmful, since they can be absorbed through the skin and are irritating to the lungs of some asthmatics.
- 5. Teach and support parents in appropriate techniques for lice treatment.** The Iowa Department of Public Health advocates a two-week treatment plan that includes the use of an over-the-counter medicated shampoo which contains either permethrin or a pyrethrin. A handout for parents from the IDPH can be found at www.idph.state.ia.us/hcci/common/pdf/headlice_brochure.pdf
- 6. What if treatment with over-the-counter shampoos and use of a nit comb fails?** Physicians may prescribe stronger treatments for head lice. Re-infestation is more common than treatment failure.
- 7. Further information can be found at these websites:**
www.idph.state.ia.us/idph_universalhelp/main.aspx?system=IdphEpiManual&Context=Lice_Factsheet_Genpublic
www.cdc.gov/lice/head/ (CDC)

What is mononucleosis?

It is a viral illness caused by the Epstein-Barr virus (EBV).

What are the symptoms mononucleosis?

They include fever, sore throat, swollen glands and a feeling of tiredness, which usually last for several weeks. Very young children may not develop any symptoms after infection.

How soon do symptoms appear?

Symptoms appear 4 to 6 weeks after contracting the virus.

How is mononucleosis spread?

It is spread from person-to-person by direct saliva contact (by sharing food or drink, or saliva on the hands of young children or toys, or by kissing). The virus may rarely be spread by blood transfusion.

Who gets mononucleosis?

Most people are infected with EBV sometime in their lives, but very few become ill. In the United States, illness usually occurs in older children, high school and college students.

How long is a person infectious?

The virus is carried in the throat and can be spread during the illness and for as long as a year afterward.

What is the treatment for mononucleosis?

No treatment other than rest is needed for most cases; persons with very hoarse (swollen) throats should see their doctor.

Can a person get mononucleosis again?

People who have had mononucleosis do not usually get it again.

Do infected people need to be excluded from school, work, or day care?

No.

What can be done to help prevent the spread of mononucleosis?

Avoid contact with the body fluids (commonly saliva) of someone who is infected with the virus. At present, no vaccine is available to prevent mononucleosis.

NOROVIRUS

Also known as: Norwalk-like virus, viral gastroenteritis

Responsibilities:

Hospital: Report all potential outbreaks, send stool specimens with specific request for norovirus testing. State Hygienic Laboratory (SHL) is the only laboratory in the state that can test for Noroviruses.

Lab: Report all potential outbreaks; send stool specimens with specific request for norovirus testing. State Hygienic Laboratory (SHL) is the only laboratory in the state that can test for Noroviruses.

Physicians: Report all potential outbreaks,

Local Public Health Agency (LPHA): Report all potential outbreaks of norovirus, send stool specimens with specific request for norovirus testing.

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Noroviruses (genus *Norovirus*, family *Caliciviridae*) are a group of related, single-strand RNA, nonenveloped viruses that cause acute gastroenteritis in humans. Norovirus was recently approved as the official genus name for the group of viruses formerly described as “Norwalk-like viruses” (NLV), or “small round viruses.”

B. Clinical Description

Symptoms: The symptoms of norovirus illness usually include nausea, vomiting, diarrhea, and some stomach cramping. Sometimes people have a low-grade fever, chills, headache, muscle aches, and a general sense of fatigue. The illness often begins suddenly, and the infected person may feel very sick. The illness is usually brief, with symptoms lasting only about 1 - 2 days. In general, children experience more vomiting than adults.

Onset: Symptoms of norovirus illness usually begin about 24 - 48 hours after ingestion of the virus, but they can appear as early as 12 hours after exposure.

Complications: Dehydration may result in persons with norovirus disease, which may require hospitalization. There are no known long-term effects.

C. Reservoirs

Humans are the only known reservoir.

D. Modes of Transmission

Noroviruses are very contagious and spread easily from person to person. It is believed that an inoculum of as few as 10 viral particles may be sufficient to infect another individual.

Norovirus may be transmitted in a variety of ways:

- most commonly through the fecal-oral route, either by consumption of fecally contaminated food or water or by direct person-to-person spread
- by environmental and fomite contamination acting as a source of infection
- by transmission due to aerosolization of vomitus that presumably results in droplets contaminating surfaces or entering the oral mucosa and being swallowed.

E. Incubation period

The symptoms of norovirus appear about 24 - 48 hours after ingestion of the virus, but can appear as early as 12 hours after exposure.

F. Period of Communicability or Infectious Period

People infected with norovirus can be contagious from the moment they begin feeling ill, until several days after symptoms end. The virus can be shed for two weeks or more after recovery, although it is unclear whether virus shedding during this time is infectious. Infected people do not become long-term carriers of norovirus.

G. Epidemiology

Norovirus is common worldwide, and is mostly associated with sporadic outbreaks. All age groups are affected. Of the 232 outbreaks of norovirus illness reported to CDC from July 1997 to June 2000, 57% were foodborne, 16% were due to person-to-person spread, and 3% were waterborne. Twenty-three percent of the outbreaks did not have a determined single vehicle of transmission, probably because multiple foods were contaminated. In this study, common settings for outbreaks included restaurants and catered meals (36%), nursing homes (23%), schools (13%), and vacation settings or cruise ships (10%).

In Iowa, noroviruses cause the majority of foodborne illness outbreaks. Rough, wet, uncooked foods are at highest risk of transmission. Most foodborne outbreaks of norovirus illness arise from direct contamination of food by those who handle the food before it is eaten. Outbreaks have frequently been associated with consumption of cold foods, including salads, sandwiches, and bakery products.

There have been also been outbreaks associated with persons vomiting and aerosolizing virus in public settings. Waterborne outbreaks of norovirus have been caused by sewage contamination of wells and recreational water. Diapered children playing in "kiddie" pools filled with tap water (pools that have not been chlorinated) have also been associated with norovirus outbreaks.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting

- To determine the cause of illness
- To implement appropriate disease control measures

B. Laboratory and Healthcare Provider Reporting Requirements

Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the healthcare provider must immediately report suspected or confirmed outbreaks.

- The reporting number for IDPH Center for Acute Disease Epidemiology (CADE) is (800) 362-2736.

- To reach CADE after business hours, call the Iowa State Patrol Dispatch Office at (515) 323-4360. They will page a member of the on-call CADE staff.

Laboratory Testing Services Available

The University of Iowa State Hygienic Laboratory (SHL) performs PCR testing for Norovirus. The preferred specimen is stool.

- Stool specimens should be collected in a clean collection container for transport.
 - It is best to not have stool specimens in Cary Blair medium when testing for norovirus.
- Specimens should be shipped with ice packs (not wet ice).
- Specimens should be sent by overnight delivery, and the lab notified of their expected arrival time.
- Samples are best collected within two days after onset of symptoms, but may be tested up to one week after the onset of symptoms.
- A completed non-respiratory disease laboratory requisition form (found at www.shl.uiowa.edu/kitsquotesforms/) is required.
 - A contact person and telephone number must be included along with a brief explanation of the reason for sending the specimens (e.g., suspected foodborne outbreak at School, in Atro City, IA).
- For additional information contact the SHL at (319) 335-4500.

If stool specimens are sent to a laboratory using typical clinic/hospital procedures, tests for norovirus will not be performed. If norovirus testing is indicated, specimens should be sent to SHL.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation:

- Individual norovirus infections are not reportable.
- Disease reporting regulations require that suspected or confirmed outbreaks, including norovirus, be reported to local public health agencies by the most rapid means available within 24 hours.
- When an outbreak is first reported, the disease-causing agent and specific exposure may not be known.
 - An investigation is initiated to identify the causative organism and source of illness, with the goal of preventing further spread.
 - Investigation should begin as soon as the outbreak is identified.
 - Since this illness is mild, cases may not seek medical care.
 - The LPHA may be responsible for collecting stool specimens.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

Standard and Contact Precautions should be taken when caring for diapered or incontinent persons for the duration of illness or to control institutional outbreaks.

B. Protection of Contacts of a Case

- Frequent and thorough handwashing
- Cleaning contaminated surfaces, including carpets.

C. Managing Special Situations

Child care

General recommendations for prevention of norovirus spread in child care settings include:

- Children with suspected or confirmed norovirus infection who have diarrhea or are vomiting should be excluded until 24 hours after both diarrhea and vomiting have ceased.
- Most staff members in child care programs would be considered food handlers.
 - Child care staff members who handle food and have diarrhea and/or vomiting must be excluded from food handling duties until 48 hours after their diarrhea and vomiting cease.
 - Child care staff can go back to non-food handling activities 24 hours after diarrhea and vomiting have ceased.
- Child care staff members who do not handle food should be excluded until 24 hours after diarrhea and vomiting have ceased.
- Educate child care staff members, parents, and children on proper hand washing technique.
 - There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus.
 - Thus, IDPH always recommends washing hands with soap and warm water.
 - Alcohol based hand gels should only be used in situations where soap and warm water are not available.

During norovirus outbreaks in child care settings, consider the general guidance listed above, as well as, the following recommendations.

- Consider providing notification (i.e. send letter, post a notice) on norovirus and recommendations for how parents, staff, and children can prevent spread of the disease.
 - Refer to IDPH *Parent Letter for Child care Center Norovirus Outbreaks*.
- Increase frequency of routine cleaning.
 - Examples of areas to disinfect include: doorknobs, fountains, sinks, toilets, phones, counters, desks, handrails, and light switches.
 - Toys should be cleaned and disinfected daily.
 - Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.
- Ensure restrooms are adequately stocked with soap, paper towels, and warm running water.
- Local public health agencies should request stool specimens from 3-5 of the ill individuals to send to SHL to confirm the cause of the outbreak.
- Cohorting ill and well children may be indicated in special circumstances; contact CADE for consultation prior to making this decision.

School

General recommendations for prevention of norovirus spread in school settings include:

- Students and staff with suspected or confirmed norovirus infection who have diarrhea or are vomiting should be excluded until 24 hours after both vomiting and diarrhea have ceased.
- Any staff (or students who may assist with food preparation or serving) who handles food and has diarrhea and / or vomiting must be excluded from food handling activities until 48 hours after diarrhea and vomiting have ceased.
 - Staff can go back to non-food handling activities 24 hours after diarrhea and vomiting have ceased.
- Educate staff members, parents, and students on proper hand washing technique.
 - There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus.

- Thus, IDPH always recommends washing hands with soap and warm water.
- Alcohol based hand gels should only be used in situations where soap and warm water are not available.

During norovirus outbreaks in school settings, consider the general guidance listed above, as well as, the following recommendations.

- Consider sending a letter home with students for parents that provides basic information on norovirus and recommendations on how they can help prevent spread of the disease.
 - Refer to the sample IDPH *Parent Letter for School Norovirus Outbreaks*.
- Increase frequency of routine cleaning.
 - Examples of areas to disinfect include: doorknobs, fountains, sinks, toilets, phones, counters, desks, handrails, and light switches.
 - If applicable, toys should be cleaned and disinfected daily.
 - Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.
- Temporarily stop using self service foods for school breakfast/lunch.
- Ensure restrooms are adequately stocked with soap, paper towels, and warm running water.
- Local public health agencies should request stool specimens from 3-5 of the ill individuals to send to SHL to confirm the cause of the outbreak.

Community Residential Programs

Actions taken in response to a norovirus outbreak in a community residential program will depend on the type of program and the level of functioning of the residents.

General recommendations for the prevention of disease spread include:

- Residents with suspected or confirmed norovirus should be placed on enteric precautions until their symptoms subside.
- Staff members with suspected or confirmed norovirus infection should not work until 24 hours after vomiting and diarrhea have ceased.
- Staff and clients with suspected or confirmed norovirus must refrain from handling or preparing food for other residents until 48 hours after vomiting or diarrhea has stopped.
- Educate staff members, residents, and visitors on proper hand washing technique.
 - There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus.
 - Thus, IDPH always recommends washing hands with soap and warm water.
 - Alcohol based hand gels should only be used in situations where soap and warm water are not available.

Consult CADE at (800) 362-2736 regarding additional actions that can be considered during outbreaks in community residential programs.

Hospital and Long-term Care Facility Recommendations

General recommendations for prevention of norovirus spread in hospital and long-term care facilities include:

- Place ill patients in private rooms or cohort ill patients in the same room.
- Consider grouping ill patients in the same area or wing of the facility.
- Minimize un-necessary movement of residents.
- Consider temporarily discontinuing group activities until the outbreak has resolved.
- Consider serving meals in resident rooms versus the dining hall.
- Educate staff members, residents, and visitors on proper hand washing technique.

- There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus.
- Thus, IDPH always recommends washing hands with soap and warm water.
- Alcohol based hand gels should only be used in situations where soap and warm water are not available.
- Send all ill staff home immediately.
- Staff should not return to duties for 24 hours following cessation of diarrhea and/or vomiting.
 - Education on proper hand hygiene should be emphasized upon return to work.
- Staff should wash their hands when entering and leaving every resident room.
- Patients with suspected norovirus infection should be managed with standard and contact precautions with careful attention to hand hygiene practices.
- Contact precautions should be used when caring for diapered or incontinent persons, during outbreaks in a facility, and when a splash could occur.
- Persons cleaning areas heavily contaminated with vomitus or feces should wear surgical masks.
- Food handlers who are ill with gastrointestinal symptoms SHOULD NOT prepare or serve food until 48 hours following cessation of diarrhea and/or vomiting.
- Educate staff members, residents, and visitors on proper hand washing technique.
 - There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus.
 - Thus, IDPH always recommends washing hands with soap and warm water.
 - Alcohol based hand gels should only be used in situations where soap and warm water are not available.
- Medical equipment used for care of norovirus infected patients, should be either dedicated to that patient for the duration of patient's isolation or be thoroughly disinfected when removed from the patient's room.
 - Selection of appropriate cleaning agent should be consistent with the equipment manufacturer's recommendation for compatibility.
 - Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.

During norovirus outbreaks in hospital and long-term care facilities, consider the general guidance listed above, as well as, the following recommendations.

- Collect stool specimens from 3-5 residents/patients to confirm norovirus is the cause of the outbreak.
- Staff should be assigned to work with well residents or with sick residents, and should not care for both groups.
 - Staff who go back and forth between ill and well residents play an important role in transmitting the virus from resident to resident.
- Limit staff from moving between affected and unaffected areas or units of the facility and limit any nonessential personnel from affected areas or units.
 - To the extent possible, keep staff from "floating" between areas or units.
- Consider limiting new admissions to the affected areas or units until all patients are well and no new cases are occurring.
- Inform visitors about a possible disease outbreak in your facility.
 - Consider limiting or stopping visitation to the facility until there have been no new cases for at least 48 hours.
- Post extra hand washing signs in various visible areas in the facility.

Note: Refer to [Iowa's Foodborne Illness Outbreak Investigation Manual](http://www.idph.state.ia.us/idph_universalhelp/main.aspx?system=IdphFoodborneDiseaseManual) available at www.idph.state.ia.us/idph_universalhelp/main.aspx?system=IdphFoodborneDiseaseManual

D. Preventive Measures

Environmental Measures

Implicated food items should be removed from the environment. A decision about testing implicated food items should be made in consultation with the Department of Inspections and Appeals, CADE, and the SHL. The general policy of the SHL is to test only food samples implicated in suspected outbreaks, not in single cases (except in unusual circumstances). If individuals want food tested that does not meet these criteria, refer them to a commercial laboratory, where they will be responsible for payment.

The Department of Inspections and Appeals (DIA), or their contracted agency, will facilitate additional environmental investigations at restaurants or food processors that they regulate.

Preventive Measures/Education

There is scientific uncertainty over the effectiveness of alcohol-based hand gels against norovirus. Thus, IDPH always recommends washing hands with soap and warm water. Alcohol based hand gels should only be used in situations where soap and warm water are not available.

The following preventive steps should be encouraged to decrease the risk of contracting and spreading noroviruses:

- Wash hands frequently, especially after using the toilet or changing diapers (wash the child's hands after diapering too), and before eating or preparing food.
- Carefully wash fruits and vegetables.
- Steam or otherwise cook oysters before eating them.
- Thoroughly clean and disinfect contaminated surfaces immediately after an episode of illness using a solution of 1/4 cup bleach per gallon of water, or other household cleaner.
- Immediately remove and wash clothing or linens that may be contaminated with virus after an episode of illness.
- Flush or discard vomitus and/or stool in the toilet, and make sure the surrounding area is kept clean.

See Fact Sheet – **Norovirus Environmental Cleaning** for detailed information.

Persons who are infected with norovirus should not prepare food until 48 hours after the last bout of vomiting or diarrhea.

4) ADDITIONAL INFORMATION

References

CDC website: www.cdc.gov/norovirus/

Heymann, D.L., ed. *Control of Communicable Diseases Manual, 18th Edition*. Washington, DC, American Public Health Association, 2004.

Noroviruses are a group of viruses that cause acute gastroenteritis in humans. The symptoms of norovirus infection include nausea, vomiting, diarrhea, cramping, and low-grade fever. Noroviruses are transmitted through the fecal-oral route, either by consumption of fecally contaminated food or water, direct person-to-person spread, or environmental and fomite contamination.

Maintaining a clean environment is important in containing and preventing the spread of norovirus!

What are examples of items to disinfect?

Doorknobs, faucets, sinks, toilets, commodes, bath rails, phones, counters, chairs (including backs), tables, hand rails, elevator buttons, light switches, mattress covers, aprons, uniforms, linens, bedding, ice machines, and over-bed tables in patient rooms.

What disinfectant works best?

Chlorine bleach solution (sodium hypochlorite -NaOCl)

Chlorine Bleach Concentrations and Mixing Instructions			
Concentration:	200 ppm (parts per million)	1000 ppm (parts per million)	5000 ppm (parts per million)
Use for:	Stainless steel, food/mouth contact items, toys	Non-porous surfaces, tile floors, counter-tops, sinks, toilets	Porous surfaces, wooden floors
Mixing:	1 tbsp of bleach in 1-gallon water	1/3 cup bleach in 1-gallon water	1 2/3 cups bleach in 1-gallon water
Dilution:	1:250 dilution	1:50 dilution	1:10 dilution
Leave bleach on surface for 10-20 minutes, and then rinse with clean water.			

What is the stability of chlorine bleach?

- Open bottles of concentrated chlorine will lose effectiveness after 30 days. Change bottles of bleach every 30 days for accurate concentrations. For disinfecting, use an unopened bottle of chlorine bleach. Prepare a dilution of fresh bleach every day of use and discard unused portions.

What are other effective disinfectants against norovirus?

- Glutaraldehyde (0.5%) or Iodine (0.8%) mixed at the manufacturer’s recommendations.
- A phenolic environmental disinfectant (Lysol® or Pinesol®) may be effective, but may require **2-4 times** more concentration than the manufacturer’s recommendation. The use of this product at the higher concentration may pose a significant health risk to workers, pets or yourself. Use extreme caution when using these products. Please read the manufacturer’s warning.

What are *ineffective* disinfectants against norovirus?

- Quaternary compounds (Benzalkonium chloride), Ethanol, or anionic compounds.

What are the health concerns with using chlorine bleach?

Mixing hazards

- USE ONLY IN WELL-VENTILATED AREAS. Adverse effects of inappropriate mixtures of household cleaners usually are caused by prolonged exposure to an irritant gas in a poorly ventilated area. The most common inappropriate mixtures of cleaning agents are bleach with acids (like vinegar) or ammonia (e.g. Windex®). Potential irritants released from such mixtures are chlorine gas, chloramines, and ammonia gas.

Health hazards

- Chlorine bleach is corrosive and irritating to all mucosal tissue, skin, eyes and upper and lower respiratory tract. Avoid spray bottle application with any disinfectant.

What personal protective equipment should be worn?

- Disposable gloves, masks, eye protection or face shields, and gown or protective clothing.
- Environmental cleaning using a more concentrated disinfectant will require a heavier duty glove than a simple non-sterile latex/vinyl glove.

Are there any specific clean-up procedures?

For cleaning large spills of vomitus or stool, a two-step process should be used:

1. Visible/organic debris should be cleaned up with absorbent material (double layer) and discarded in a plastic bag to minimize aerosols.
 2. Disinfect area and objects surrounding the vomitus or stool with an appropriate environmental disinfectant (multiple applications may be required).
- Ensure appropriate dilution and contact time for the appropriate environmental disinfectant.

Hard surfaces

- Disinfect with bleach solution, rinse with water if this is a food preparation area.

Carpet / Upholstered Furniture

- Visible debris should be cleaned with absorbent material (double layer) and discarded in a plastic bag to minimize aerosols - disinfecting with bleach may discolor carpet – steam clean (heat inactivation) 158°F for 5 minutes or 212°F for 1 minute for complete inactivation.

Linens / clothing / textiles

- If soiled, vomit or stool should be carefully removed to minimize aerosols. Aerosols created may pose a risk for transmission. Keep contaminated and uncontaminated clothes separated. Minimize disruption of soiled linens and laundry.
- Wash items in a pre-wash cycle, then use a regular wash cycle using detergent and dried at a high temperature greater than 170°F.

Surfaces corrodible/damageable by bleach

- Use EPA registered phenolic solutions (concentrated Lysol® or concentrated Pinesol®) mixed at **2-4 times** the manufacturer's recommended concentration.

What is norovirus?

Noroviruses are a large group of viruses, also called small round viruses. Many of the viruses are named for the locale where they were first identified as causing an outbreak. Norovirus is the most common cause of foodborne illness (diarrhea and vomiting) in the U.S.

What are the symptoms of infection with norovirus?

The most common symptoms are nausea with vomiting, diarrhea, and cramps. People of all ages have these symptoms. Diarrhea is more common among adults; vomiting is more common in children. Many persons (25% to 50%) also experience headache, fever, chills and muscle aches. Illness usually lasts 24-48 hours. There are no known long-term effects.

How soon do symptoms appear?

The symptoms may appear 12 - 48 hours after exposure to the virus, but onset may range from 10-50 hours after exposure.

How is norovirus spread?

Norovirus are most commonly spread through the fecal-oral route, either by consumption of food or water contaminated with stool or by direct person-to-person spread. The virus can also be spread by contact with objects contaminated with stool and by spreading in the air after someone vomits. This may result in droplets landing on surfaces or entering the mouth and being swallowed.

Outbreaks of norovirus have been associated with both food and water. Food outbreaks have been linked to cold, prepared foods (salads, sandwiches) presumably contaminated by an infected food handler, or shellfish probably harvested from contaminated water. Outbreaks have also been associated with drinking water and recreational water (swimming ponds, beaches) where people have ingested contaminated water.

Noroviruses are also spread from person to person, especially among family members.

How long is a person infectious?

People can pass the virus to others while sick, and up to 72 hours after diarrhea has stopped.

How is norovirus diagnosed?

It is possible to confirm norovirus in the laboratory. Noroviruses are suspected as the cause of illness if:

1. Stool tests are negative for other causes.
2. Ill individuals have vomiting and/or diarrhea.
3. The average time between exposure and illness is 24 - 48 hours.
4. The duration of illness for most persons is 12 - 60 hours (usually 24 - 48)
5. A stool test is positive for norovirus.

What is the treatment for this illness?

There is no specific treatment for norovirus. Rest and staying away from other people is important while symptoms occur. Usually, illness does not last more than 2-3 days.

What can be done to help prevent the spread of these viruses?

It is best to identify the source of infection and remove the source (e.g. an infected food handler, contaminated food or water). Anyone who is ill with diarrhea, vomiting or fever should not work with food, the elderly, in healthcare or child care. Anyone working in these occupations that becomes ill with these symptoms should leave work. Food recently prepared by this person should be discarded. Good handwashing should be encouraged at all times.

Norovirus

General & Outbreak Recommendations

School and Workplace Recommendations:

General:

- Staff, students, or visitors with norovirus infection who have diarrhea should remain at home until 24 hours after diarrhea and/or vomiting cease, and until stools are formed. Education on proper hand hygiene should be emphasized upon return to work or school.
- Educate all students and staff on proper hand washing technique: Hand washing should be done using warm water and soap. Rub hands together for at least 15 seconds making sure to scrub the backs of hands, wrists, between fingers and under fingernails. Rinse well under warm water and use a paper towel or blow dryer to dry your hands.
- Food service workers, should not return to food handling duties for three days following cessation of diarrhea and/or vomiting, and until stools are formed.
- Students and staff who become ill while at school or the workplace should be sent home immediately.
- There has been uncertainty over the effectiveness of alcohol based hand gels against norovirus. IDPH always recommends washing hands. Alcohol based hand gels should only be used in situations where soap and warm water may not be available.

Outbreak:

- Consider sending a letter home with students for parents that provides basic information on norovirus and recommendations on how they can help prevent spread of the disease. Refer to the sample IDPH *Parent Letter for School Norovirus Outbreaks*.
- Increase frequency of routine cleaning. Examples of areas to disinfect include: doorknobs, fountains, sinks, toilets, phones, counters, desks, handrails, and light switches. Toys should be cleaned and disinfected daily. Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.
- Temporarily stop using self-service foods for school breakfast/lunch.
- Ensure restrooms are adequately stocked with soap, paper towels, and warm running water.
- To determine and confirm the cause of the outbreak, local public health agencies may request stool specimens from some of the ill individuals.

Childcare Center Recommendations:

General:

- Ill children not in diapers and child care center staff with diarrhea and/or vomiting should remain at home until 24 hours after diarrhea and/or vomiting cease, and until stools are formed. Children in diapers should remain at home for 3 days following cessation of diarrhea and/or vomiting and until stools are formed.
- Education on proper hand hygiene should be emphasized upon return to the childcare center.
- Child care center staff that handle food should remain at home for 3 days following cessation of diarrhea and/or vomiting and until stools are formed.
- Proper hand washing technique: Hand washing should be done using warm water and soap. Rub hands together for at least 15 seconds making sure to scrub the backs of hands, wrists, between fingers and under fingernails. Rinse well under warm water and use a paper towel or blow dryer to dry your hands.

Iowa Department of Public Health

- There has been uncertainty over the effectiveness of alcohol based hand gels against norovirus. IDPH always recommends washing hands. Alcohol based hand gels should only be used in situations where soap and warm water may not be available.

Outbreak:

- Cohorting of ill and well children may be indicated in certain circumstances. LPHA or IDPH should be contacted to provide assistance in these situations.
- Consider sending a letter home with children for parents that provides basic information on norovirus and recommendations on how they can help prevent spread of the disease. Refer to the sample IDPH *Parent Letter for Child care Center Norovirus Outbreaks*.
- Increase frequency of routine cleaning. Examples of areas to disinfect include: doorknobs, fountains, sinks, toilets, phones, counters, desks, handrails, and light switches. Toys should be cleaned and disinfected daily. Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.
- Ensure restrooms are adequately stocked with soap, paper towels, and warm running water.
- To determine and confirm the cause of the outbreak, local public health agencies may request stool specimens from some ill children and staff.

Hospital and Long-term Care Facility Recommendations:

Patient/resident recommendations:

General:

- Place ill patients in private rooms or in the same room or wing as other ill patients. Minimize movement of residents.
- Consider stopping all group activities (dining halls, activity rooms, etc.) until outbreak has resolved.
- Consider serving meals in resident rooms versus the dining hall.

Staff recommendations:

General:

- Ill staff that provide direct patient care, including food service workers should remain at home for 3 days following cessation of diarrhea and/or vomiting, and until stools are formed. Education on proper hand hygiene should be emphasized upon return to work.
- Staff that do not provide direct patient care should remain at home for at least 24 hours following cessation of diarrhea and/or vomiting, and until stools are formed. Education on proper hand hygiene should be emphasized upon return to work.
- Staff should wash their hands when entering and leaving every resident room.
- Patients with suspected norovirus infection should be managed with standard and contact precautions with careful attention to hand hygiene practices.
- Contact precautions should be used when caring for diapered or incontinent persons, during outbreaks in a facility, and when a splash could occur.
- Persons cleaning areas heavily contaminated with vomitus or feces should wear surgical masks.
- Staff should be assigned to work with well residents or sick residents, but should not care for both groups. Staff who go back and forth between ill and well residents, play an important role in transmitting the virus from resident to resident. To the extent possible, keep staff from "floating" between floors/units.

Iowa Department of Public Health

- Food handlers who are ill with gastrointestinal symptoms MUST NOT prepare or serve food under any circumstances. It is strongly recommended that symptomatic food handling staff be sent home immediately. There has been uncertainty over the effectiveness of alcohol based hand gels against norovirus. IDPH always recommends washing hands. Alcohol based hand gels should only be used in situations where soap and warm water may not be available.

Outbreak:

- Limit staff from moving between affected and unaffected units and limit any nonessential personnel from affected units.

Facility Recommendations:

General:

- Medical equipment used for care of norovirus infected patients, should be either dedicated to that room for the duration of isolation or be thoroughly disinfected upon removal from the room. Selection of appropriate cleaning agent should be consistent with the equipment manufacturer's recommendation for compatibility.
- Refer to IDPH *Norovirus Environmental Cleaning Fact Sheet* for appropriate cleaning methods.

Outbreak:

- Consider limiting new admissions to the affected units until the incidence of new ill cases has reached zero.
- Inform visitors about a possible disease outbreak in your facility.
- Consider limiting or stopping visitation to the facility until there have been no new cases for at least 48 hours.
- Post extra hand washing signs in various visible areas in the facility.
- It may be useful to collect stool specimens from residents/patients to confirm norovirus is the cause of the outbreak.

[Type Date]

Sample Parent Letter Child Care Center Norovirus Outbreak
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Dear Parent/Guardian:

[Type LPHA name] and the Iowa Department of Public Health have been investigating reports of children and staff experiencing symptoms of vomiting and diarrhea at [Type childcare center name]. These symptoms appear to be the result of an outbreak of norovirus.

Norovirus is a common cause of gastroenteritis in people. Symptoms usually include nausea, vomiting, diarrhea and stomach cramping. The symptoms of norovirus appear about 24 - 48 hours after exposure to the virus with a range of 10 – 50 hours. The illness is usually brief, lasting only one to three days. This virus is most commonly spread by eating contaminated foods or liquids, touching contaminated surfaces or objects and then placing hands in mouth, or having direct contact with a person who is infected and showing symptoms. In order to prevent the spread of this virus in your home (and at the childcare center), follow these basic prevention strategies:

- Wash hands after using the toilet.
- Wash hands before handling food or ice.
- Wash hands before eating.
- Refrain from food handling duties if currently ill and for 3 days after diarrhea and vomiting have stopped.
- Discard foods that have been handled or prepared by someone who is or has recently had vomiting or diarrhea.
- Promptly clean and disinfect any surfaces that become soiled with vomit or diarrhea.
- Ill children in diapers and child care center staff that handle food, should remain at home for three days following cessation of diarrhea and/or vomiting and until stools are formed. Children not in diapers and other child care center staff should be excluded until 24 hours after both diarrhea and vomiting have ceased, and until stools are formed. Education on proper hand hygiene should be emphasized upon return to the child care center.

Measures are also being taken at the school to prevent further spread of the illness. For additional information about norovirus visit: www.idph.state.ia.us/Cade/DiseaseIndex.aspx?disease=Norovirus . If you have any questions or concerns, please feel free to contact or call [Type LPHA or IDPH name] at [Type agency phone number].

Sincerely,

[Type LPHA or IDPH name]
[Type job title]

**Sample Parent Letter
During a School Norovirus Outbreak**

[Type Date]

Dear Parent/Guardian:

[Type LPHA name] and the Iowa Department of Public Health have been investigating reports of students and staff experiencing symptoms of vomiting and diarrhea at [Type school name]. These symptoms appear to be the result of an outbreak of norovirus.

Norovirus is a common cause of gastroenteritis in people. Symptoms usually include nausea, vomiting, diarrhea and stomach cramping. The symptoms of norovirus appear about 24 - 48 hours after swallowing the virus, with a range of 10 – 50 hours... The illness is usually brief, lasting only one to three days. This virus is most commonly spread by eating contaminated foods or liquids, touching contaminated surfaces or objects and then placing hands in mouth, or having direct contact with a person who is infected and showing symptoms. In order to prevent the spread of this virus in your home (and at school), follow these basic prevention strategies:

- Wash hands after using the toilet.
- Wash hands before handling food or ice.
- Wash hands before eating.
- Refrain from food handling duties if currently ill and for 3 days after diarrhea and vomiting have stopped.
- Discard foods that have been handled or prepared by someone who is or has recently had vomiting or diarrhea.
- Promptly clean and disinfect any surfaces that become soiled with vomit or diarrhea.
- Ill staff and children should remain at home until 24 hours after diarrhea and/or vomiting cease, or until stools are formed. Education on proper hand hygiene should be emphasized upon return to school.
- School staff that handle food and have norovirus infection who have had diarrhea and/or vomiting should be excluded until 3 days after the last bout of vomiting and/or diarrhea and are having formed stools.
- Students in diapers and have norovirus infection who have had diarrhea and/or vomiting should be excluded until 3 days after the last bout of vomiting and/or diarrhea and are having formed stools.

Measures are also being taken at the school to prevent further spread of the illness. For additional information about norovirus visit: www.idph.state.ia.us/Cade/DiseaseIndex.aspx?disease=Norovirus If you have any questions or concerns, please feel free to contact or call [Type LPHA or IDPH name] at [Type agency phone number].

Sincerely,

[Type LPHA or IDPH name]
[Type job title]

What is parainfluenza?

It is a group of viruses that usually cause severe cold-like symptoms, including fever and chills and less commonly, pneumonias.

Who is at risk?

Anyone; however, illness is more common and severe in infants, children and the elderly.

How do you get parainfluenza?

It is spread directly by contact with saliva and indirectly by contact with droplets when a person coughs or sneezes. It is also spread indirectly by hands, tissues, eating utensils and other articles freshly contaminated with respiratory secretions of an infected person.

What are the symptoms? The symptoms may include fever, chills, headache, general muscle aches, tiredness, lack of appetite, runny nose, sore throat, as well as lung infections, such as bronchitis or pneumonia. In infants, vomiting or diarrhea may also occur.

How soon after infection do symptoms appear?

They symptoms usually start 1 to 10 days after infection.

Where is parainfluenza found?

The viruses are only found in humans. Infections occur most commonly during fall, winter and occasionally spring.

How long can a person spread parainfluenza?

A person can spread the virus to others shortly before illness and during their illness.

How is parainfluenza treated?

There is no specific treatment. Most people get well on their own in 2-5 days. The use of antibiotics is not appropriate in most cases because antibiotics are not effective against viruses.

How can the spread of parainfluenza be prevented?

Contact isolation should be used if children are hospitalized. Other ill persons should avoid contact with young children, the debilitated or chronically ill, the elderly, and persons with other illnesses. Frequent handwashing, covering the mouth when coughing and sneezing, proper disposal of tissues, and cleaning of dishes and drinking utensils will also decrease the spread of this and other viruses.

What are pinworms?

Pinworms are small thread-like parasitic worms that live in the bowel or lower digestive tract of people. Usually at night they travel to the rectal opening and lay eggs on the outside skin.

Who is at risk?

This parasitic condition is extremely common, affecting people of all social and economic levels. Estimates indicate that 10% of the general American population is infected. People, especially preschool-age children, are the only host for these worms. Dogs, cats, and other household pets do not get pinworms although they may have other types of worms in their digestive tract.

How do you get pinworms?

Pinworm eggs are spread from direct transfer between hands and anus to the same person or others. Indirectly they can spread through clothing, bedding, food and other articles in the living environment. Dust may spread the eggs in heavily contaminated households and indoor environments.

What are the symptoms of pinworms?

They are usually harmless and produce no symptoms except severe anal itching. This itching can sometimes cause nervousness and irritability during the day and restlessness and difficulty in sleeping during the night.

How are pinworms diagnosed?

The best method of diagnosis is to apply cellophane tape to the skin around the anus in the morning before bathing or having a bowel movement. The eggs stick to the tape and can be observed with microscopic examination. Sometimes the worms may be visible around stool matter after going to the toilet.

How are pinworms treated?

There are three drugs in pill form and liquid medication to treat this condition. Contact your health care provider for the right drug for you. Change bed linen and underwear of infected person daily for several days after treatment. Treatment should be repeated after 2 weeks.

How can pinworms be prevented?

All members of the household should wash hands frequently using soap and warm water and at least 15 seconds of scrubbing and cleaning under fingernails especially after going to the toilet and before eating. You should also frequently clean and vacuum floors of bedrooms and bathrooms. Launder bed linen, clothing, and pajamas; dry on hot cycle. Keep toilet seats clean. Check all members of a family for the presence of eggs. Doctors may choose to treat the entire family when one member is infected.

What is poison ivy?

Poison ivy is a "contact dermatitis," or a skin rash with blisters. It is caused by an allergic reaction to the oily substance urushiol, or sap, in the leaves, stalks, roots, flowers, and berries of the poison-ivy plant.

Who gets poison ivy?

Anyone. Contact with poison ivy is one of the most frequent causes of skin rash in children during the spring, summer and fall. The oils of these plants can cause a reaction in over 50% of people.

What are the symptoms of poison ivy?

Symptoms usually appear within 1-3 days of exposure, but may appear as long as 3 weeks later. Redness and extreme itching are the first. Severe itching, redness, and swelling are followed by blisters. The rash is often in the pattern of streaks or patches consistent with where the plant touched the skin. The worst stage of the rash is usually four to seven days after exposure. It may last for one to two weeks. Reactions may vary from very mild to very severe, in highly sensitive individuals, sometimes even requiring hospitalization.

How is poison ivy spread?

Any body part may be affected as long as it comes in direct contact with the oil of the plant or with smoke from burning poison ivy. Rubbing or scratching the skin, when the oil is still on it, can spread the oil from one part of the body to another. Contact with urushiol can occur in three ways:

- 1) Direct contact – touching the sap of the toxic plant,
- 2) Indirect contact – touching something on which urushiol is present. The oil can stick to the fur of animals, to garden tools or sports equipment, or to any objects that have come into contact with it.
- 3) Airborne contact – burning poison plants puts urushiol particles into the air.

It is not spread by the fluid of the blisters, therefore is not contagious person-to-person, unless the oil remains on the skin and is touched by another person.

What is the treatment for poison ivy?

Treatment does not cure poison ivy; it just eases the discomfort. Without treatment, a mild case will resolve in approximately 2 weeks. It is important to keep your hands away from eyes, mouth and face. Though it is difficult, try not to scratch. This may cause infection. Cool compresses, baking soda or oatmeal (Aveeno) soaks may offer some relief. Calamine lotion may help (topical Benadryl may make the rash worse). Antihistamines (Benadryl oral) may relieve the itching at night to help you sleep. If your doctor prescribes medications, be sure to follow the instructions. A medicine called corticosteroid may be prescribed for more serious cases of rash with swelling (over the counter corticosteroids are too weak to be effective). In cases of severe or extensive rash, especially around the face or genitals, your doctor may prescribe oral medicine.

Call immediately for emergency medical assistance if:

The patient begins to experience a severe allergic reaction such as:

- swelling of the airway (throat, tongue, mouth or nose)
- difficulty breathing or swallowing
- weakness
- dizziness
- bluish lips or mouth
- unconsciousness
- history of having experienced a severe reaction to poison ivy from a past exposure
- cough following exposure to the smoke of burning poison ivy plants

Notify your physician if any of the following happens:

- The itching is severe and cannot be controlled
- The rash affects the face, lips, eyes or genitals
- You develop a fever over 100° F. orally
- The rash or blisters show signs of infection, such as pus, yellow fluid leaking from blisters, odor or increased tenderness.

- The prescribed treatments and medicines do not bring relief within a few days.

Can a person get poison ivy again?

Yes, anytime exposure to the plant oil occurs.

What can be done to prevent the spread of poison ivy?

Learn to identify these plants and teach your children to identify them as soon as they are able. Teach them to avoid contact with the plants or smoke caused by burning them. Over-the-counter creams, such as Ivy Block or Stoko Gard Outdoor Cream, applied at least 15 minutes before exposure, form a barrier against the plant's sap. If you plan to be in an area where poison ivy grows, wear long sleeves and long pants. Wear vinyl gloves (urushiol can soak through rubber). Rinse off tools after using them. Wash your clothing and shoes and use care not to transfer the urushiol to rugs or furniture. Wash any body surfaces that have had contact with the poison ivy as soon as possible (preferably within 5-10 minutes after exposure). Be sure to clean under your fingernails because oil can be spread from scratching. Do not touch the skin or clothing of the exposed person with your bare hands. Bathe animals that may have been exposed.

Q Fever

Agency: _____

Investigator: _____

Phone number: _____

FOR STATE USE ONLY

Status: Confirmed Probable NR
 Suspect Not a case
Reviewer initials: _____
Referred to another state: _____

CASE

Last name: _____
First and middle name: _____
Maiden name: _____ Suffix: _____
Address line: _____
Zip: _____ City: _____
State: _____ County: _____
Phone: ()- - Type: _____
Long-term care resident: Yes No Unknown
Facility name: _____

Date of Birth: ____ / ____ / ____ Estimated? Age: _____
Gender: Female Male Other _____
Pregnant: Yes No Unk Est. delivery date: ____ / ____ / ____
Marital status: Single Parent with partner Widowed
 Married Separated
Race: American Indian or Alaskan Native Unknown
 Black or African American White
 Hawaiian or Pacific Islander Asian
Ethnicity: Hispanic or Latino Not Hispanic or Latino Unknown
Parent/Guardian name: _____
Parent/Guardian phone: ()- - Type: _____

EVENT

Diagnosis date: ____ / ____ / ____ Onset date: ____ / ____ / ____
Event outcome: Survived this illness Died from this illness
 Died unrelated to this illness Unknown
Outbreak related: Yes No Unknown
Outbreak name: _____
Exposure setting: _____
Epi-linked: Yes No Unknown
Location acquired: In USA, in reporting state
 In USA, outside reporting state
 Outside USA
 Unknown
State: _____ Country: _____

Last name: _____
First name: _____
Provider title: ARNP MD PA
 DO NP
Facility name: _____
Address line 1: _____
Address line 2: _____
Zip code: _____ City: _____
State: _____ County: _____
Phone: ()- - Type: _____

Healthcare provider information

LABORATORY FINDINGS

Laboratory: _____	Accession #: _____	Collection date: ____ / ____ / ____
Date received: ____ / ____ / ____	Specimen source: _____	Test type: _____
Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final	Result date: ____ / ____ / ____	Result: <input type="checkbox"/> Positive <input type="checkbox"/> Negative
Organism: Coxiella burnetii	Type (e.g. antigen): _____	

Laboratory: _____	Accession #: _____	Collection date: ____ / ____ / ____
Date received: ____ / ____ / ____	Specimen source: _____	Test type: _____
Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final	Result date: ____ / ____ / ____	Result: <input type="checkbox"/> Positive <input type="checkbox"/> Negative
Organism: Coxiella burnetii	Type (e.g. antigen): _____	

Laboratory: _____	Accession #: _____	Collection date: ____ / ____ / ____
Date received: ____ / ____ / ____	Specimen source: _____	Test type: _____
Result type: <input type="checkbox"/> Preliminary <input type="checkbox"/> Final	Result date: ____ / ____ / ____	Result: <input type="checkbox"/> Positive <input type="checkbox"/> Negative
Organism: Coxiella burnetii	Type (e.g. antigen): _____	

OCCUPATIONS

Interpret 'occupation' very loosely and consider every person to have at least one 'occupation'.

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: ____/____/____ Address: _____
 Date worked to: ____/____/____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: ____/____/____ Phone: (____)____-____-____ Type: _____
 Handle food: Yes No Unknown Work in a health care setting: Yes No Unknown
 Attend or provide child care: Yes No Unknown Direct patient care duties in lab or health care setting: Yes No Unknown
 Attend school: Yes No Unknown Health care worker type: _____
 Work in a lab setting: Yes No Unknown

Occupation type: _____ Job title: _____
 Worked after symptom onset: Yes No Unknown Facility name: _____
 Date worked from: ____/____/____ Address: _____
 Date worked to: ____/____/____ Zip code: _____
 Removed from duties: Yes No Unknown City: _____ State: _____ County: _____
 Date removed: ____/____/____ Phone: (____)____-____-____ Type: _____
 Handle food: Yes No Unknown Work in a health care setting: Yes No Unknown
 Attend or provide child care: Yes No Unknown Direct patient care duties in lab or health care setting: Yes No Unknown
 Attend school: Yes No Unknown Health care worker type: _____
 Work in a lab setting: Yes No Unknown

HOSPITALIZATIONS

Was the case hospitalized? Yes No Unknown

Hospital: _____ Isolated at entry: Yes No Unk Isolation type (entry): _____
 Admission date: ____/____/____ Discharge date: ____/____/____ Days hospitalized: _____
 Currently isolated: Yes No Unk Current isolation type: _____

CLINICAL INFO & DIAGNOSIS

Symptoms: Chills Yes No Unk Headache Yes No Unk Muscle Pain Yes No Unk
 Cough Yes No Unk Hepatitis Yes No Unk Pneumonia Yes No Unk
 Endocarditis Yes No Unk Hepatomegaly Yes No Unk Retrobulbar pain Yes No Unk
 Fever(>100.5) Yes No Unk Malaise Yes No Unk Splenomegaly Yes No Unk

TREATMENT

Antibiotics prescribed? Yes No Unknown

Antibiotic: _____ Date started: ____/____/____ Dose: _____ Unit: <input type="checkbox"/> mg <input type="checkbox"/> ml <input type="checkbox"/> IU # of days: _____ # of times a day: _____ Route: _____	Antibiotic: _____ Date started: ____/____/____ Dose: _____ Unit: <input type="checkbox"/> mg <input type="checkbox"/> ml <input type="checkbox"/> IU # of days: _____ # of times a day: _____ Route: _____	Antibiotic: _____ Date started: ____/____/____ Dose: _____ Unit: <input type="checkbox"/> mg <input type="checkbox"/> ml <input type="checkbox"/> IU # of days: _____ # of times a day: _____ Route: _____
--	--	--

INFECTION TIMELINE



Risk Factors/Travel Information – In the 4 weeks prior to onset of symptoms did the case:

Traveled within Iowa? Yes No Unk City in Iowa: _____ Departure date: ____/____/____ Return date: ____/____/____
 Traveled within U.S.? Yes No Unk State: _____ City: _____ Departure date: ____/____/____ Return date: ____/____/____
 Traveled outside U.S.? Yes No Unk Country: _____ Departure date: ____/____/____ Return date: ____/____/____

Unpasteurized milk: Yes No Unk From dates consumed: ____/____/____ To dates consumed: ____/____/____

List all source/types: _____ List all brand names: _____

Other unpasteurized products: Yes No Unk From dates consumed: ____/____/____ To dates consumed: ____/____/____

List all source/types: _____ List all brand names: _____

Animal contact:

Bison	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Goats	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Caribou	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Horses	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Cats	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Mice	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Cattle	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Pigs	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Deer	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Rats	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk
Dogs	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	Sheep	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk

Animal birthing: Yes No Unk

CONTACTS

Are there contacts of the case with same exposures: Yes No Unknown

Name	DOB	Gender	Address/Phone
_____/____/____		<input type="checkbox"/> Male <input type="checkbox"/> Female	_____ Zip code: _____ Phone: ____-____-____
Relationship to case	List symptoms	Symptom onset date	Is contact a case?
<input type="checkbox"/> Spouse <input type="checkbox"/> Child <input type="checkbox"/> Sibling <input type="checkbox"/> Roommate <input type="checkbox"/> Parent/ guardian	<input type="checkbox"/> Sexual contact <input type="checkbox"/> Family member (non-household) <input type="checkbox"/> Friend/acquaintance <input type="checkbox"/> Contact- work/school/etc <input type="checkbox"/> Unknown/Other	____/____/____	<input type="checkbox"/> Yes <input type="checkbox"/> No

If this contact is a case create a new event and/or case for this contact.

Name	DOB	Gender	Address/Phone
_____/____/____		<input type="checkbox"/> Male <input type="checkbox"/> Female	_____ Zip code: _____ Phone: ____-____-____
Relationship to case	List symptoms	Symptom onset date	Is contact a case?
<input type="checkbox"/> Spouse <input type="checkbox"/> Child <input type="checkbox"/> Sibling <input type="checkbox"/> Roommate <input type="checkbox"/> Parent/ guardian	<input type="checkbox"/> Sexual contact <input type="checkbox"/> Family member (non-household) <input type="checkbox"/> Friend/acquaintance <input type="checkbox"/> Contact- work/school/etc <input type="checkbox"/> Unknown/Other	____/____/____	<input type="checkbox"/> Yes <input type="checkbox"/> No

If this contact is a case create a new event and/or case for this contact.

Name	DOB	Gender	Address/Phone
_____/____/____		<input type="checkbox"/> Male <input type="checkbox"/> Female	_____ Zip code: _____ Phone: ____-____-____
Relationship to case	List symptoms	Symptom onset date	Is contact a case?
<input type="checkbox"/> Spouse <input type="checkbox"/> Child <input type="checkbox"/> Sibling <input type="checkbox"/> Roommate <input type="checkbox"/> Parent/ guardian	<input type="checkbox"/> Sexual contact <input type="checkbox"/> Family member (non-household) <input type="checkbox"/> Friend/acquaintance <input type="checkbox"/> Contact- work/school/etc <input type="checkbox"/> Unknown/Other	____/____/____	<input type="checkbox"/> Yes <input type="checkbox"/> No

If this contact is a case create a new event and/or case for this contact.

NOTES:

Iowa Department of Public Health Rash Investigation Form

Patient and Contact Information

Patient Name _____
Last First Middle
DOB _____ Age _____ Sex _____
Parent/Guardian _____
Address _____
City _____ State _____ Zip Code _____
Hm Phone (____) _____ Day Phone (____) _____
School/Place of Business _____
Child Care Center _____
Physician _____ Phone (____) _____
Address _____
Person Reporting _____
Agency _____ Phone (____) _____
Where is the patient now? Home Dr. Office
 Hospital Other: _____

Final Diagnosis

Measles Chickenpox
 Rubella Smallpox
 Other _____
Investigator _____
Agency _____
Investigation Began ____ / ____ / ____
Investigation Completed ____ / ____ / ____
How is patient now? _____

Vaccine History

Are all vaccines up to date? YES / NO
MMR #1 ____ / ____ / ____
MMR #2 ____ / ____ / ____
Date of previous infection if not immunized
____ / ____ / ____ Lab Confirmed? YES / NO
Varicella #1 ____ / ____ / ____
Varicella #2 ____ / ____ / ____
Has the patient ever had chickenpox/shingles?
If yes when ____ / ____ / ____ Age: ____
Lab Confirmed? YES / NO
Has the patient ever had Smallpox?
If yes when ____ / ____ / ____ Age: ____
Lab Confirmed? YES / NO

Diagnostic Data

Is the patient pregnant? YES / NO
Are any close contacts pregnant? YES / NO
Date of fever onset ____ / ____ / ____
Highest recorded fever _____
Fever 1-4 days BEFORE rash onset / WITH rash onset?
Did fever continue with rash onset? Yes/No
Duration of Fever _____
Date of rash onset: ____ / ____ / ____
Duration of rash _____
First location of rash: Arms/Legs/Trunk/Face/Inside Mouth
Is the rash spreading? YES / NO
Rash equally distributed YES / NO
Area with heaviest lesions: Arms/Legs/Trunk/Face/Scalp
Is rash present in any of these areas? Inside Mouth/Palms/Soles
Did the rash appear all at once? YES / NO
Average size of non-infected lesion _____
Was the patient hospitalized for rash illness? YES / NO / UNK
Hospital Dates ____ / ____ / ____ to ____ / ____ / ____
Hospital _____ Phone: _____
Outcome: Survival / Death
Date of Death ____ / ____ / ____
Medication taken before rash onset: _____
Is the patient immunocompromised (ie HIV, AIDS, Cancer)?
YES / NO

Rash Description

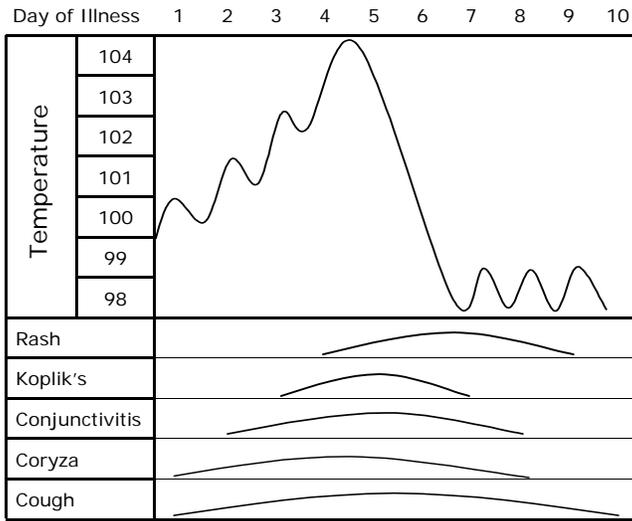
Reddish Could be felt (Papule) Linear arrangement How long did it take for first lesion to crust? _____
 Dusky brown Could not be felt (Macule) Fluid filled (Vesicles) All lesions in same stage of development on a given part of the body? YES / NO
 Marked itching Pustule Solid lumps Lesions in different stages of development
 Burning Distinct sharp borders Deep seated lesions 50-100 lesions (can be counted easily)
 Painful Discrete lesions Superficial lesions 100-150 lesions (best estimation)
 Numbness Confluent lesions Lesions crust less than 24 hours >500 lesions (unable to count)
 Scaling/crusting Umbilicated Other information _____

Symptoms

No/mild prodrome (<1 day) Photophobia Chills Swollen lymph nodes
 Koplik's Spots Nausea / Vomiting Abdominal pain Behind ear
Seen By _____ Excessive fatigue Muscle aches Front of neck
Date Seen _____ Sore throat Joint pain Back of neck
 Cough Headache Complications Encephalitis
 Runny nose Backache Pneumonia Otitis Media
 Watery or red eyes

Iowa Department of Public Health Rash Investigation Form

Measles Case Definition



Measles: Fever of > 101 followed by rash lasting 3 or more days, and cough, coryza, or conjunctivitis.

SMALLPOX CASE DEFINITION

Febrile prodrome occurring 1-4 days before rash onset. (fever $\geq 101^\circ\text{F}$) At least one of the following must also be present: prostration, headache, back-ache, chills, vomiting or severe abdominal pain. The fever may drop with rash onset.

Classic Smallpox Lesions are deep-seated, firm, hard, round, well circumscribed vesicles or pustules. May be umbilicated or confluent.

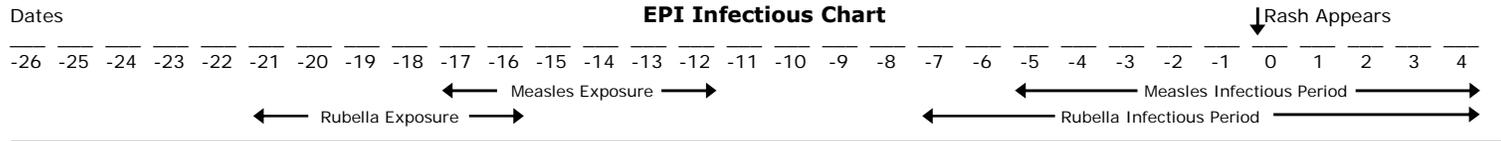
All lesions are in the same stage of development on a given part of the body.

Minor Smallpox Criteria:

- Centrifugal distribution – greatest concentration of lesions on face and distal extremities
- First lesions on the oral mucosa / palate, face, or forearms
- Patient appears toxic or moribund
- Slow evolution – lesions evolve from macules to papules to pustules, with each stage lasting 1-2 days
- Lesions on the palms and the soles

CHICKENPOX CASE DEFINITION

- No or mild prodrome
- Lesions are "dew drop on a rose petal"
- Lesions appear in "crops". On any one part of the body there are lesions in different stages of development. (papules, vesicles, and crusts)
- Centripital distribution – greatest concentration of lesions on the trunk, fewest lesions on distal extremities. May involve the face and scalp. Lesions evolve from macules to papules to crusts quickly (24 hours)



Epidemiology Infectious Information (To Assist in Diagnosis)

Disease	Incubation Period	Infectious Period	Mode of Transmission
Measles	7-18 days from exposure to onset of fever, usually 14 days until rash appears	5 days before rash onset to 5 days after rash onset	Highly communicable. Spread through respiratory droplets, or direct contact with saliva or nasal secretions
Rubella	14-21 days before the onset of the rash	7 days before rash onset to 5 days after rash onset	Respiratory droplets, or direct contact with nasopharyngeal secretions
Smallpox	10-14 days to onset of illness and additional 2-4 days to onset of rash	From the time of development of the earliest lesion until all scabs disappear.	Highly communicable.
Chickenpox	10-21 days prior to onset of rash. May recall exposure	5 days before rash until all lesions are crusted over. (~ 5 days)	Highly communicable. Person to person through direct contact, respiratory droplets or fomites.

Iowa Department of Public Health Rash Investigation Form

Laboratory Data

Date of 1 st blood draw ____ / ____ / ____	Date of convalescent blood ____ / ____ / ____	Skin Biopsy Date ____ / ____ / ____
CBC results:	Results _____	Results _____
Total WBC/mm ³ _____	Throat Culture Date ____ / ____ / ____	KOH Date ____ / ____ / ____
Neutrophils _____%	Results _____	Results _____
Lymphocytes _____%	IgM Antibodies	Tzank Smear Date ____ / ____ / ____
Monocytes _____%	_____ Measles _____ Rubella	Results _____
Eosinophils _____%		

Has the Patient Done Any of the Following Activities Over the Past 3 Weeks

- | | |
|--|--|
| <input type="checkbox"/> Ride Bus (public or school) Date ____ / ____ / ____
<input type="checkbox"/> Work outside of home Date ____ / ____ / ____
<input type="checkbox"/> Dr. or Hospital visit Date ____ / ____ / ____
<input type="checkbox"/> Church Date ____ / ____ / ____
<input type="checkbox"/> Group Meeting Date ____ / ____ / ____ | <input type="checkbox"/> Babysitter Date ____ / ____ / ____
<input type="checkbox"/> Family Gathering Date ____ / ____ / ____
<input type="checkbox"/> Travel Date ____ / ____ / ____
<input type="checkbox"/> School Date ____ / ____ / ____ |
|--|--|

Specify name and contact information of any positives:

Primary and Household Contacts (Include all contacts from 5-7 days before & 4 days after rash onset)

Name	Age	Address	Relation	Phone	Vaccinated	Date of Follow up call	Date of Illness onset

Persons with Similar Illness 12-21 Days Prior to This Cases Rash Onset

Name	Age	Address	Phone	Illness onset date	Describe Illness

What is RSV?

Respiratory syncytial virus (RSV) is a virus that can cause infection of the upper and lower respiratory tracts in people of all ages. The infection can be minor, producing cold-like symptoms or major illness such as pneumonia or bronchiolitis (inflammation of the small air passages in the lungs). RSV commonly occurs in Iowa from December to April.

Who gets RSV?

Babies (especially those born early), people with immune system problems, people with heart or lung problems, and older adults have a higher risk of getting severe disease with RSV infection. RSV is the most common cause of bronchiolitis and pneumonia among infants under one year of age. Severe lower lung disease is more likely among the elderly and those with heart or lung disease and weakened immune systems.

What are the symptoms of RSV?

RSV infections cause symptoms like those of the common cold: a stuffy or runny nose, sore throat, wheezing and coughing, a low fever, and earache. Babies may have additional symptoms that include lack of appetite, disrupted sleep, little interest in things going on around them, and being fussy. Rarely, some babies may also have apnea, a condition in which breathing stops for about 15 to 20 seconds.

Are there medicines I can take if I get sick with RSV?

For children with mild disease, no specific treatment is necessary other than symptom relief. Children with severe disease may require oxygen therapy and sometimes mechanical ventilation. Your doctor may give additional medications.

How is RSV spread?

Infection spreads from persons to person through close contact with infected persons or contaminated surfaces or objects. The virus is most often spread by getting droplets containing the virus on your hands and then touching your eyes, nose, or mouth.

How long is an infected person able to spread RSV?

Infected persons can usually spread the virus for 3-8 days; however, in young infants, the period for spread may be as long as 3-4 weeks.

What should I do to protect myself and my family from RSV?

- ✓ **Wash your hands often** during the day. If you cannot wash your hands, alcohol-based hand cleaner may be used if your hands do not look dirty.
- ✓ **Stay away from others you know are ill.** You are less likely to become ill if you stay at least three feet from someone who is coughing or sneezing.
- ✓ **Do not** share items such as cups, glasses and eating utensils
- ✓ **Throw tissues away** right after they are used
- ✓ **Clean and disinfect** toys shared by multiple children

Can I get RSV more than once?

Yes, infection can occur repeatedly throughout life, sometimes even during the same season.

Is there a vaccine for RSV?

Currently no vaccine is available. Research is underway to develop a vaccine.

What is tinea corporis or ringworm?

Ringworm of the body is a fungal disease of body skin in general. Ringworm of the scalp is Tinea capitis. Tinea pedis is ringworm of the foot or athlete's foot. Tinea cruris is ringworm of the groin or private area (males are infected more often than females). Treatment often differs with the different types of fungi and the body region affected.

Who gets ringworm?

Anyone can get ringworm.

How is ringworm spread?

The fungus that causes the disease occurs worldwide and is transmittable by direct contact with infected humans, animals, or contaminated objects where the fungi persist (e.g. shower stalls, floors or locker room surfaces such as benches or wrestling mats). Fungi will readily enter skin that has been broken by friction, abrasion (e.g. mat or 'rug burns' on wrestlers), or excessive perspiration (under arms or private areas), especially when environmental temperatures and humidity are high.

What are the symptoms of ringworm?

The fungal disease appears characteristically as a reddish round-shaped lesion with a red raised border. It may occur as a single sore or multiple sores may be present. The sore(s) may look reddish, be fluid filled or may be dry and scaly or moist and crusted. As the circular lesion spreads from the center toward the outer edge, the center often clears and returns to a normal appearance. An itching sensation in or around the sore's border is common.

How soon do symptoms appear?

The first symptoms usually appear from 4 - 10 days after contact with the fungi.

How long can an infected person spread ringworm?

The skin fungus can be spread as long as the lesion(s) are present and live fungus persists on contaminated materials or objects.

Should infected persons be excluded from school or work with ringworm?

While being treated, infected persons should be kept out of gymnasiums, swimming pools and other activities likely to lead to close contact exposure of others. Infected persons do not need to be excluded from work or classroom settings.

What is the treatment for ringworm?

Thorough bathing with soap and water, removal of scabs and crusts, and the application of an effective topical (e.g. creams, lotions or ointments) fungicide such as miconazole, ketoconazole, ciclopiroxzole, econazole, naftifine, terbinafine, tolnaftate or ciclopiroxzole may be all that is needed to treat the fungus. If topical treatment(s) do not work a doctor may prescribe an anti-fungal pill. A prescription medication, Griseofulvin, given by mouth is effective; oral itraconazole is useful in griseofulvin-resistant ringworm.

How can the spread of ringworm be stopped?

- Children infected with ringworm should not participate in contact sports.
- While being treated, infected school children must be kept from gymnasiums, swimming pools and activities likely to lead to close contact with other children.
- Clothing and bedding must be laundered frequently.
- Investigate for the source of infection. Examine school contacts, household pets and farm animals and treat their infections as needed.
- Launder towels and clothing in hot water and a commercial fungicidal agent. Clean showers and dressing rooms of gymnasiums with frequent hosing and rapid draining of shower rooms. Fungicidal agents should be used regularly to disinfect benches, wrestling mats, and floors.

What is Roseola?

Roseola is a viral infection causing fever and rash in infants and children between the ages of 6 and 24 months. Most people get this illness early in life, sometimes without having symptoms of the illness. Roseola is also known as sixth disease, exanthem subitum, and roseola infantum.

What are the symptoms of Roseola?

An ill child may have any one or all of the following symptoms:

- High fever (above 103° F lasting 3 to 5 days)
 - Fever may cause seizure activity
 - The child may not feel very ill when fever is present
- Red raised skin rash lasting from hours to several days (may be seen on face, neck and trunk of body)
 - The rash usually is seen the day the fever breaks (around the 4th day)

How soon do symptoms appear?

Symptoms usually begin 5 to 15 days after infection.

How is this illness spread?

Roseola is spread in the following ways:

- Person-to-person contact
- The virus sometimes lives in the nose and throat mucous or saliva of healthy people who have had the illness in the past
- The most common way the illness is spread to children is from adults who have no symptoms but are shedding the virus in their saliva.

Who gets the illness?

Roseola is seen most commonly in infants and children between the ages of 6 and 24 months. Most children have had the illness by age 4 years.

For how long is a person infectious?

The period of time the illness can be spread from person to person is not known.

What is the treatment?

Keep child comfortable. Medication to relieve fever may be given.

Do ill children need to be excluded from child care or school?

No, however children who appear ill, fussy and have a high fever may be excluded.

What can be done to help prevent the spread of illness?

Good personal hygiene including frequent handwashing should be practiced by all.

What is rotavirus and its symptoms?

It is a virus that can cause diarrhea, which usually starts with, or is accompanied by, vomiting and/or a low-grade fever (more than 100.4 degrees Fahrenheit).

How do you get rotavirus?

Most human infections result from hand-to-mouth contact with an infected person's stools. The virus is present in the stools during the illness and can last for up to 8 days after the start of symptoms. Rotavirus can be found on toys and hard surfaces in the home and child care centers. This means the toys, furniture, or the floor may serve as a transmission source. Coughing or sneezing may also spread the virus. Rotavirus is easily spread among family members or children in child care. Rotavirus is the most common intestinal infection in child-care settings. The time from exposure to illness in a child is usually 1 - 3 days.

How is rotavirus infection diagnosed?

Your doctor may collect a rectal swab or a stool sample from the child.

What is the treatment for rotavirus?

There is none. Fluids and sometimes intravenous (IV) fluids are given to prevent or treat dehydration.

Who gets rotavirus?

Anyone. Diarrhea is uncommon in infected infants less than 3 months old. It is most common in infants between of 6 and 24 months old. By age 3, most children have had rotavirus and are immune, or protected, from the virus. Persons who are immune-compromised, such as those receiving chemotherapy for cancer or who have HIV or AIDS, may have lost their immunity and could be at risk of getting sick from rotavirus.

What can be done to stop the spread of rotavirus?

The virus can live for a long time on hard surfaces, in unclean water, and on hands. It is best killed by bleach. Dressing infants with overalls to cover diapers has been shown to lessen spread of the virus. Hand washing is important after using the bathroom and changing diapers. Make sure child's hands are washed after using the bathroom or having diapers changed. Children with diarrhea should be kept out of preschool or child care. Frequent handwashing with soap and warm water of the infants or children and all of their caregivers is most important in controlling and preventing the spread of rotavirus.

Is there a vaccine for rotavirus?

Yes. An oral vaccine is available for use in children. The vaccine is for infants. Babies should receive three doses of the oral vaccine at two, four, and six months of age. If you have additional vaccine questions contact your health care provider.

SCABIES

Responsibilities:

Hospital: Not reportable

Lab: Not reportable

Physician: Not reportable

Local Public Health Agency (LPHA): No follow-up required, unless outbreak occurs

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Scabies is caused by a parasitic infestation of the skin caused by a mite, *Sarcoptes scabiei*. The microscopic mite in the adult female stage is approximately 1/16th inch in length. The body of the mite is rounded in shape and has four pair of legs. The front two pair of legs end in suckers and the rear two pair of legs end in long trailing bristles. Adult females are largest with the greater part of the interior taken up by ovaries and developing eggs.

The adult female burrows into the epidermal layers of the skin, copulates with an entering male and lays two to three eggs per day. The eggs hatch in 2 to 3 days as larval mites with three pair of legs. After one to two days, larval mites return to the surface of the skin and reburrow elsewhere for protection and to feed. Three days later the larva molts to the nymph stage with four pair of legs and later again molts to adult male and female stages. Eggs to adult stages require 10-14 days; adult females may live for over 30 days on the host. Less than 10% of eggs give rise to adults. In fact, most otherwise healthy patients have fewer than 10 adult female mites. (Long-term care (LTC) patients often have considerably more mites than patients in good health.)

As mites initially infect a host, there is minimal tissue reaction as they penetrate the superficial layer of the skin (stratum corneum). Mites feed on intracellular lymph-like fluid rather than blood as capillaries do not reach into the epidermal layer. Subsequently discharges of the mites elicit a T-cell mediated immune reaction and, after a 2 - 6 week period, the characteristic pruritic papules develop. Pruritis itself becomes a defensive mechanism to reduce the presence of mites. For a person who has had scabies before, symptoms appear within several days. People do not become immune to an infestation.

Patients who are immunosuppressed by varying degrees often have decreased pruritis. Frequently there is no itching in crusted scabies patients with severely impaired cell-mediated immunity.

One special consideration is that healthcare staff who attend to patients with high mite burdens often are exposed to large numbers of larval and nymphal mites that burrow into the skin and cause a red papular rash. Exposure is most common on the upper arms and thighs. Most of these mites are washed off or scratched out but the longer the source patient is unrecognized, the greater the likelihood that immature forms will survive to adulthood, progress to mated female mite(s), and establish an infestation on the host.

B. Clinical Description

Symptoms: Signs and symptoms of scabies infestation include:

- Pimple-like irritations, burrows or rash of the skin, especially the webbing between the fingers; the skin folds on the wrist, elbow, or knee; the penis, the breast, or shoulder blades.
- Intense itching, especially at night and over most of the body.

- Sores on the body caused by scratching. These sores can sometimes become infected with bacteria

Onset: Two to six weeks before onset of itching in people without previous exposure. People who have been previously infested develop symptoms 1 - 4 days after re-exposure.

“Norwegian” scabies differ from regular scabies simply in the number of mites present. In regular scabies the number of mites on a host at any one time is, on average 10 – 15. Persons with Norwegian or crusted scabies, will have thousands to millions of mites. Consequently, their skin manifestations are much more severe with thick, hyperkeratotic crusts that can occur on almost any area of the body.

The type of mite is exactly the same in both presentations. The difference lies with the host, with those developing Norwegian scabies usually having a compromised immune system.

Clinically, Norwegian scabies differs from regular scabies in two ways: 1. it presents with more severe skin manifestations, and 2. it is usually not very pruritic.

C. Reservoirs

Common reservoirs: Humans. Sarcoptes species and other mites of animals can live on humans but do not reproduce on them.

D. Modes of Transmission

Person-to-person: Transfer of parasites is by direct contact with infested skin and can be acquired during sexual contact. Transfer from undergarments and bedclothes occurs only if these have been contaminated by infested people immediately beforehand. Mites can burrow beneath the skin surface in 2.5 minutes. Persons with the Norwegian scabies syndrome are highly contagious because of the large number of mites that are present in the exfoliating scales.

E. Incubation period

Two to six weeks pass before onset of itching in people without previous exposure. People who have been previously infested develop symptoms 1 - 4 days after re-exposure. Once away from the human body, mites do not survive more than 48-72 hours. When living on a person, an adult female mite can live up to a month.

F. Period of Communicability or Infectious Period

Until mites and eggs are destroyed by treatment, ordinarily after 1 or occasionally 2 courses of treatment.

G. Epidemiology

Scabies occurs in multi-year cyclic waves with peak incidence about every 30 years. The last peak in the U.S. was in the mid-1970's but large numbers of cases continue to be reported in institutional settings. Typical patient groups include young children who readily transmit the mite during play, young adults where it represents an STD, and institutional populations where underlying health conditions predispose to exposures, transmission, and, once infected, heavier than usual mite numbers. Subsequent transmission to healthcare staff is frequent when caring for scabetic patients in institutions.

Institutional subgroups at risk of scabies include Down's syndrome, transplant patients on immunosuppressive therapy, elderly residents of long-term care (LTC) facilities, AIDS patients, and cancer chemotherapy patients. Some of these patients will have very heavy mite burdens (“atypical crusted scabies”) and present a higher risk of transmission to staff and other residents. Less frequently some of these patients will develop crusted or keratotic scabies (a.k.a. Norwegian scabies) with extremely thick scaly, crusty skin lesions that appear grayish in color and often are associated with thousands to millions of mites. . These patients may not experience any pruritis as a function of depressed immunity thus permitting development of large mite populations. Exfoliated skin scales on

and around furniture, bedding, clothing and other fomites may have many live mites and pose a risk of exposure to others.

A variant form of "scabies" is pseudo- or psycho-scabies in which the patient suffers varying degrees of delusions that they are infected. Power-of-suggestion plus ordinary background itching often generates this condition. Skin scrapings are always negative. Susceptibility increases during cold months when dry skin results in increased background itching.

Severe cases should be referred to a dermatologist for evaluation.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Case investigation. There is no requirement for disease reporting unless an outbreak is occurring.

- To identify whether the case may be a source of infection for other persons and, if so, to prevent further transmission.
- To identify transmission sources of public health concern and to stop transmission from such sources.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

None.

B. Protection of Contacts of a Case

Avoid direct physical contact with people who have scabies and their belongings, especially clothing and bedding. Early proper treatment of infested persons is extremely important to stop the spread of scabies.

C. Managing Special Situations

Reported Incidence Is Higher than Usual/Outbreak Suspected

Scabies infestations remain a problem in institutional settings particularly in long-term care (LTC) facilities. Introductions are almost never recognized and hands-on care promotes transmission to staff and other residents.

D. Preventive Measures

Recognition and management of a scabies outbreak are challenging issues for long-term care facilities and institutions. One must recognize that all institutional populations have background skin problems, which tend to confuse staff and attending physicians. The typical lesions that suggest possible scabies are red, raised, and pruritic papules and less commonly burrows. Burrows are diagnostic for scabies but are seldom seen in patients with good hygiene.

The gold standard for scabies diagnosis is skin scrapings with microscopic examination for mites, eggs or scybala (fecal pellets). Recovering mites and eggs in scrapings requires some practice, skill, and patience, particularly from otherwise healthy patients who may have fewer than five adult female mites. However institutional populations often have heavy mite burdens and offer opportunity to recover mites without extraordinary effort.

Techniques for scraping are many and varied. The simplest technique is to obtain either a #10 or #20 sterile disposable scalpel blade attached to a plastic handle and place drops of oil on the blade or skin lesion and scrape until the oil becomes cloudy with skin debris. Standard references call for use of mineral oil that is not highly viscous. It is recommended to use type B microscopic immersion

oil since it readily adheres to the blade. The oil with superficial skin fragments is then tapped off or transferred to a slide. Oil that remains on the blade can be scraped off with the cover slip that is then dropped on the slide over the earlier transferred oil to produce a "wet mount".

Beginning in one corner of the cover slip, the preparation is screened under 4X (low power) in a methodical back-and-forth manner (e.g. like mowing a yard). The 10X objective may be used to occasionally study detail of suspect structures. Illustrations of sarcoptes mites, demodex mites, eggs and scybala are included in appendices.

Other techniques include identifying burrows with a felt tip ink pen or tetracycline technique. In the former a black or blue felt tip pen is rubbed over the suspect lesion and the ink removed with an alcohol wipe. If a burrow is present, capillary action will have drawn the ink into the burrow, which will not be removed by the alcohol wipes and will be visible through the superficial epidermis. The tetracycline technique is similar in that a small amount of soluble liquid tetracycline is applied over the suspect lesion and then removed. The lesion is then viewed under a Wood's lamp for presence of tetracycline that fluoresces in the burrow. If burrows are seen, the mite (usually an adult female) can be removed by scraping or by epidermal shave biopsy with a scalpel.

Lesions can also be examined by conventional skin biopsy however that procedure requires a clinic, physician staffing, and a technician to prepare tissue for examination. Simple skin scrapings have a lot to offer. The technique is easy to perform; usually meets with patient approval; and provides the option of immediate diagnosis on-site without delay. Equipment needed includes a light microscope with 4X and 10X objective and ideally a mechanical stage. Ideally the person doing the scrapings should read the slides. Over time, competence improves with practice. **LTC facilities are encouraged to perform their own skin scrapings.**

Treatment

Infested persons and their close physical contacts should be treated at the same time, regardless of whether symptoms are present. Crusted scabies is very easily transmissible, and treatment of persons who have been minimally exposed is warranted.

There are several topical treatments available for scabies. The person should bathe before application of a scabicide to include trimming the fingernails and removing or washing out debris from under the nails. After drying the skin, the scabicide is applied to the entire body from the ears and chin downward. After the period of therapy is complete, the scabicide may be removed with another bath and the bedding changed before retiring. Briefly, all topical products available in the U.S. for treatment are available only by prescription and include:

1. 5% permethrin cream. It has low toxicity and is a very effective scabicide. A second administration one week after the first is often routinely prescribed. 5% permethrin cream is the topical treatment of choice for LTC residents.
2. Crotamiton (Eurax), 10% cream or lotion. This product applied for 24 hours than rinsed off, and then reapplied for an additional 24 hours constitutes one treatment. Many scabies experts consider this product the least effective scabicide. Its advantages are it is very non-toxic and has non-specific antipruritic qualities.
3. Lindane, 1% cream or lotion. This product is potentially neurotoxic. It should not be used on patients with neurologic conditions, infants or pregnant or breast-feeding women. It is also sometimes very irritating to skin of elderly patients. In addition, there is increasing evidence that sarcoptes mites have developed tolerance or resistance to this product. We recommend limited use of lindane to treat scabies. One 8-hour application constitutes one treatment.
4. Ivermectin is an oral antiparasitic agent approved for the treatment of worm infestations. Evidence suggests that oral ivermectin may be a safe and effective treatment for scabies;

however, ivermectin is not FDA-approved for this use. Oral ivermectin has been reported effective in the treatment of crusted (Norwegian) scabies; its use should be considered for patients who have failed treatment with or who cannot tolerate FDA-approved topical medications for the treatment of scabies. A total of two or more doses of ivermectin may be necessary to eliminate a scabies infestation. One treatment is one oral dose of 200 micrograms per kilogram of body weight. This is repeated two weeks after the first dose.

5. Sulphur is used as an ointment (2%-10%) and usually 6% ointment is preferred. After a preliminary bath, the sulphur ointment is applied and thoroughly rubbed into the skin over the whole body for two or three consecutive nights. Patients should apply the ointment personally, if possible, as it ensures that their hands will be well impregnated. Ointments are more useful than any other preparation. Topical sulphur ointment is messy, malodorous, and stains clothing. Sulphur should be used only in situations where adults cannot tolerate lindane, permethrin, or ivermectin as it is inferior to all these agents. Sulphur is recommended as a safe alternative for the treatment of scabies in infants, children, and pregnant women.

Home: Infested persons and their close physical contacts should be treated at the same time, regardless of whether symptoms are present. Persons who have contact of this nature, but not those with more casual contact, should be treated.

Institutions:

Scabies epidemics frequently occur in nursing homes, hospitals, residential facilities, and other communities. Control of an epidemic can only be achieved by treatment of the entire population at risk. Ivermectin can be considered in this setting, especially if treatment with topical scabicides fails.

The value of mass treatment versus select treatment of affected wards or wings is problematic. Select treatment may be employed if repeat skin scrapings are available to monitor skin problems. In any case overall treatment strategies need to be openly and thoroughly discussed by administrators, nursing staff, and medical staff.

Environmental Measures

The environment is exaggerated in regards to scabies. One expert states that only 1 in 200 cases of scabies are acquired from fomites and the environment. Laundering bedding and clothing worn or used by patients anytime during the 3 days before treatment, using hot cycles of both the washer and dryer, or disinfecting by storing in a closed plastic bag for a minimum of four days, or dry-cleaning will kill mites and eggs, but may not be needed for most infestations. Laundering bedding and clothing is most important for patients with crusted (Norwegian) scabies because potential for fomite transmission is high. Scabies mites generally do not survive more than 2 to 3 days away from human skin.

Rooms used by a patient with crusted scabies should be thoroughly cleaned and vacuumed after use. Environmental disinfestation using pesticide sprays or fogs is unnecessary and should be discouraged.

Preventive Measures/Education

Avoid direct physical contact with people who have scabies and their belongings, especially clothing and bedding. Early proper treatment of infested persons is extremely important to stop the spread of scabies.

4) ADDITIONAL INFORMATION

Laboratory criteria for diagnosis

Whenever possible, scabies should be confirmed by isolating the mites, ova or feces in a skin scraping. Scrapings should be made at the burrows that have not been scratched, especially on the hands between the fingers and the folds of the wrist

References

CDC website providing the most up-to-date scabies information:

www.cdc.gov/scabies

Chosidow, O., *Scabies* The New England Journal of Medicine, 2006; 354:1718-1727

Heymann, D.L., ed. *Control of Communicable Diseases Manual, 19th Edition*. Washington, DC, American Public Health Association, 2008.

Sexually Transmitted Diseases Treatment Guidelines 2010, Centers for Disease Control and Prevention. www.cdc.gov/std/treatment/2010/ectoparasitic.htm#a2

Additional Resources

Morbidity and Mortality Weekly Report (MMWR)

- Patient-Source Scabies among Hospital Personnel -- Pennsylvania (September 23, 1983 / 32(37);489-90) www.cdc.gov/mmwr/preview/mmwrhtml/00000143.htm
- Epidemiologic Notes and Reports Scabies in Health-Care Facilities -- Iowa (March 25, 1988 / 37(11);178-9) www.cdc.gov/mmwr/preview/mmwrhtml/00051539.htm

What is scabies?

Scabies is a skin disease caused by an almost invisible bug called a mite. Scabies mites burrow under the skin, producing pimple-like bumps.

What are the symptoms of scabies?

The major symptom of scabies is intense itching, particularly at night. In adults, the areas of the skin most affected by scabies include the webs and sides of the fingers, wrists, elbows, armpits, waist, genitals, breasts and lower buttocks. In children, the feet and toes are also commonly affected.

How soon do symptoms appear?

Symptoms will appear in 2 - 6 weeks in people who have never had scabies. People who have had scabies before may show symptoms within 1 - 4 days.

How is scabies spread?

Scabies mites spread by direct skin-to-skin contact. Transfer of scabies from undergarments or bedclothes can happen only if these are reused immediately after being used by an infected person. Scabies can also be spread during sexual contact.

Who gets scabies?

Anyone can get scabies. Scabies most commonly occurs in nursing homes, institutions and child care centers.

How long is a person infectious?

A person can spread scabies until mites and eggs are destroyed by effective treatment.

What is the treatment for this illness?

Skin products are available from a doctor for the treatment of scabies. The products are generally applied to the whole body except the face and neck. Always follow label instructions. A few persons may require a second treatment 7 - 10 days later. Itching may continue during and for several days after treatment. Skin care is important to reduce itching due to skin dryness, which may be caused by the treatment. Clothes and bedding should be washed using the hot cycle of both the washer and dryer.

Do infected people need to be excluded from school, work, or child care?

People may return to school, work, or a child care center after receiving an initial treatment.

What can be done to help prevent the spread of scabies?

Avoid direct physical contact with people who have scabies and their belongings, especially clothing and bedding. Early proper treatment of infested persons is extremely important to stop the spread of scabies.

FACT SHEET

Methicillin-Resistant *Staphylococcus aureus* (MRSA) For Child Care Centers

What is *Staphylococcus aureus*?

Germs called *Staphylococcus aureus* are bacteria. They are often just called “staph.” Many healthy people carry staph in their noses or on their skin. Sometimes staph bacteria can cause infections. Usually these infections are skin infections like pimples and boils. Sometimes they are more serious infections like lung or blood infections.

What is Methicillin-Resistant *Staphylococcus aureus* (MRSA)?

MRSA is a type of staph that has changed (become resistant) due to overuse and abuse of antibiotics. Antibiotics are drugs that kill bacteria. This resistant staph can't be killed by the usual antibiotics, like penicillin. Certain other antibiotics will still kill MRSA.

What is Community-Associated MRSA (CA-MRSA)?

In the past, most infections caused by MRSA were in hospitals or nursing homes. Now, people who have not recently been in a hospital or nursing home are getting infections caused by MRSA. These are called community-associated MRSA infections. CA-MRSA infections are usually skin infections, like pimples or boils. These infections may need to be treated with carefully chosen antibiotics. It is also possible for CA-MRSA to cause blood, bone, and lung infections.

Who is at risk for MRSA infections?

Anyone can get an infection with MRSA. However MRSA infections are most common in hospitals and nursing homes.

How is MRSA spread?

The bacteria enter the body through open cuts and scrapes on the skin. The bacteria usually spread when a person with MRSA on their skin comes into contact with another person's skin. Hand washing and keeping wounds covered is important in stopping a possible spread of the infection. A less common way to spread MRSA is to share towels and sports equipment.

What does a MRSA infection look like?

MRSA may cause a skin infection that looks like a pimple or boil. The sore often looks like a spider bite. It can be red, swollen, painful, and may drain pus. If you think a child in your care may have a skin infection, suggest to the parents that the child be seen by their healthcare provider.

How can the spread of MRSA be prevented?

To prevent the spread of MRSA in child care facilities, follow the same good hygienic practices used to prevent all disease. These practices include:

- Handwashing is the simplest, most effective way to prevent infection.
 - Keep fingernails short and do not wear artificial nails.
 - Instruct children and staff to wash their hands for at least 15 seconds with warm, running water and soap. Singing the “ABCs” song while washing hands takes about 15 seconds.
- Alcohol-based gels may be used when hands are not visibly soiled or handwashing facilities are not available.
 - Always use disposable towels. Do not use a common hand towel.
 - Children and staff should wash their hands before eating, after using the restroom or being diapered, after playing on the playground, after sneezing or touching one's nose, after handling pets / animals, and before going home.

- Staff should wear gloves when dealing with urine, stool and blood and when administering first aid. Wash hands after removing gloves.
- Staff should use disposable cleaning cloths. If reusable cloths are used, they must be washed on a regular basis with chlorine bleach. Do not use sponges.
- Clean equipment and other environmental surfaces with which multiple individuals have bare skin contact with an over the counter detergent / disinfectant that specifies *Staphylococcus aureus* on the label and is suitable for the type of surface being cleaned, or diluted bleach solution.
- Clothing and towels that are heavily soiled with body fluids should be washed by themselves in detergent and bleach using the hottest cycle possible for that fabric.
- Cover diaper changing tables with paper and discard paper after each diaper change. Clean any visible soil from the diapering area with detergent after each use. Then wet the entire changing surface with a sanitizing solution. Wash hands after diapering, even if gloves were used.

For children or staff with any skin infection:

- Keep wounds covered with clean, dry bandages.
- Place all disposable wastes like dressings and bandages into plastic bags. Tie bags securely and discard with regular trash.
- Always clean hands immediately after touching infected skin or any item that has come into direct contact with a draining wound.
- Do not allow children to share items that may become contaminated with wound drainage, such as towels, clothing, bedding, and sports equipment that touches the skin.
- Children and staff with draining wounds that cannot be contained with dressings should be excluded from child care until the wound heals.

FACT SHEET

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In the past, most infections caused by MRSA were in hospitals or nursing homes. Now, healthy people who have not recently been in the hospital are getting infections caused by MRSA. These are called community-associated MRSA infections. Community-associated MRSA infections are usually skin infections, like pimples or boils. These infections may need to be treated with carefully chosen antibiotics. It is also possible for CA-MRSA to cause blood, bone, and lung infections.

Who is at risk for MRSA infections?

MRSA infections are most common in hospitals and nursing homes. Conditions that help MRSA spread are skin touching skin, cuts or scrapes, and crowded living conditions. If a person not in the hospital has a MRSA infection, it is more likely to spread if this person is a member of certain groups. These groups include athletes, military recruits, children, prisoners, and men who have sex with men.

How is MRSA spread?

The bacteria enter the body through open cuts and scrapes on the skin. The bacteria usually spread when a person with MRSA on their skin comes into contact with another person's skin. Hand washing and keeping wounds covered is important in stopping a possible spread of the infection. A less common way to spread MRSA is to share towels and sports equipment.

What does a MRSA infection look like?

MRSA may cause a skin infection that looks like a pimple or boil. The infection often looks like a spider bite. It can be red, swollen, and painful. It may drain pus. If you think you may have a skin infection, see your healthcare provider. Lab tests may be run to see if your infection is caused by MRSA.

If I or someone I know has a MRSA infection, how can I keep it from spreading?

- Keep wounds that are draining covered with clean, dry, bandages.
- Clean hands regularly with soap and water or alcohol-based hand gel (if hands are not visibly soiled). Always clean hands immediately after touching infected skin or any item that has come in direct contact with a draining wound.
- Maintain good general hygiene with regular bathing.
- Do not share items that may become contaminated with wound drainage, such as towels, clothing, bedding, bar soap, razors, and athletic equipment that touches the skin.
- Wash clothing that has come in contact with wound drainage after each use and dry thoroughly.
- If you are not able to keep your wound covered with a clean, dry bandage at all times, do not join in activities where you have skin to skin contact with other persons (such as sports or in child care centers) until your wound is healed.

- Clean equipment and other environmental surfaces with which multiple individuals have bare skin contact with an over the counter detergent/disinfectant that specifies *Staphylococcus aureus* on the product label and is suitable for the type of surface being cleaned.

How is MRSA treated?

Your healthcare provider will decide the best way to treat your infection. Some infections may need to be drained. Only a healthcare provider should drain sores. Some infections may need antibiotics. Tell your healthcare provider if you are not getting better in a few days. You may need to go to the hospital to receive antibiotics directly into your veins. Be sure to tell any healthcare provider you see if you have had an MRSA infection in the past. If anyone you know gets a similar skin infection, have them see their healthcare provider.

Please see the "**Antibiotic Resistance Fact Sheet**" for more information.

FACT SHEET

Methicillin-Resistant *Staphylococcus aureus* (MRSA) For Health Professionals

What is MRSA?

MRSA stands for methicillin-resistant *Staphylococcus aureus* (*S. aureus*). Methicillin-resistant *S. aureus* is also resistant to other penicillins and to cephalosporins.

How does Community Associated MRSA differ from Healthcare Associated MRSA?

Previously, infections with MRSA occurred primarily in hospitals and nursing homes. Several years ago, outbreaks of MRSA began occurring in groups of people who had not recently been in the medical system. Subsequently, it was found that MRSA isolates in the community (CA-MRSA) had bacteriologic characteristics that differed from healthcare associated (HA-MRSA) isolates. CA-MRSA isolates often possess genes for the Panton-Valentine leukocidin (PVL) toxin, which are rare in HA-MRSA. The significance of the toxin is still being investigated, but it has been associated with primary skin infections and necrotizing pneumonia. Additionally CA-MRSA responds to a wider spectrum of antibiotics than HA-MRSA.

Who is at risk for MRSA infections?

- **CA-MRSA:** Conditions that make the spread of CA-MRSA more likely include close skin-to-skin contact, cuts or scrapes, and crowded living conditions. Outbreaks have been reported in athletes, military recruits, children, prisoners, and men who have sex with men.
- **HA-MRSA:** Infections with HA-MRSA usually are associated with time spent in hospitals, nursing homes, or dialysis centers. Other risk factors include immune compromise and the presence of invasive lines.

How is MRSA transmitted?

The bacteria are spread from person-to-person by direct contact. Skin-to-skin contact with an infected person is the most significant risk factor for transmission. However, carriers can also transmit the infection. Survival of the bacteria on linens and surfaces is possible, but the environment is not thought to be a significant route of transmission.

How does MRSA affect people?

Approximately 0.8% of the US population has nasal colonization with MRSA. When MRSA causes infections, it most commonly causes skin infections such as furuncles and abscesses. These infections can initially be misdiagnosed as spider bites. More serious infections, such as sepsis, osteomyelitis, and necrotizing pneumonia are also possible. MRSA should be considered whenever a patient presents with skin or soft tissue infection. MRSA should also be in the differential diagnosis when a patient presents with sepsis, osteomyelitis, septic arthritis, or pneumonia.

How is MRSA diagnosed?

Clinicians should collect specimens for culture and sensitivity from all patients with abscesses or purulent skin lesions, especially if they have severe local infection or systemic symptoms. If invasive infection with MRSA is suspected, a specimen from the appropriate sterile site should be collected. It is not necessary to collect nasal cultures from patients with suspected MRSA infection.

How is MRSA treated?

- **Colonization:** There is continuing debate regarding decolonization of carriers. Currently, decolonization with mupirocin is suggested only if colonized individuals are thought to be the source of recurrent infections or if there is ongoing MRSA transmission in a well-defined cohort, such as a family.
- **HA-MRSA:** In most cases requiring hospitalization intravenous antibiotics are the standard treatment. There are specific antibiotics recommended for treatment of HA-MRSA.

- **CA-MRSA:** Some superficial skin infections may be treated with incision and drainage. If antibiotics are warranted, CA-MRSA is often susceptible to more antibiotics than HA-MRSA.

How can the spread of MRSA be prevented?

Practicing good hand hygiene is essential to control the spread of MRSA. Other measures to prevent becoming infected or transmitting infection to others are avoiding cross-contamination between clean and dirty linen, daily environmental cleaning, and proper handling of infectious waste.

What are special considerations for MRSA infections in people treated as outpatients?

Standard Precautions should be used for all patients. Contact Precautions should be used empirically for patients whose wound drainage cannot be contained. Precautions needed for other situations will vary on a case-by-case basis. Ideally, patients treated as outpatients should return within 48 hours for a follow-up visit. Patients and close contacts should be given these instructions:

- Keep wounds that are draining covered with clean, dry, bandages.
- Clean hands regularly with soap and water or alcohol-based hand gel (if hands are not visibly soiled). Always clean hands immediately after touching infected skin or any item that has come in direct contact with a draining wound.
- Maintain good general hygiene with regular bathing.
- Do not share items that may become contaminated with wound drainage, such as towels, clothing, bedding, bar soap, razors, and sports equipment that touches the skin.
- Wash clothing that has come in contact with wound drainage after each use and dry thoroughly.
- If you are not able to keep your wound covered with a clean, dry bandage at all times, do not join in activities where you have skin to skin contact with other persons (such as in child care centers or sports) until your wound is healed.
- Clean equipment and other environmental surfaces with which multiple individuals have bare skin contact with an over the counter detergent/disinfectant that specifies *Staphylococcus aureus* on the product label and is suitable for the type of surface being cleaned.

What are special considerations for MRSA colonization or infection in hospitalized patients?

The CDC recommends the use of Contact Precautions for all patients in acute care inpatient settings who are known or suspected to be infected or colonized with MRSA.

What are special considerations for MRSA colonization or infection in nursing home residents?

A person who is a carrier of MRSA should not be denied admission to a nursing home. When a person who is a carrier or has an active infection is transferred to another facility, the receiving facility should be told of the MRSA status in advance of the move. See the Report of the Iowa Antibiotic Resistance Task Force for patient placement guidance.

Are there MRSA guidelines available in Iowa?

The *Report of the Iowa Antibiotic Resistance Task Force: A Public Health Guide* published addresses antibiotic resistance in the state and puts forth guidelines for various levels of care. These guidelines can be obtained at: www.idph.state.ia.us/adper/antibiotic_resistance_iartf.asp

FACT SHEET
For Health Professionals

GROUP B STREPTOCOCCI
(Group B Strep, GBS)

What is Group B Strep (GBS)?

Beta hemolytic streptococci group B (Group B Streptococcus, *Streptococcus agalactiae*, or GBS) has been the leading bacterial cause of illness and death among newborns in the United States since the 1970's. Disease in infants usually occurs as bacteremia, pneumonia, or meningitis. Infants with GBS disease may require prolonged hospitalization and expensive supportive therapy, and survivors may suffer permanent disability (e.g., loss of hearing or vision, or psychomotor retardation). The case-fatality rate for GBS is estimated to be 4% for newborns. About one-third of healthy adults carry GBS as normal bowel flora. GBS disease is relatively uncommon, except in newborns.

What are the symptoms of (GBS)?

In newborns, symptoms are often non-specific and may include fever, difficulty feeding, irritability, or lethargy. Colonized adults, including pregnant women, are typically asymptomatic. GBS can cause disease in adults, manifested in pregnancy most often as urinary tract and intrauterine infections.

How soon do symptoms appear?

About half of cases of GBS among newborns happen in the first week of life ("early-onset disease"), and most of these cases start a few hours after birth. GBS may develop one week to several months after birth ("late-onset disease").

How is GBS spread?

GBS typically spreads from the gastrointestinal tract; the genitourinary tract is frequently also colonized. Transmission from a colonized woman to her baby may occur before, or more commonly, during, birth. The incidence of GBS disease is higher among infants born to mothers who are <20 years of age or African American. Women with GBS bacterium during pregnancy are usually heavily colonized with GBS, and appear to be at increased risk for perinatal transmission. Colonized women who experience prolonged rupture of membranes, premature delivery, or intrapartum fever have a higher risk for transmitting GBS infection to their infants during labor and delivery.

How can GBS be prevented?

Intravenous penicillin G should be administered until delivery. Intravenous ampicillin is an acceptable alternative to penicillin G, but penicillin G is preferred because it has a narrow spectrum and is less likely to select for antibiotic resistant organisms. Clindamycin or erythromycin may be used for women allergic to penicillin, although the efficacy of these drugs for GBS prevention has not been measured in controlled trials. Oral antimicrobial agents should not be used to treat women who are identified with GBS during prenatal screening. Such treatment does not effectively eliminate carriage or prevent neonatal disease.

What can be done to help prevent the spread of GBS?

Administration of intravenous antibiotics during birth effectively reduces the incidence of neonatal GBS disease in infants of colonized women. To prevent neonatal GBS disease, the American College of Obstetricians, American Academy of Pediatrics, CDC and other professional organizations recommend using one of two of the following guidelines:

- Screen all pregnant women by collecting rectal and vaginal specimens between 35 and 37 weeks gestation; offer women with GBS on culture IV antibiotics.
- Provide intrapartum antibiotic prophylaxis to women with one or more risk factors (listed above) during labor or at membrane rupture, even at <37 weeks gestation (unless negative results of the GBS culture are already available)

What is Group B Strep (GBS)?

GBS is a bacterium that can kill babies with blood infection, pneumonia, or other infections. Babies that survive GBS may have long-term problems with hearing, vision, or learning. Not all babies who get GBS will have these problems. Group B Strep should not be confused with Group A Strep (the bacterium that causes strep throat).

What are the symptoms of GBS?

GBS in a newborn may cause fever, difficulty feeding, irritability, or lethargy. Most pregnant women who carry GBS have no symptoms. GBS can sometimes cause bladder infections during pregnancy or infections in the womb during labor or after delivery.

How soon do symptoms appear?

About half of cases of newborn GBS happen in the first week of life ("early-onset disease"), and most of these cases start a few hours after birth. GBS may also develop in infants one week to several months after birth ("late-onset disease").

How is GBS spread?

Group B Strep is normally found in the birth canal and lower gut in some women. Women who have GBS can easily pass it from the gut to the rectum and then into the birth canal, resulting in transfer to the baby in the womb. The majority of GBS infections are passed during childbirth, when the baby comes into direct contact with the bacteria in the mother's birth canal.

What is the treatment for this illness?

If a pregnant woman tests positive for GBS at the time of delivery, the mother is given the antibiotics through a vein during labor and delivery.

What can be done to help prevent the spread of GBS?

Doctors should test all pregnant women for GBS. Women who test positive for GBS or have risk factors can be treated with an antibiotic.

What is group A *Streptococcus*?

Group A *Streptococcus* (GAS) or "strep" is a bacteria often found in the throat and on the skin. Strep can be in your body and not cause any illness. It may also cause illnesses that range from mild to severe and even life threatening.

Most strep infections are mild illnesses, such as "strep throat" or impetigo. Sometimes strep can reach parts of the body where bacteria are not usually found, such as the blood, deep muscle and fat tissue, or the lungs, and can cause serious infections.

How is strep spread?

Strep bacteria are spread by direct contact with drainage from the nose or throat of infected persons or by contact with infected wounds or sores on the skin.

Why do serious strep infections occur?

Serious strep infections happen when the bacteria get past the body's defenses. This may occur when a person has sores or other breaks in the skin that let the bacteria get into the tissue.

Who is most at risk of getting serious strep infections?

Few people who come in contact with strep will get serious illness. Some will have a throat or skin infection. Most will have no symptoms at all. Although healthy people can get serious strep illness, those with cancer, diabetes, and kidney disease needing dialysis, and those who take certain medicine are at higher risk. Breaks in the skin, like cuts, wounds, or chickenpox lesions may provide a way for the bacteria to get into the body.

How are strep infections treated?

Strep infections can be treated with many different antibiotics. It is always important to complete the full course of antibiotics as ordered by your healthcare provider.

What can be done to help stop serious strep infections?

The spread of strep is less likely when you wash hands, after coughing and sneezing, before fixing foods and before eating. Persons with a sore throat should be seen by a healthcare provider. A lab test can say if it is strep throat. If it is, the person should stay home from work, school, or child care until 24 hours after starting antibiotics. All sores should be kept clean. If a sore gets red or puffy, drains pus or hurts, see a healthcare provider.

FACT SHEET

GROUP A *STREPTOCOCCUS*

For Health Professionals

What is group A Streptococcus?

Group A *Streptococcus* (GAS) is a bacteria commonly found in the throat and on the skin. Group A streptococci can be present in the throat or on the skin and without causing symptoms, but they may cause illnesses that range from mild to life threatening.

The majority of GAS infections are relatively mild, such as "strep throat" or impetigo. Occasionally, however, these bacteria can reach parts of the body where bacteria are not usually found, such as the blood, deep muscle and fat tissue, or the lungs, and cause invasive infections. Two of the most severe but least common forms of invasive GAS disease are necrotizing fasciitis and streptococcal toxic shock syndrome. Necrotizing fasciitis, sometimes described by the media as "the flesh-eating bacteria," is a destructive infection of muscle and fat tissue. Streptococcal toxic shock syndrome is a rapidly advancing infection that causes shock and injury to internal organs such as the kidneys, liver, and lungs.

How are group A streptococci spread?

Group A streptococci are spread by direct contact with drainage from the nose or throat of infected persons or by contact with infected wounds or sores on the skin. The risk of spreading the infection is highest when a person is ill, such as with "strep throat" or an infected wound. Persons who carry the bacteria but have no symptoms are much less contagious. Treatment of infected persons with an antibiotic that works for 24 hours or longer generally stops their ability to spread the bacteria. Household items like plates, cups, or toys most likely do not play a big role in disease transmission.

Why does invasive group A streptococcal disease occur?

Invasive group A streptococcal infections occur when the bacteria get past the defenses of the person who is infected. This may occur when a person has sores or other breaks in the skin that allow the bacteria to get into the tissue. Health conditions that lessen a person's ability to fight infection also make invasive disease more likely.

How common is invasive group A streptococcal disease?

Approximately 9,000 to 11,000 cases of invasive GAS disease occur in the United States each year. Of these, about 6-7% were streptococcal toxic shock syndrome or necrotizing fasciitis. In contrast, several million persons get "strep throat" and impetigo annually.

Approximately 1,000 – 1,800 deaths occur annually due invasive GAS disease; 20% of those patients with necrotizing fasciitis, and more than half of the patients with streptococcal toxic shock syndrome.

Who is most at risk of getting invasive group A streptococcal disease?

Few people who come in contact with GAS will develop invasive GAS disease; many will have a routine throat or skin infection, and most will have no symptoms at all. Although healthy people can get invasive GAS disease, those with chronic illnesses like cancer, diabetes, and kidney disease requiring dialysis, and those who use medications such as steroids are at higher risk. Breaks in the skin, like cuts, wounds, or chickenpox lesions may provide an opportunity for the bacteria to enter the body.

What are the early signs and symptoms of necrotizing fasciitis and streptococcal toxic shock syndrome?

Early signs and symptoms of necrotizing fasciitis include fever, severe pain and swelling, and redness at the wound site. Early signs and symptoms of streptococcal toxic shock syndrome may include fever, dizziness, confusion, and a flat red rash over large areas of the body. Unfortunately, no sign or symptom is unique only to streptococcal toxic shock syndrome, making it sometimes difficult to differentiate from other illnesses.

How is group A streptococcal disease treated?

GAS infections can be treated with many different antibiotics. Early treatment may reduce the risk of death in cases of invasive disease, although even the correct therapy does not prevent death in every case. It is always important to complete the full course of antibiotics.

What can be done to help prevent invasive group A streptococcal infections?

The spread of all types of GAS infections may be reduced by good hand-washing, especially after coughing and sneezing, before preparing foods and before eating. Persons with sore throats should be seen by a doctor, who can perform tests to find out whether the cause is strep; if so, the person should stay home from work, school, or child care until 24 hours or more after starting antibiotic treatment. All wounds should be kept clean, and watched for possible signs of infection: increasing redness, swelling, drainage, and pain at the wound site. A person with signs of an infected wound (swelling, warmth or redness at the site), especially if fever develops, should seek medical care.

TOXOPLASMOSIS

Responsibilities:

Hospital: Not reportable

Lab: Not reportable

Physician: Not reportable

Local Public Health Agency (LPHA): No follow-up required, unless outbreak occurs

Iowa Department of Public Health

Disease Reporting Hotline: (800) 362-2736

Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Toxoplasmosis is caused by *Toxoplasma gondii*, an intracellular protozoan parasite of cats.

B. Clinical Description

Symptoms: Most people infected with *Toxoplasma gondii* will have no symptoms, but some will have flu-like symptoms, swollen lymph nodes, or muscle aches that last a few days to several weeks. Symptoms can resemble mononucleosis, including fever, sore throat and muscle aches. Cysts containing the parasite persist in the muscles following active disease, and can reactivate if the person becomes immunosuppressed. In immunocompromised people, especially those with HIV/AIDS infection, new or reactivated infection with *Toxoplasma gondii* may cause a variety of severe symptoms, including cardiac and neurologic problems. Treatment is not routinely indicated in healthy, immunocompetent persons.

Congenital Toxoplasmosis: Infection early in pregnancy may cause fetal death or a variety of serious clinical problems at birth. These problems include eye infection (chorioretinitis), neurologic symptoms and other generalized disease. Infection later in pregnancy may result in less apparent problems, including eye problems which may only be recognized years after birth.

C. Reservoirs

Cats (and members of the feline family) are the definitive hosts. They acquire the parasite from eating infected rodents or other meat. Other animals (notably rodents, sheep, goats, pigs, cows and birds) may be intermediate hosts and carry the infective cysts for a long period of time.

D. Modes of Transmission

Transmission is usually by eating under-cooked meat from infected animals or by accidentally eating oocysts (mature eggs) from dirt, sandboxes, or other places where cat feces may be found. Outbreaks have been associated with unpasteurized milk or under-cooked meat.

Congenital transmission results from primary maternal infection during pregnancy.

E. Incubation period

The incubation period is usually from 5 - 20 days when associated with cats; one outbreak from eating under-cooked meat was associated with an incubation period of 10 - 23 days.

F. Period of Communicability or Infectious Period

Except for *in utero* transmission, *T. gondii* is not transmitted directly from person-to-person. Oocysts shed by cats become infective from 1 - 5 days later and can remain infective in moist soil or water for over a year. Additionally, oocysts can remain infective in the meat of an infected animal until it is thoroughly cooked.

G. Epidemiology

T. gondii is found throughout the world. In the United States it is estimated that 22.5% of the population 12 years and older have been infected with *Toxoplasma*. In various places throughout the world, it has been shown that up to 95% of some populations have been infected with *Toxoplasma*. Infection is often highest in areas of the world that have hot, humid climates and lower altitudes.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Laboratory and Healthcare Provider Reporting Requirements

Cases of toxoplasmosis are not reportable to the Iowa Department of Public Health (IDPH), except in the case of a suspected outbreak.

Laboratory Testing Services Available

After communicating with IDPH, contact the University of Iowa State Hygienic Laboratory for further instructions at (319) 335-4500.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation

- a. There is no usual investigation of toxoplasmosis cases.
- b. In the case of a suspected outbreak, investigation will be directed by IDPH.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

None.

B. Protection of Contacts of a Case

In congenital cases, maternal blood for antibody titers should be drawn; in acquired cases, antibody titers may be drawn on household contacts to determine a common exposure source.

C. Managing Special Situations

Outbreak Suspected

If an outbreak of toxoplasmosis is suspected, consult with IDPH or the epidemiologist on-call at the Center for Acute Disease Epidemiology (CADE) at (800) 362-2736.

D. Preventive Measures

To prevent exposures, recommend the following:

Pregnant women and AIDS patients should:

- Always thoroughly cook meat before eating. Freezing reduces the infectivity level but does not eliminate it.
- Do not clean cat litter boxes or pans.
- Always wear gloves during gardening or other contact with soil, wash hands immediately after contact, and always wash hands thoroughly before eating.

All others should:

- Feed cat's dry or canned food, and prevent them from hunting.
- Clean cat litter boxes or cat feces daily. Handle and dispose of cat feces carefully.
- Always wash hands before eating, and after handling cat or other animal feces, handling uncooked meat, or touching soil that might have cat feces in it.
- Cover children's sandboxes/sand piles to keep animals from defecating in play areas.
- Consider being tested for *Toxoplasma* if planning pregnancy (pre-existing infection in mothers is rarely, if ever, associated with congenital toxoplasmosis).

4) ADDITIONAL INFORMATION

References

American Academy of Pediatrics. *2003 Red Book: Report of the Committee on Infectious Diseases, 26th Edition*. Illinois, American Academy of Pediatrics, 2003.

CDC Web site. www.cdc.gov/toxoplasmosis/factsheet.html

Heymann, D.L., ed. *Control of Communicable Diseases Manual, 19th Edition*. Washington, DC, American Public Health Association, 2008.

Additional Resources

www.cdc.gov/hiv/pubs/brochure/oi_toxo.htm

Brochure: You can prevent Toxo. A Guide for People with HIV Infection.

What is toxoplasmosis?

Toxoplasmosis is an infection caused by a one-celled parasite. Infection happens most often by eating or drinking food or water contaminated by the feces (stool) of infected cats. It may also result from eating infected meat that is served raw or undercooked. The parasites can spread from an infected pregnant woman to her baby.

Who can be infected?

Anyone. The disease usually does not cause symptoms, but is of concern for pregnant women, since it may affect pregnancies.

Are there any problems that can result from toxoplasmosis infection?

Infection of pregnant women can result in death or brain damage to the baby. Immunosuppressed persons may develop serious health problems after infection.

What are the symptoms of toxoplasmosis?

Infection can cause fever, headache, swelling of the lymph glands. Immunosuppressed people (such as people with AIDS or cancer) may have more serious illness. However, many people have no symptoms at all.

How soon after infection do symptoms appear?

Fever and headache appear within 5 - 23 days after handling infected cat feces or after eating infected meat.

Where are the parasites found?

The parasites are found in cats, especially those that eat rodents or birds. They are also found in the brain and muscles of sheep, goats, swine, cattle, chickens and other birds.

How long can the parasites cause infection?

The parasites can survive in fresh cat feces and infect people for 1 - 5 days. Parasites in water or moist soil can infect for up to one year. Infected raw meats can contain the parasite. Freezing does not kill the parasite.

Can a person get toxoplasmosis again?

Healthy people probably cannot become infected again. However, immunosuppressed people can become ill again.

What is the treatment for toxoplasmosis?

Infections are not treated unless they occur in pregnant women.

How can toxoplasmosis be prevented?

1. Always cook meat completely. Never eat raw meat. Freezing meat does not kill the parasites.
2. Feed cat's dry, canned, or boiled food. Do not allow them to hunt rodents or birds for food.
3. Dispose of cat feces and litter daily. Wear gloves when emptying and disinfecting litter pans. Do not shake dried used litter or breathe the dust from it.
4. Pregnant women should not clean litter pans and should avoid all contact with cats who have ever hunted rodents for food.
5. Carefully wash hands with soap and warm water before eating, after handling cats or cleaning litter pans, and after handling raw meats. Wear gloves when gardening.
6. Do not allow cats in sandboxes or sand piles used by children for play. Cover sandboxes when not in use.

Varicella Zoster

Also known as: Chickenpox, VZV-varicella zoster virus

Responsibilities:

Hospital: Report outbreaks

Infection Preventionist: Report outbreaks

Physician: Report outbreaks

Follow-up of investigation by Local Public Health Agency (LPHA): outbreaks only

Iowa Department of Public Health

Disease Reporting Hotline: 1-800-362-2736

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent:

Varicella-Zoster is a member of the herpesvirus family.

B. Clinical Description

Symptoms: Primary infection results in varicella (chickenpox). A mild prodrome may precede the onset of a rash. Adults may have 1 to 2 days of mild fever and malaise. Prior to rash onset, but in children the rash is often the first sign of disease.

The rash is generalized, pruritic, and rapidly progresses from macules to papules to vesicular lesions before crusting. The rash typically consists of 250 to 500 lesions; appear first on the scalp, moves to the trunk, and then the extremities, with the highest concentration of lesions on the trunk (centripetal distribution). The vesicles are superficial and delicate; contain clear fluid on an erythematous base. Usually 2 to 4 successive crops of lesions, crops appear over several days, with lesions present in several stages of development. The rash is self-limited, generally lasting 4-5 days.

The clinical course in normal children is generally mild, with malaise, pruritus, and fever up to 102° F for 2-3 days. Adults may have more severe disease and have a higher incidence of complications. Respiratory and gastrointestinal symptoms are absent.

Complications: The risk of complications from varicella varies with age. Children with lesions due to varicella are at greater risk for secondary bacterial infections. Complications are infrequent among healthy children. They are much higher in persons > 15 years and infants < 1 year of age. Adults account for only 5% of reported cases of varicella, but account for approximately 35% of mortality.

Complications include bacterial superinfection of the skin lesions, pneumonia (viral or bacterial), thrombocytopenia, arthritis, hepatitis, cerebellar ataxia, encephalitis, meningitis, and glomerulonephritis. Reye Syndrome can follow some cases of chickenpox, although the incidence of Reye Syndrome has decreased dramatically with decreased use of salicylates during varicella or influenza-like illnesses. Severe and even fatal varicella has been reported in otherwise healthy children receiving intermittent courses of corticosteroids for treatment of asthma and other illnesses.

The hospitalization rate is 3 per 1000 cases. Death rate 1 per 60,000 cases.

Outcome: Recovery from primary varicella infection usually results in lifetime immunity. In otherwise healthy persons, a second occurrence of chickenpox is uncommon, but may occur, particularly in immunocompromised persons.

The virus establishes latency in the dorsal root ganglia during primary infection. Reactivation results in herpes zoster "shingles". Grouped vesicular lesions appear in the distribution of 1 to 3 sensory dermatomes, sometimes accompanied by pain localized to the area. The immunologic mechanism that controls latency of VZV is not well understood. Approximately 15-30% of the population will experience zoster during their lifetimes. Factors associated with recurrent disease include aging, immunosuppression, intrauterine exposure to VZV, and varicella at a young age < 18 months. Post herpetic neuralgia is defined as pain that persists after resolution of the rash, may last as long as a year after the episode of zoster.

Herpes Zoster Vaccine

Zoster vaccine (licensed in 2006 Zostavax) is a live attenuated vaccine approved for persons 60 years of age and older. ACIP (Advisory Committee on Immunization Practices) recommends a single dose of zoster vaccine for adults 60 years of age or older whether or not they report a prior episode of herpes zoster. Persons with a chronic medical condition may be vaccinated unless a contraindication or precaution exists for the condition.

For more information on zoster vaccine, visit:

www.cdc.gov/vaccines/vpd-vac/shingles/default.htm#clinical

The vaccine should be stored frozen at an average temperature of +5°F (-15°C) until it is reconstituted. Read and follow the package insert for storage and reconstitution instructions.

A person should not get shingles vaccine who:

- has ever had a life-threatening allergic
 - reaction to gelatin,
 - the antibiotic neomycin,
 - or any other component of shingles vaccine.
- has a weakened immune system because of
 - HIV/AIDS or another disease that affects the immune system,
 - treatment with drugs that affect the immune system, such as steroids,
 - cancer treatment such as radiation or chemotherapy,
 - a history of cancer affecting the bone marrow or lymphatic system, such as leukemia or lymphoma.
 - has active, untreated tuberculosis.

C. Reservoirs

Humans are the only source of infection for this highly contagious virus.

D. Modes of Transmission

Spread: The varicella zoster virus enters the body through the respiratory tract and conjunctiva. The virus is believed to replicate at the site of entry in the nasopharynx and regional lymph nodes. Primary viremia occurs 4-6 days after infection, which disseminates the virus to other organs, such as the liver, spleen and sensory ganglia. A secondary viremia occurs with viral infection of the skin.

Person-to-person transmission occurs by airborne spread from respiratory tract secretions and by direct contact with drainage from lesions in patients with varicella. Patients with zoster spread disease primarily by direct contact with drainage from zoster lesions. Transmission may also occur by respiratory contact with airborne droplets or by direct contact or inhalation of aerosols from vesicular fluid of skin lesions of acute varicella or zoster. Patients with disseminated zoster may also transmit disease via the airborne route. In utero infection also can occur as a result of transplacental passage of virus during maternal varicella infection.

E. Incubation period:

The incubation period is from 14 to 16 days from exposure with a range of 10 to 21 days. Incubation may be prolonged in immunocompromised patients.

F. Period of Communicability or Infectious Period:

Patients are most contagious from 1 to 2 days before to shortly after onset of the rash. Contagiousness persists until crusting of the lesions.

G. Epidemiology:

Varicella is highly infectious, with secondary infection rates in susceptible household contacts approaching 90%. Secondary family cases may have more severe disease than that in the index case.

In temperate climates varicella is a childhood disease with a marked seasonal distribution with peak incidence during winter and early spring. In tropical climates, the epidemiology of varicella is different; acquisition of disease occurs at later ages, resulting in a higher proportion of adults being susceptible to varicella compared with adults in temperate climates.

In the prevaccine era (prior to 1995), most cases of varicella in the United States occurred in children younger than 10. With the implementation of universal immunization, a higher proportion of cases are expected to occur among adolescents and adults. As vaccine coverage increases and the incidence of wild-type varicella decreases, a higher proportion of varicella cases will occur in immunized people as break-through disease. In sites conducting active surveillance, cases of breakthrough disease have increased as a percentage of all cases from 4% in 1995 to 25% in 2000. This should not be confused as an increasing rate of breakthrough disease or as evidence of increasing vaccine failure.

H. Bioterrorist Potential:

None - differentiate from smallpox.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting:

Varicella is not currently a nationally notifiable disease, and surveillance data are limited.

B. Laboratory Criteria for Diagnosis:

- Positive serologic test for varicella-zoster immunoglobulin M (IgM) antibody.
- Isolation of varicella-zoster virus (VZV), demonstration of VZV antigen by direct fluorescent antibody (DFA), or by polymerase chain reaction (PCR) tests from a clinical specimen.
- Significant rise in serum varicella immunoglobulin G (IgG) antibody level by any standard serological assay.

C. Local Public Health Agency Follow-up Responsibilities

Outbreak Investigation:

A parent letter and varicella outbreak worksheet is available to help in an outbreak response.

Case investigation of all suspected cases of varicella is not feasible or necessary. Reporting of varicella outbreaks (child care centers, schools, institutions etc.) will facilitate public health action.

In addition, in certain high-risk settings (e.g., hospitals and other health-care settings) rapid case identification and public health action are important to prevent infection of susceptible persons at high risk for serious complications of varicella, such as immunocompromised persons and susceptible pregnant women.

Pre-licensure vaccine efficacy studies ranged from 70-90% for all disease and > 95% for severe disease while mild "breakthrough" varicella may be expected to occur in 10-20% of vaccinated children. The rate of varicella (mild or severe) among vaccinated children should be monitored; if the rate of breakthrough disease is higher than expected (e.g., $\geq 30\%$) the cause of the problem should be investigated.

“Breakthrough disease” is defined as a case of wild-type varicella infection occurring more than 42 days after vaccination. The disease is almost always mild with fewer than 50 skin lesions. Rash may be atypical maculopapular with few or no vesicles. Breakthrough disease is contagious.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements:

Isolation (exclusion) or cohorting of individuals with varicella until all of their lesions have crusted is routinely recommended for outbreak control. However, because substantial transmission of chickenpox occurs before rash onset, exclusion may have limited value as an outbreak control measure.

Quarantine measures: none.

Exclusion is also recommended for exposed susceptible individuals, who may be in contact with persons at high risk of serious complications (e.g., health-care workers, family members of immunocompromised persons). In these situations, exclusion is required for the duration of the period of communicability (i.e., from the 10th until the 21st day post-exposure).

B. Protection of Contacts of a Case:

Epidemiologic and serologic studies confirm that greater than 90% of adults are immune to VZV. Rates of immunity may be lower for adults who were raised in certain tropical or subtropical areas.

Vaccination for Outbreak Control:

During a varicella outbreak, persons who have received one dose of varicella vaccine should, resources permitting, receive a second dose provided the appropriate vaccination interval has elapsed since the first vaccine. (Three month interval for persons 12 months through 12 years of age and at least a 28 day interval for persons 13 years of age and older.) Varicella vaccine, if administered within 72 hours and possibly up to 120 hours following varicella exposure, may prevent or significantly modify disease. If exposure to varicella does not cause infection, post-exposure vaccination with varicella vaccine should induce protection against subsequent infection. If the exposure results in infection, the vaccine may reduce the severity of the disease. There is no evidence that administration of varicella vaccine during the incubation period of illness increases the risk for vaccine-associated adverse events.

Antivirals may be considered for persons at increased risk of moderate to severe disease. The decision to use antiviral therapy and the route and duration of therapy should be determined by specific host factors, extent of infection, and initial response to therapy.

Antiviral drugs have a limited window of opportunity to affect the outcome of Varicella-zoster infection. In immunocompetent hosts, most virus replication has stopped by 72 hours after onset of rash; the duration is extended in immunocompromised hosts. Oral acyclovir is not recommended for routine use in otherwise healthy children with varicella. Administration within 24 hours of the onset of rash results in only a modest decrease in symptoms. A 7-day course of acyclovir may be given to susceptible adults beginning 7 to 9 days after varicella exposure if vaccine is contraindicated or more than 72 hours has elapsed from the time of exposure. (Most adults with no or uncertain history of chickenpox are nonetheless immune).

Oral acyclovir should be considered for people at increased risk of moderate to severe varicella, such as people older than 12 years of age, people with chronic cutaneous or pulmonary disorders, people receiving long-term salicylate therapy, and people receiving short, intermittent, or aerosolized courses of corticosteroids. Some experts also recommend use of oral acyclovir for secondary household cases in which the disease usually is more severe than in the primary case. Oral acyclovir is not recommended routinely for pregnant women with uncomplicated Varicella, because the risks

and benefits to the fetus and mother are unknown. Intravenous acyclovir is recommended for the pregnant patient with serious complications of varicella.

Children with varicella should not receive salicylates or salicylate-containing products, because administration of salicylates to such children increases the risk of Reye syndrome. Acetaminophen may be used for control of fever.

Varicella zoster immune globulin (VariZIG):

This is recommended for post-exposure prophylaxis of susceptible persons who are at high risk for developing severe disease and when varicella vaccine is contraindicated. VariZIG is most effective in preventing varicella infection when given within 96 hours of varicella exposure; for maximum effectiveness it should be given as soon as possible after exposure. The decision to administer VariZIG to a person exposed to varicella should be based on 1) whether the person is susceptible, 2) whether the exposure is likely to result in infection, and 3) whether the patient is at greater risk for complications than the general public.

Such groups include:

- Newborn infants whose mothers developed varicella around the time of delivery (< 5 days before to 2 days after delivery),
- Immunocompromised children without history of varicella or varicella immunization.
- Susceptible pregnant women,
- Hospitalized premature infants > 28 weeks gestation whose mother had no history of varicella, and
- Premature infants < 28 weeks gestation, regardless of the mother's history of varicella.

VariZIG can be ordered from the distributor (FFF Enterprises, Inc., Temecula, CA) by calling 800-843-7477. VariZIG is given by intramuscular (IM) injection and contains between 10% and 18% Globulin and does not contain thimerosal. One vial (approximate volume, 1.25 ml) containing 125 U is given for each 10 kg of body weight and is the minimal dose. The suggested maximal dose of VariZIG is 625 U (i.e., 5 vials). For more information, visit:

www.cdc.gov/mmwr/preview/mmwrhtml/mm6112a4.htm

C. Managing Special Situations

• **Prenatal & Perinatal exposure:**

Women should be assessed prenatally for evidence of varicella immunity. Upon completion or termination of their pregnancies, women who do not have evidence of varicella immunity should receive the first dose of vaccine before discharge from the healthcare facility. The second dose should be administered 4 to 8 weeks later at the postpartum or other healthcare visit.

Prenatal infection is uncommon because most women of childbearing age are immune to VZV. Fetal infection after maternal varicella during the first or early second trimester of pregnancy occasionally results in varicella embryopathy, which is characterized by limb atrophy and scarring of the skin of the extremities (congenital varicella syndrome). Central nervous system and eye manifestations also can occur. The incidence of congenital varicella syndrome among infants born to mothers with varicella is approximately 2% when infection occurs before 20 weeks of gestation.

Children exposed to varicella-zoster virus in utero during the second 20 weeks of pregnancy can develop inapparent varicella and subsequent zoster early in life without having had extra uterine varicella.

Varicella infection can be fatal for an infant if the mother develops varicella from 5 days before to 2 days after delivery.

When varicella develops in a mother more than 5 days before delivery and gestational age is 28 weeks or more, the severity of disease in the newborn is modified by transplacental transfer of varicella-zoster virus (VZV) specific maternal IgG antibody of the parent.

- **Hospitalized Patient:**

In addition to Standard Precautions, Airborne and Contact Precautions are recommended for patients with varicella for a minimum of 5 days after onset of the rash and as long as vesicular lesions are present, which in immunocompromised patients can be a week or longer. For exposed susceptible patients, Airborne and Contact Precautions from 10 until 21 days after exposure to the index patient also are indicated; these precautions should be maintained until 28 days or longer after exposure for those who received VariZIG.

Immunocompromised patients who have zoster (localized or disseminated) and immunocompetent patients with disseminated zoster require Airborne and Contact Precautions for the duration of illness. For immunocompetent patients with localized zoster, Contact Precautions are indicated until all lesions are crusted.

- **Healthcare worker:**

The Advisory Committee on immunization Practices recommends that all healthcare workers be immune to varicella, either from a reliable history of disease or from vaccination. In a health-care institution serologic screening of personnel who have a negative or uncertain history of varicella is likely to be cost effective.

All susceptible exposed personnel should be furloughed or excused from patient contact from day 10 to day 21 after exposure to an infectious patient. The interval should be extended to 28 days or longer for people who have received VariZIG.

Varicella immunization is recommended for susceptible personnel if varicella does not develop from the exposure. Serologic testing for immunity is not necessary for personnel who have been immunized, because 99% of adults are seropositive after the second vaccine dose.

- **Outbreaks involving children covered by childcare or school requirements:**

Unvaccinated children with no history of varicella disease should be instructed to be vaccinated immediately or excluded from school for the duration of the period of communicability (i.e., from 10-21 days post exposure or for the duration of the outbreak).

- **Outbreaks in child care centers or schools:** The public health response includes informing parents and caregivers of the outbreak, providing them with information on varicella and its potential to cause complications, and providing information about the availability of vaccine. Children with uncomplicated chickenpox who have been excluded from school or child care may return when the rash has crusted, or in immunized people without crusts, when lesions have faded or new lesions have appeared in the last 24 hours.

- Exclusion of children with zoster whose lesions cannot be covered is based on similar criteria. Children who are excluded may return when lesions are crusted. Lesions that are covered seem to pose little risk to susceptible people.

- **Institutional outbreaks or outbreaks involving adolescents or adults:** Vaccination of susceptible persons should be strongly considered because it is likely to limit or control the outbreak by interrupting transmission. Outbreak control should be considered at any stage of an outbreak if there are remaining susceptible persons.

D. Preventive Measures:

Vaccination

The Oka/Merck attenuated varicella vaccine was licensed in the United States in 1995. Because of the thermolability of the vaccine, the manufacturer's requirements for maintaining the cold chain must be followed strictly. Vaccine that is not stored properly before administration could have reduced potency.

- Recommendations for the use of varicella virus vaccine:
 - Routine administration of live attenuated varicella virus vaccine for all children 12-18 months of age. On June 2006 ACIP recommended a routine 2 dose varicella vaccine schedule for all children less than 13 years of age, with the first dose administered at 12-15 months of age and the second dose at 4-6 years of age (i.e., before a child enters kindergarten). The second dose can be administered at an earlier age provided the interval between the first and second dose is at least 3 months. However, if the second dose is administered at least 28 days following the first dose, the second dose does not need to be repeated
 - A second dose catch-up varicella vaccination is recommended for children, adolescents, and adults (without evidence of immunity) who previously had received only one dose, to improve individual protection against varicella and for more rapid impact on school outbreaks. The minimum interval between vaccine doses is 28 days. Catch-up vaccination can be implemented during routine health care provider visits.
- Children with a reliable history of typical chickenpox can be assumed to be immune to varicella. Serologic testing of such children prior to vaccination is not warranted because the majority of children between 12 months and 12 years of age without a clinical history of chickenpox are not immune. Serologic testing of adolescents and adults with an uncertain or negative history is likely to be cost-effective because 70%-90% of these individuals are likely to be varicella-immune.
- Serologic testing for varicella immunity following two doses of vaccine is not necessary because 99% of persons are seropositive after the second dose.

Transmission of varicella vaccine virus

- Available data suggest that transmission of vaccine virus is a rare event. It appears that transmission occurs mainly and perhaps only, when the vaccinee develops a rash. If a vaccinated person develops a rash, it is recommended that close contact with persons who do not have evidence of varicella immunity and who are at high risk of complications of varicella, such as immunocompromised persons, be avoided until the rash has resolved.
- **Varicella Vaccine Contraindications and Precautions:**
 - Severe allergic reaction to vaccine component or following a prior dose
 - Women known to be pregnant or attempting to become pregnant should not receive varicella vaccine. Pregnancy should be avoided for 1 month following receipt of varicella vaccine
 - Immunosuppression due to disease or medication
 - Moderate or severe acute illness
 - Recent blood product

See www.cdc.gov/mmwr/preview/mmwrhtml/00042990.htm for more information.

- Varicella vaccination is contraindicated for all persons with moderate or severe cellular immunodeficiency due to human immunodeficiency virus (HIV) infection and is not recommended for adults who are HIV infected. However, vaccination should be considered for HIV-infected children if they have asymptomatic or mildly symptomatic HIV infection, in CDC class N, A, or B CD4+ T-lymphocyte percentage of $\geq 15\%$ and without evidence of varicella immunity should receive two doses of single antigen varicella vaccine at a minimum interval of three months.

See www.cdc.gov/mmwr/PDF/rr/rr4806.pdf for more information.

4) ADDITIONAL INFORMATION

The Council of State and Territorial Epidemiologists (CSTE) surveillance case definitions for Varicella can be found at: www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top

CSTE case definitions should not affect the investigation or reporting of a case that fulfills the criteria in this chapter. (CSTE case definitions are used by the state health department and the CDC to maintain uniform standards for national reporting.)

Comment: Two probable cases that are epidemiologically linked are considered cases, even in the absence of laboratory confirmation.

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Heymann, D.L., ed. *Control of Communicable Diseases Manual, 19th Edition*. Washington, DC, American Public Health Association, 2008.

What is varicella zoster/herpes zoster?

Varicella zoster virus (VZV) causes varicella (chickenpox), when a person is first infected. After the first infection the virus stays in the body and hides in nerve cells. Herpes zoster (shingles) results from a reactivation of the hidden infection.

Who gets varicella zoster/herpes zoster?

Most cases of chickenpox occur in childhood. However chickenpox can occur in the 2-8% if adults have not had the disease. Chickenpox tends to occur in late winter and early spring. Approximately 3 to 4 million cases of chickenpox occur every year in the US, 90% of which are in children below 4 years of age. Shingles does not seem to occur at any specific time of the year and tends to occur more frequently in patients with cancer, other immunosuppressed patients and persons under stress.

How is the virus spread?

The varicella zoster virus replicates in the nasopharynx or upper respiratory tract. Chickenpox is easily spread from person to person by droplet or airborne spread of respiratory tract secretions or contact with the fluid of the blisters. Contact with blister fluid from shingle lesions can result in chickenpox in a person who has never had chickenpox, but you cannot get shingles from shingles. Shingles come from a reactivation of a previous chickenpox (varicella virus) infection. These lesions are most infectious 24 hours before and up to 48 hours after erupting and are generally not infectious after 7 days.

What are the symptoms?

The symptoms of chickenpox include generalized, itchy, rash; blisters containing fluid, and tiredness. The blisters commonly occur in successive crops on skin and oral mucous membranes and are more abundant on covered than exposed parts of the body. Illness tends to be more severe in adults.

The symptoms of shingles are eruption of blisters on one side of the body. The chest, lower back nerve roots most commonly involved. Pain occurs in the area 48-72 hours before developing lesions. Lesions develop over 3-5 days, lasting 10-15 days. It may take longer for skin to return to normal.

How soon do the symptoms appear?

Chickenpox occurs in approximately 2-3 weeks after infection.

How long can an infected person spread the virus?

Chickenpox can be spread up to 5 days before the rash occurs and remains infectious until the blisters are crusted or dry.

Shingle blisters are generally not infectious after 7 days.

Can a person get varicella zoster/herpes zoster again?

Antibodies develop and when you recover from chickenpox you generally do not get this disease again. However the virus stays hidden in the nerve cells for life. This is the cause of shingles, which may occur more than once.

What is the treatment for varicella zoster/herpes zoster?

Treatment is usually for immunosuppressed patients, consisting of antiviral medication.

Is there a vaccine to prevent varicella (chickenpox)?

Varicella vaccine was licensed in 1995 and is recommended for routine use in infants over 12 months of age and for susceptible older children, adolescents, and adults.

Children over 12 months of age should receive first dose of vaccine with a second dose is routinely given at 4-6 years. Those 12 years or younger who have not received a second dose should get one at least 3 months after the first dose.

Susceptible persons 13 years of age or older require 2 doses of vaccine separated by an interval of a minimum of 28 days. Varicella virus vaccine provides 70-90% protection against infection and 95% protection against severe disease.

Is there a vaccine to prevent zoster (shingles)?

Yes there is a vaccine for persons 60 years of age or older. Check with your healthcare provider.

FACT SHEET

Information for the health professional

VARICELLA ZOSTER

(Chickenpox)

HERPES ZOSTER

(Shingles)

What is varicella zoster/herpes zoster?

Varicella zoster virus (VZV) causes varicella (chickenpox), the first infection. After the first infection the virus stays in the body and hides in nerve cells. Herpes zoster (shingles) results from a reactivation of the individual's first infection.

Who gets varicella zoster/herpes zoster?

Most cases of chickenpox occur in childhood. However chickenpox can occur in the 2-8% of adults who have not had the disease. Chickenpox tends to occur in late winter and early spring. Approximately 3 to 4 million cases of chickenpox occur every year in the U.S., 90% of which are in children under 4 years of age.

Shingles does not seem to occur at any specific time of the year and tends to occur more frequently in patients with cancer, other immunosuppressed patients and persons under stress.

How is the virus spread?

The varicella zoster virus replicates in the nasopharynx or upper respiratory tract. Chickenpox is easily spread from person to person by droplet or airborne spread of respiratory tract secretions or contact with the fluid of the lesions.

Contact with vesicular fluid from shingle lesions can result in chickenpox in a person who has never had chickenpox.

What are the symptoms?

The symptoms of chickenpox include generalized itchy vesicular rash consisting of 250-500 lesions, mild fever and tiredness. The lesions commonly occur in successive crops on skin and oral mucous membranes and are more abundant on covered than exposed parts of the body. Disease severity and complications are increased among immunocompromised persons, neonates, and children less than one year of age, and adults.

The symptoms of shingles are eruption of vesicles on one side of the body. The chest, lower back nerve roots most commonly involved. Pain occurs in the area 48-72 hours before developing lesions.

How soon do the symptoms appear?

Chickenpox occurs approximately 2-3 weeks after exposure in a susceptible person.

How long can an infected person spread the virus?

Chickenpox can be spread up to 2 days before the rash occurs and remains infectious until the lesions are crusted or dry or until the rash is faded away and no new rash appears for a 24-hour period.

Shingle lesions are generally not infectious after 7 days.

How are susceptible staff members impacted after a significant exposure to chickenpox or shingles?

All susceptible health-care workers should ensure that they are immune to varicella. In healthcare institutions serologic screening of personnel who have a negative or uncertain history of varicella is likely to be cost effective.

All susceptible exposed personnel should be furloughed or excused from patient contact from day 10 to day 21 after exposure to an infectious patient. The interval should be extended to 28 days or longer for people who have received VZIG.

Varicella immunization is recommended for susceptible personnel if varicella does not develop from exposure. Serologic testing for immunity is not necessary for personnel who have been immunized, because 99% of adults are seropositive after the second vaccine dose.

What are the criteria for significant exposure to chickenpox?

Exposure window is 48 hours prior to developing lesions and continues until lesions are crusted or until the rash is faded away and no new rash appears for a 24-hour period.

What are the criteria for significant exposure to shingles?

Direct contact with skin lesion is required. Lesions covered with clothing would not be a significant exposure. Unusual or prolonged contact with patient's bedclothes (during bed changes or bed baths) or assisting patients into whirlpools, etc. without gloves as a barrier may be considered exposure. Shingle lesions are generally not infectious after 7 days.

What are chickenpox isolation guidelines?

Isolate in a private room and use airborne and Contact isolation Precautions until lesions are crusted or until the rash is faded away and no new rash appears for a 24-hour period. Any employee who is susceptible should not care for patients diagnosed with chickenpox or shingles.

What are shingles isolation guidelines?

Localized lesions in immunocompromised patient or disseminated (>2 dermatomes) use Airborne and Contact isolation Precautions. Localized lesions in normal patient use Standard Precautions.

Can a person get varicella again?

Antibodies developed during initial infection generally prevent a person from getting Chickenpox again. However the virus lies dormant in the dorsal ganglia for life.

Can a person get herpes zoster again?

Yes, the varicella virus lies dormant in the dorsal ganglia and is the cause of shingles, which may occur more than once.

What is the treatment for varicella?

Treatment with antivirals may be considered for persons at increased risk for moderate to severe disease.

Varicella Zoster Immune Globulin (VZIG) is recommended for post-exposure prophylaxis of susceptible persons who are at high risk of developing severe disease (e.g., immunocompromised children, susceptible pregnant women, premature infants < 28 weeks gestation) and when varicella vaccine is contraindicated.

What is the treatment for herpes zoster?

Treatment with antivirals may be considered for persons at increased risk for moderate to severe disease.

Is there a vaccine to prevent varicella (chickenpox)?

Varicella vaccine was licensed in 1995 and is recommended for routine use in infants and for susceptible older children, adolescents, and adults. Children ages one through 12 years need two doses of vaccine at least 3 months apart. Persons 13 years of age and older require 2 doses of vaccine separated by a minimum of 28 days.

Dear Parents:

Your child's school/childcare, (insert name), has recently reported several cases of chickenpox. Chickenpox, also known as varicella, is a very contagious disease caused by a virus. Below you will find information about the disease and what you should do if your child becomes sick.

- **Who gets Chickenpox?** This virus usually infects children. Older children and adults can also become infected if they haven't already had chickenpox (or been vaccinated against it).
- **My child received the varicella vaccine, can they still get chickenpox?** Yes, this is called "breakthrough chickenpox". The vaccine your child received is 70-90% effective against preventing severe chickenpox. "Breakthrough chickenpox" that develops in a vaccinated person is usually mild and does not last as long.
- **What if my child has never had chickenpox disease or the varicella vaccine?** Your child should be vaccinated.
- **Is it safe to vaccinate my child after exposure to chickenpox disease?** Yes, this may help prevent the disease or result in a milder case of chickenpox. Vaccinations for your child are offered at medical clinics (your child's regular doctor) or at your local public health agency.
- **How is the virus spread?** Chickenpox is easily spread through the air by sneezing and coughing or through contact with someone's chickenpox rash. Your child may become sick anytime up to 2 weeks after coming in contact with someone with chickenpox.
- **What are the symptoms?** In unvaccinated children early symptoms may include aching, fever, sore throat, upper respiratory infection, poor appetite, headache, and tiredness for 1-2 days before the appearance of the rash. If your child has been vaccinated symptoms may include a mild fever and rash. The rash may look red like a bug bite but not have a blister. Please remember even though your child was vaccinated if they develop a rash they can spread it to others.
- **How long does my child need to stay out of school/child care?** Chickenpox is spread several days before the rash appears. Your child should be kept home until all of the rash is crusted over or faded away and no new rash appears for a 24-hour period.
- **Who do I tell if my child has chickenpox?** Please let the school/child care know if your child is out due to chickenpox.

If you have any concerns about your child's health please contact your healthcare provider.

Please feel free to contact our office at (insert phone number here) with any questions and concerns!

School/Childcare:

Public health:

Iowa Department of Public Health Rash Investigation Form

Patient and Contact Information

Patient Name _____
Last First Middle
DOB _____ Age _____ Sex _____
Parent/Guardian _____
Address _____
City _____ State _____ Zip Code _____
Hm Phone (____) _____ Day Phone (____) _____
School/Place of Business _____
Child Care Center _____
Physician _____ Phone (____) _____
Address _____
Person Reporting _____
Agency _____ Phone (____) _____
Where is the patient now? Home Dr. Office
 Hospital Other: _____

Final Diagnosis

Measles Chickenpox
 Rubella Smallpox
 Other _____
Investigator _____
Agency _____
Investigation Began ____ / ____ / ____
Investigation Completed ____ / ____ / ____
How is patient now? _____

Vaccine History

Are all vaccines up to date? YES / NO
MMR #1 ____ / ____ / ____
MMR #2 ____ / ____ / ____
Date of previous infection if not immunized
____ / ____ / ____ Lab Confirmed? YES / NO
Varicella #1 ____ / ____ / ____
Varicella #2 ____ / ____ / ____
Has the patient ever had chickenpox/shingles?
If yes when ____ / ____ / ____ Age: ____
Lab Confirmed? YES / NO
Has the patient ever had Smallpox?
If yes when ____ / ____ / ____ Age: ____
Lab Confirmed? YES / NO

Diagnostic Data

Is the patient pregnant? YES / NO
Are any close contacts pregnant? YES / NO
Date of fever onset ____ / ____ / ____
Highest recorded fever _____
Fever 1-4 days BEFORE rash onset / WITH rash onset?
Did fever continue with rash onset? Yes/No
Duration of Fever _____
Date of rash onset: ____ / ____ / ____
Duration of rash _____
First location of rash: Arms/Legs/Trunk/Face/Inside Mouth
Is the rash spreading? YES / NO
Rash equally distributed YES / NO
Area with heaviest lesions: Arms/Legs/Trunk/Face/Scalp
Is rash present in any of these areas? Inside Mouth/Palms/Soles
Did the rash appear all at once? YES / NO
Average size of non-infected lesion _____
Was the patient hospitalized for rash illness? YES / NO / UNK
Hospital Dates ____ / ____ / ____ to ____ / ____ / ____
Hospital _____ Phone: _____
Outcome: Survival / Death
Date of Death ____ / ____ / ____
Medication taken before rash onset: _____
Is the patient immunocompromised (ie HIV, AIDS, Cancer)?
YES / NO

Rash Description

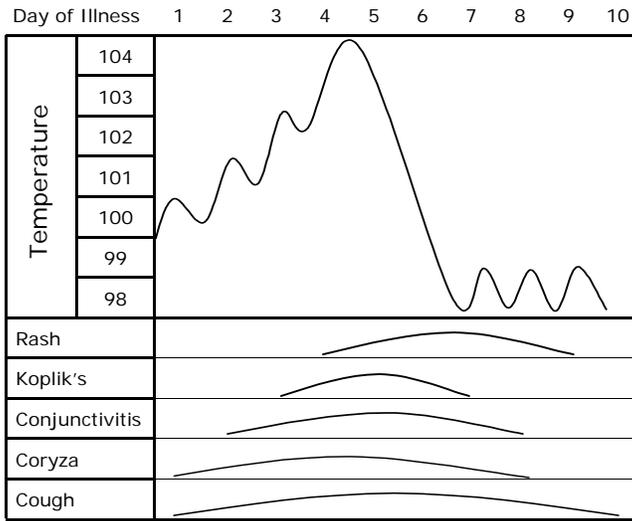
Reddish Could be felt (Papule) Linear arrangement How long did it take for first lesion to crust? _____
 Dusky brown Could not be felt (Macule) Fluid filled (Vesicles) All lesions in same stage of development on a given part of the body? YES / NO
 Marked itching Pustule Solid lumps Lesions in different stages of development
 Burning Distinct sharp borders Deep seated lesions 50-100 lesions (can be counted easily)
 Painful Discrete lesions Superficial lesions 100-150 lesions (best estimation)
 Numbness Confluent lesions Lesions crust less than 24 hours >500 lesions (unable to count)
 Scaling/crusting Umbilicated Other information _____

Symptoms

No/mild prodrome (<1 day) Photophobia Chills Swollen lymph nodes
 Koplik's Spots Nausea / Vomiting Abdominal pain Behind ear
Seen By _____ Excessive fatigue Muscle aches Front of neck
Date Seen _____ Sore throat Joint pain Back of neck
 Cough Headache Complications Encephalitis
 Runny nose Backache Pneumonia Otitis Media
 Watery or red eyes

Iowa Department of Public Health Rash Investigation Form

Measles Case Definition



Measles: Fever of > 101 followed by rash lasting 3 or more days, and cough, coryza, or conjunctivitis.

SMALLPOX CASE DEFINITION

Febrile prodrome occurring 1-4 days before rash onset. (fever $\geq 101^\circ\text{F}$) At least one of the following must also be present: prostration, headache, back-ache, chills, vomiting or severe abdominal pain. The fever may drop with rash onset.

Classic Smallpox Lesions are deep-seated, firm, hard, round, well circumscribed vesicles or pustules. May be umbilicated or confluent.

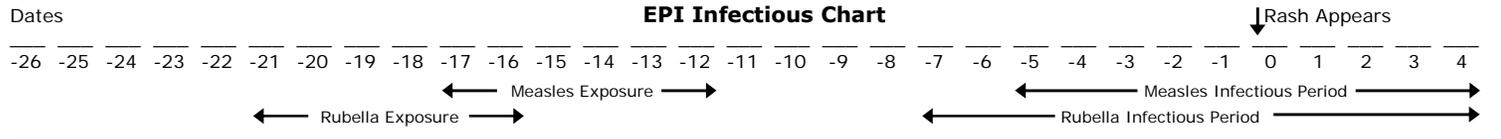
All lesions are in the same stage of development on a given part of the body.

Minor Smallpox Criteria:

- Centrifugal distribution – greatest concentration of lesions on face and distal extremities
- First lesions on the oral mucosa / palate, face, or forearms
- Patient appears toxic or moribund
- Slow evolution – lesions evolve from macules to papules to pustules, with each stage lasting 1-2 days
- Lesions on the palms and the soles

CHICKENPOX CASE DEFINITION

- No or mild prodrome
- Lesions are "dew drop on a rose petal"
- Lesions appear in "crops". On any one part of the body there are lesions in different stages of development. (papules, vesicles, and crusts)
- Centripital distribution – greatest concentration of lesions on the trunk, fewest lesions on distal extremities. May involve the face and scalp. Lesions evolve from macules to papules to crusts quickly (24 hours)



Epidemiology Infectious Information (To Assist in Diagnosis)

Disease	Incubation Period	Infectious Period	Mode of Transmission
Measles	7-18 days from exposure to onset of fever, usually 14 days until rash appears	5 days before rash onset to 5 days after rash onset	Highly communicable. Spread through respiratory droplets, or direct contact with saliva or nasal secretions
Rubella	14-21 days before the onset of the rash	7 days before rash onset to 5 days after rash onset	Respiratory droplets, or direct contact with nasopharyngeal secretions
Smallpox	10-14 days to onset of illness and additional 2-4 days to onset of rash	From the time of development of the earliest lesion until all scabs disappear.	Highly communicable.
Chickenpox	10-21 days prior to onset of rash. May recall exposure	5 days before rash until all lesions are crusted over. (~ 5 days)	Highly communicable. Person to person through direct contact, respiratory droplets or fomites.

Iowa Department of Public Health Rash Investigation Form

Laboratory Data

Date of 1 st blood draw ____ / ____ / ____	Date of convalescent blood ____ / ____ / ____	Skin Biopsy Date ____ / ____ / ____
CBC results:	Results _____	Results _____
Total WBC/mm ³ _____	Throat Culture Date ____ / ____ / ____	KOH Date ____ / ____ / ____
Neutrophils _____%	Results _____	Results _____
Lymphocytes _____%	IgM Antibodies	Tzank Smear Date ____ / ____ / ____
Monocytes _____%	_____ Measles _____ Rubella	Results _____
Eosinophils _____%		

Has the Patient Done Any of the Following Activities Over the Past 3 Weeks

<input type="checkbox"/> Ride Bus (public or school) Date ____ / ____ / ____ <input type="checkbox"/> Work outside of home Date ____ / ____ / ____ <input type="checkbox"/> Dr. or Hospital visit Date ____ / ____ / ____ <input type="checkbox"/> Church Date ____ / ____ / ____ <input type="checkbox"/> Group Meeting Date ____ / ____ / ____	<input type="checkbox"/> Babysitter Date ____ / ____ / ____ <input type="checkbox"/> Family Gathering Date ____ / ____ / ____ <input type="checkbox"/> Travel Date ____ / ____ / ____ <input type="checkbox"/> School Date ____ / ____ / ____
--	--

Specify name and contact information of any positives:

Primary and Household Contacts (Include all contacts from 5-7 days before & 4 days after rash onset)

Name	Age	Address	Relation	Phone	Vaccinated	Date of Follow up call	Date of Illness onset

Persons with Similar Illness 12-21 Days Prior to This Cases Rash Onset

Name	Age	Address	Phone	Illness onset date	Describe Illness

Varicella Outbreak Worksheet

County:
School/Child Care:

Contact Person:
Contact Person:

Position:
Position:

Phone:
Phone:

Child Name	Parent Name	Telephone #	AGE/DOB	Grade	Hx of prior disease Y/N	Varicella Vaccination Y/N	Date of Vaccination	Date of Rash Onset	Number of Lesions* Check the appropriate box			
									<50	50-249	250-500	>500
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
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					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						
					Y / N	Y / N						

<p>*Determining the Number of Lesions:</p> <ol style="list-style-type: none"> 1. Less than 50 lesions (all could be counted in 30 seconds or less). 2. 50-249: lesions far enough apart to be able to place child's hand on skin and not touch a lesion. 3. 250-500: Lesions so numerous unable to place child's hand on skin without touching a lesion. 4. Over 500: No normal skin is visible. 	<p style="text-align: center;">Varicella Clinical Case Definition</p> <p>An illness with acute onset of diffuse (generalized) maculopapulovesicular rash without other apparent cause. In vaccinated persons, who develop varicella more than 42 days after vaccination (breakthrough disease), the disease is almost always mild with fewer than 50 skin lesions and shorter duration of illness. The rash may also be atypical in appearance (maculopapular with few or no vesicles).</p>	<p style="text-align: center;">Outbreak Definition</p> <ol style="list-style-type: none"> 1. CDC definition of an outbreak: the occurrence of 2 or more varicella cases that are epidemiologically linked (e.g., where person-to-person transmission is suggested). 2. An outbreak is considered ended when no new cases occur within 2 months after the last case is no longer contagious. Cases are contagious until all lesions have crusted over or faded away, 3. If additional cases are identified 2-months after the last case, that will need to be reported as a new outbreak. 4. School nurse, parent, or physician diagnoses of Varicella are acceptable.
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What is viral meningitis?

Meningitis is swelling of the membranes covering the brain and spinal cord. Viral meningitis is relatively common. Many different viruses can cause viral meningitis. Coxsackievirus and echovirus, both members of the enterovirus group, are responsible for the majority of identified viral meningitis cases in the United States. Adenovirus, mumps, measles, herpes simplex, and varicella (chickenpox) can also cause meningitis.

What are the symptoms of viral meningitis?

Illness is generally characterized by fever, stiff neck, headache, nausea and vomiting, and sometimes a rash. Other gastrointestinal and respiratory symptoms have been reported by those infected with enteroviruses. Illness typically resolves within 10 days and most individuals have a complete recovery.

How soon do symptoms appear?

For most enteroviruses symptoms appear in 3 to 6 days.

How is viral meningitis spread?

Most viruses that cause meningitis are transmitted primarily from person-to-person. Person-to-person transmission modes vary, depending on the particular virus. They may be transmitted from: hand to mouth (enteroviruses), airborne transmission (measles, varicella), respiratory droplet transmission (enteroviruses, mumps), and direct contact (mumps, measles, herpes simplex, chickenpox).

Who gets viral meningitis?

Anyone can get viral meningitis.

For how long is a person infectious?

Enteroviruses may be shed in feces for several days to many weeks after symptoms have resolved. Enteroviruses may also be shed in respiratory secretions, usually for no longer than 1 week following symptoms.

What is the treatment for this illness?

No specific treatment for viral meningitis exists at this time. Most patients completely recover without treatment. Doctors often will recommend bed rest, plenty of fluids, and medication to relieve fever and headache.

Do infected people need to be excluded from school, work, or child care?

Infected persons can return to school, work, or child care as soon as they feel well enough. For those viruses that are transmitted from hand to mouth or by respiratory droplet such as mumps or measles, infected people may be excluded from school or child care depending on the specific virus causing the disease.

What can be done to help prevent the spread of these viruses?

Since most forms of viral meningitis are caused by enteroviruses, which are shed in a persons stool, individuals should be advised to practice good hygiene, especially frequent and thorough handwashing.

What are these viruses?

There are probably hundreds of variants of viruses that cause upper respiratory disease, colds, etc. As a group of viruses, they can cause economic loss, personal suffering, and even death.

What are the symptoms of an infection with these viruses?

Many of these viruses will invade any part of the respiratory tract. Common symptoms are runny nose, cough, sneezing, and respiratory distress.

How soon do symptoms appear?

Symptoms can occur between 12 hours and 5 days after infection.

How are these viruses spread?

Viruses are spread by direct contact with someone who is ill by contact with airborne droplets when they cough or sneeze, and probably most importantly, by indirect contact with soiled tissues or contaminated hands carrying viruses to the eyes and nose.

Who gets these infections?

Everyone is susceptible to viral respiratory illness, especially considering there are so many different kinds of these viruses.

How long is a person infectious?

People are able to spread these viruses from 24 hours before illness to five days after the illness begins.

What are the treatments for these illnesses?

Antibiotics work on bacteria not viruses and therefore are ineffective against influenza. In some cases, physicians may use anti-viral drugs for chronically ill children or adults.

Do infected people need to be excluded from school, work, or daycare?

No, but ill people should use respiratory etiquette so they do NOT expose others.

What can be done to help prevent the spread of these viruses?

- Handwashing is the single most important means to prevent infecting yourself and to prevent the spread of disease from you to someone else.
- Cover your mouth and nose when coughing and sneezing with disposable tissues. If tissues are not available, cough or sneeze into your upper sleeve rather than your hands. Wash your hands whenever possible after coughing or sneezing.
- Make an ample supply of facial tissues readily available to all persons, and an easily accessible container for proper disposal of tissues.
- Avoid crowded living and sleeping quarters, when possible.
- Provide adequate ventilation.
- Clean common use surfaces such as door handles, handrails, and eating surfaces frequently with household disinfectant.
- Avoid smoking in households and other public environments, especially around infants, small children, and anyone with lung conditions such as asthma.
- Stay at home if experiencing moderate to severe upper respiratory symptoms (such as frequent coughing and sneezing) to prevent spread to others.
- Consult with your physician if you experience severe cough, symptoms lasting more than a few days, fever equal to or higher than 101° F, rash, severe headache or difficulty breathing.
- Get an influenza vaccine every year and ask your doctor about the pneumococcal vaccine.

WATERBORNE DISEASES OUTBREAK REPORT

This form should be used to report outbreaks of illness after consumption or use of water intended for drinking, as well as outbreaks associated with exposure (ingestion, contact or inhalation) to recreational water.

CDC USE ONLY
—
—

Form Approved
OMB No. 0920-0004

SUBMITTED COPIES OF THIS FORM SHOULD INCLUDE AS MUCH INFORMATION AS POSSIBLE; BUT THE COMPLETION OF EVERY ITEM IS NOT REQUIRED.

1. TYPE of EXPOSURE: <input type="checkbox"/> Drinking water <input type="checkbox"/> Recreational water <input type="checkbox"/> Other: _____	2. LOCATION of OUTBREAK: State: _____ City or Town: _____ County: _____	3. DATE of OUTBREAK: (Date first case became ill): <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> <div style="border: 1px solid black; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;"> </div> </div> <div style="display: flex; justify-content: space-around; font-size: small;"> Mo. Day Yr. </div>	4. NUMBERS OF: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%;"></td> <td style="width: 15%; text-align: center;">Actual</td> <td style="width: 15%; text-align: center;">Estimated</td> </tr> <tr> <td>Persons exposed:</td> <td style="border: 1px solid black; width: 30px;"></td> <td style="border: 1px solid black; width: 30px;"></td> </tr> <tr> <td>Persons ill:</td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> <tr> <td>Hospitalized:</td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> <tr> <td>Fatalities:</td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> </table>		Actual	Estimated	Persons exposed:			Persons ill:			Hospitalized:			Fatalities:		
	Actual	Estimated																
Persons exposed:																		
Persons ill:																		
Hospitalized:																		
Fatalities:																		

5. HISTORY of EXPOSED PERSONS: <i>Enter the no. of persons with the following symptoms:</i> Diarrhea (≥3 stools/day): _____ Diarrhea (other): _____ / (Specify definition): _____ Visible blood in stools: _____ Nausea: _____ Fever: _____ Vomiting: _____ Cramps: _____ Eye infections: _____ Ear infections: _____ Skin infections: _____ Rash: _____ Dermatitis: _____ Respiratory symptoms: _____ Other, specify: _____	NO. OF PERSONS INTERVIEWED: <input style="width: 40px;" type="text"/>	NO. OF INTERVIEWED PERSONS WHO WERE ILL: <input style="width: 40px;" type="text"/>	6. INCUBATION PERIOD: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Hrs. Days</td> </tr> <tr> <td>Shortest: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Longest: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Median: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Mean: _____</td> <td style="text-align: center;">□ □</td> </tr> </table>		Hrs. Days	Shortest: _____	□ □	Longest: _____	□ □	Median: _____	□ □	Mean: _____	□ □	7. DURATION of ILLNESS: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%; text-align: center;">Hrs. Days</td> </tr> <tr> <td>Shortest: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Longest: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Median: _____</td> <td style="text-align: center;">□ □</td> </tr> <tr> <td>Mean: _____</td> <td style="text-align: center;">□ □</td> </tr> </table>		Hrs. Days	Shortest: _____	□ □	Longest: _____	□ □	Median: _____	□ □	Mean: _____	□ □
	Hrs. Days																							
Shortest: _____	□ □																							
Longest: _____	□ □																							
Median: _____	□ □																							
Mean: _____	□ □																							
	Hrs. Days																							
Shortest: _____	□ □																							
Longest: _____	□ □																							
Median: _____	□ □																							
Mean: _____	□ □																							

8. SPECIMENS EXAMINED from PATIENTS: (stool, vomitus, serum, etc.) <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 20%;">SPECIMEN</th> <th style="width: 10%;">No. PERSONS</th> <th style="width: 70%;">FINDINGS</th> </tr> </thead> <tbody> <tr style="background-color: #e0f2f1;"> <td>EXAMPLE Stool</td> <td style="text-align: center; border: 1px solid black;">11</td> <td>8 <i>Giardia intestinalis</i> 3 negative</td> </tr> <tr> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> <tr> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> <td style="border: 1px solid black;"></td> </tr> </tbody> </table>	SPECIMEN	No. PERSONS	FINDINGS	EXAMPLE Stool	11	8 <i>Giardia intestinalis</i> 3 negative										9. ETIOLOGY of OUTBREAK: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="width: 60%;">Agent (If not known enter "Unk.")</th> <th colspan="2" style="text-align: center;">Diagnostic Certainty</th> </tr> <tr> <th style="width: 20%; text-align: center;">Confirmed</th> <th style="width: 20%; text-align: center;">Suspected</th> </tr> </thead> <tbody> <tr> <td>Pathogen:</td> <td style="text-align: center;">□</td> <td style="text-align: center;">□</td> </tr> <tr> <td>Chemical:</td> <td style="text-align: center;">□</td> <td style="text-align: center;">□</td> </tr> <tr> <td>Other:</td> <td style="text-align: center;">□</td> <td style="text-align: center;">□</td> </tr> <tr> <td colspan="3">Comments:</td> </tr> </tbody> </table>	Agent (If not known enter "Unk.")	Diagnostic Certainty		Confirmed	Suspected	Pathogen:	□	□	Chemical:	□	□	Other:	□	□	Comments:		
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Other:	□	□																															
Comments:																																	

10a. EPIDEMIOLOGIC DATA: (e.g., vehicle/source - specific attack rates; dose-response curve, attach local and/or state report if available)										
EXPOSURE (vehicle/source)	Number of Persons EXPOSED				Number of Persons NOT EXPOSED				ODDS/RISK RATIO (If available)	p VALUE or CONFIDENCE INTERVAL (If available)
	ILL	NOT ILL	TOTAL	% ILL	ILL	NOT ILL	TOTAL	% ILL		

No data were collected from comparison groups to estimate risk but water was the only common source shared by persons who were ill.

10b. Comments:

11. WATER SUPPLY CHARACTERISTICS: (check all that apply for drinking water or recreational water)		*If recreational water outbreak, this refers to recreational water treatment
a) TYPE OF DRINKING WATER SUPPLY: <input type="checkbox"/> Community or Municipal <input type="checkbox"/> City or County (Name: _____) <input type="checkbox"/> Subdivision <input type="checkbox"/> Trailer Park <input type="checkbox"/> Noncommunity (does not obtain water from a community water system, but has developed/maintained its own water supply) <input type="checkbox"/> Camp, Cabin, Recreational area <input type="checkbox"/> School <input type="checkbox"/> Restaurant <input type="checkbox"/> Hotel, Motel <input type="checkbox"/> Church <input type="checkbox"/> Other: _____ <input type="checkbox"/> Individual household supply <input type="checkbox"/> Bottled water <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown	b) WATER SOURCE OR SETTING: <input type="checkbox"/> Well <input type="checkbox"/> Spring/Hot spring <input type="checkbox"/> River, Stream <input type="checkbox"/> Lake, Pond, Reservoir <input type="checkbox"/> Ocean <input type="checkbox"/> Pool <input type="checkbox"/> Waterpark <input type="checkbox"/> Community/municipal <input type="checkbox"/> Subdivision/neighborhood apartment <input type="checkbox"/> Hotel/motel <input type="checkbox"/> Membership club <input type="checkbox"/> Private home <input type="checkbox"/> Kiddie/wading <input type="checkbox"/> Fountain <input type="checkbox"/> Interactive <input type="checkbox"/> Ornamental <input type="checkbox"/> Waterpark <input type="checkbox"/> Hot tub <input type="checkbox"/> Whirlpool/spa pool <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown	c) WATER TREATMENT PROVIDED:* <input type="checkbox"/> No treatment <input type="checkbox"/> Disinfection <input type="checkbox"/> Chlorine <input type="checkbox"/> Chlorine and Ammonia (chloramine) <input type="checkbox"/> Bromine <input type="checkbox"/> Ozone <input type="checkbox"/> U.V. <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown <input type="checkbox"/> Coagulation and/or Flocculation <input type="checkbox"/> Settling (sedimentation) <input type="checkbox"/> Filtration at purification plant (don't include home filters) or pool <input type="checkbox"/> Rapid sand <input type="checkbox"/> Slow sand <input type="checkbox"/> Diatomaceous earth <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unknown

IF RECREATIONAL EXPOSURE, PROCEED TO QUESTION (13), OTHERWISE PROCEED TO (12a).

12. FACTORS CONTRIBUTING TO DRINKING WATER CONTAMINATION: (check **all** that apply) *See 16

a) Contamination at the water source:

<input type="checkbox"/> Overflow of sewage	<input type="checkbox"/> Flooding, heavy rains	<input type="checkbox"/> Contamination from wild/domestic animals
<input type="checkbox"/> Underground seepage of sewage	<input type="checkbox"/> Use of a back-up source of water by a water utility	<input type="checkbox"/> Chemical pollution
<input type="checkbox"/> Septic system drainage	<input type="checkbox"/> Improper construction or location of well or spring	<input type="checkbox"/> Algal bloom
	<input type="checkbox"/> Contamination of wells through limestone or fissured rock	<input type="checkbox"/> Other: _____
		<input type="checkbox"/> Unknown

b) Water treatment deficiencies:

<input type="checkbox"/> No disinfection	<input type="checkbox"/> No filtration	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Temporary interruption of disinfection	<input type="checkbox"/> Inadequate filtration	<input type="checkbox"/> Unknown
<input type="checkbox"/> Chronically inadequate disinfection	<input type="checkbox"/> Deficiencies in other treatment processes	

c) Contamination in the water distribution system or home plumbing:

<input type="checkbox"/> Cross connection of potable and non-potable water pipes resulting in back siphonage (negative pressure or backflow)	<input type="checkbox"/> Contamination of mains during construction or repair	<input type="checkbox"/> Other: _____
	<input type="checkbox"/> Contamination of storage facility	<input type="checkbox"/> Unknown
	<input type="checkbox"/> Contamination in building/home	

d) OTHER REASONS/CONTRIBUTING FACTORS FOR CONTAMINATION OF WATER (eg. corrosive water):

13. ROUTE OF ENTRY FOR RECREATIONAL EXPOSURE:

<input type="checkbox"/> Accidental ingestion	<input type="checkbox"/> Intentional ingestion	<input type="checkbox"/> Contact	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Other: _____
				<input type="checkbox"/> Unknown

14. FACTORS CONTRIBUTING TO RECREATIONAL WATER CONTAMINATION: (check **all** that apply) *See 16

a) FRESH OR MARINE WATER (e.g. lakes, rivers, oceans):

<input type="checkbox"/> High bather density/load	<input type="checkbox"/> Flooding, heavy rains	<input type="checkbox"/> Algal bloom
<input type="checkbox"/> Fecal accident by bather(s)	<input type="checkbox"/> Stagnant water	<input type="checkbox"/> Animal feces observed near site
<input type="checkbox"/> Use by diaper/toddler aged children	<input type="checkbox"/> Water Temperature $\geq 30^{\circ}\text{C}$	<input type="checkbox"/> Agricultural/animal production in watershed
<input type="checkbox"/> Overflow or release of sewage	<input type="checkbox"/> Chemical pollution	<input type="checkbox"/> Unprotected watershed
		<input type="checkbox"/> Other: _____
		<input type="checkbox"/> Unknown

b) FILTERED AND/OR DISINFECTED SWIMMING VENUES (e.g. swimming pools, water parks, hot tubs, whirlpools/spa pools):

<input type="checkbox"/> High bather density/load	<input type="checkbox"/> Inadequate disinfection	<input type="checkbox"/> No filtration
<input type="checkbox"/> Fecal accident by bather(s)	<input type="checkbox"/> Poor monitoring of disinfection levels	<input type="checkbox"/> Inadequate filtration
<input type="checkbox"/> Use by diaper/toddler aged children	<input type="checkbox"/> Cross contamination (specify _____)	<input type="checkbox"/> Other: _____
<input type="checkbox"/> No disinfection	<input type="checkbox"/> Combined adult/child pool filtration systems	<input type="checkbox"/> Unknown

15. WATER SPECIMENS EXAMINED: (provide information for routine samples collected **before** and **during** the outbreak investigation as well as for any special lab studies)

NONE TESTED

ITEM	DATE	LABORATORY RESULTS		
		MICROBIOLOGY	DISINFECTANT RESIDUAL	TURBIDITY
EXAMPLES Tap Water	10/11/01	Total coliforms - none found in two 100ml samples; Giardia - 10 cysts/100L	0.5 mg/L	0.1 NTU
Untreated Raw Water	11/02/01	23 fecal coliforms per 100 ml	Not Done	10.0 NTU
System History	Prev. 3 mos	MCL for total coliforms exceeded month before outbreak	NA	>MCL
Source Water	Prev. 2 wks	Heavy runoff, high turbidity	NA	5.0 NTU

16. REMARKS: Clarify for sections 12 and 14 which checked items are confirmed or are suspected factors. Briefly describe the unusual aspects of the outbreak and/or the outbreak investigation not covered above. Attach epidemic curve and summary report, if available.

Person to contact for information about water quality or water system:	Person completing form: (please print)		Date investigation initiated:
	NAME: _____	E-MAIL: _____	_____ / _____ / _____
	AGENCY: _____	TEL. NO: (_____) _____ - _____ <small>area code</small>	_____ / _____ / _____
		DATE OF REPORT: _____ / _____ / _____ <small>MO. DAY YR.</small>	_____ / _____ / _____ <small>MO. DAY YR.</small>

Note: Epidemic and laboratory assistance for the investigation of a waterborne outbreak is available upon request by the State Health Department to the Centers for Disease Control and Prevention. To improve national surveillance of outbreaks of waterborne diseases, please send a copy of this report, your internal report, and the questionnaire used in the epidemiologic investigation (if available) to:

Centers for Disease Control and Prevention
 Division of Parasitic Diseases
 Attention: Waterborne Disease Coordinator
 4770 Buford Highway, NE, Mailstop F22
 Atlanta, GA 30341-3724

Appendices A

Acronyms

ACIP

Advisory Committee on Immunization Practices

ACPHP

Academic Center for Public Health Preparedness

AIDS

Acquired Immune Deficiency Syndrome

AIIR

Airborne infection isolation room

ALT

Alanine aminotransferase

AMA

American Medical Association

APHL

Association of Public Health Laboratories

ASPH

Association of Schools of Public Health

AST

Aspartate transaminase

AVA

Anthrax Vaccine Adsorbed

AVRP

Anthrax Vaccine Research Program

ASPH

Association of Schools of Public Health

ASTHO

Association of State and Territorial Health Officials

ATSDR

Agency for Toxic Substances and Disease Registry

CADE

Center for Acute Disease Epidemiology

CBRN

Chemical, Biological, Radiological/Nuclear

CDC

Centers for Disease Control and Prevention

CDOR

Center for Disaster Operations and Response

CHI

Consolidated Health Informatics

CIA

Central Intelligence Agency

CIO

Centers, Institutes and Office

CISM

Critical Incident Stress Management

CLIA

Clinical Laboratory Improvements Act

CPHP

Centers for Public Health Preparedness

COOP

Continuity of Operations Plan

CSTE

Council of State and Territorial Epidemiologists

DEEDS

Division of Epidemiology, EMS, and Disaster Operations

DNA

Deoxyribonucleic Acid

DHHS

Department of Health and Human Services

DHS

Department of Homeland Security

DOE

Department of Energy

ECS

Emergency Communication System

EOC

Emergency Operations Center

EPA

Environmental Protection Agency

Epi-X

Epidemic Information Exchange

EIS

Epidemic Intelligence Service

EISO

Epidemic Intelligence Service Officer

ELISA

Enzyme Linked Immunosorbent Assay

ELR

Electronic Laboratory-Based Reporting

EPO

Epidemiology Program Office

ERT

Emergency Response Team

FBI

Federal Bureau of Investigation

FEMA

Federal Emergency Management Agency

FMO

Financial Management Office

FDA

Food and Drug Administration

FRP

Federal Response Plan

FRERP

Federal Radiological Emergency Response Plan

FTE

Full Time Equivalent

Iowa Department of Public Health

GIS

Geographic Information System

GMP

Good Manufacturing Practices

GPRA

Government Performance and Results Act of 1993

HACCP

Hazard Analysis Critical Control Point

HAN

Health Alert Network

HICPAC

Healthcare Infection Control Practices Advisory Committee

HIPAA

Health Insurance Portability and Accountability Act

HPP

Hospital Preparedness Program

HIV

Human Immunodeficiency Virus

ICRC

Injury Control Research Center

ICS

Incident Command System

IDSS

Iowa Disease Surveillance System

IDPH

Iowa Department of Public Health

IM

Intramuscular

IMS

Incident Management System

IOM

Institute of Medicine

IT

Information Technology

IV

Intravenous

LPHA

Local Public Health Agency

LRN

Laboratory Response Network

ME

Medical examiner

MSEHPA

Model State Emergency Health Powers Act

NACCHO

National Association for City and County Health Officials

NCBDDD

National Center for Birth Defects and Developmental Disease

NCCDPHP

National Center for Chronic Disease Prevention and Health Promotion

NCEH

National Center for Environmental Health

NCHS

National Center for Health Statistics

NCHSTP

National Center for HIV, STD and TB Prevention

NCID

National Center for Infectious Disease

NCIPC

National Center for Injury Prevention and Control

NEDSS

National Electronic Disease Surveillance System

NGO

Non-Governmental Organization

NHSN

National Healthcare Safety Network

NIP

National Immunization Program

NIOSH

National Institute for Occupational Safety and Health

NIH

National Institutes of Health

NLTN

National Laboratory Training Network

NPIC

National Public Health Information Coalition

NPPTL

National Personal Protective Technology Laboratory

NPS

National Pharmaceutical Stockpile

NYCDOH

New York City Department of Health

OC

Office of Communication

OHS

Office of Health and Safety

OTPER

Office of Terrorism Preparedness and Emergency Response

OD

Office of the Director

OSEP

Office of Security and Emergency Preparedness

Guide to Surveillance, Investigation, and Reporting

PPE

Personal Protective Equipment

PCP

Pneumocystis Carinii Pneumonia

PCR

Polymerase Chain Reaction

PFGE

Pulse Field Gel Electrophoresis

PHA

Public Health Advisor

PH

Public Health

PHEP

Public Health Emergency Preparedness

PHER

Public Health Emergency Response

PHIN

Public Health Information Network

PHPPO

Public Health Practice Program Office

PMR

Preventive Medicine Resident

PVS

Pre-Event Vaccination System

SAP

Select Agent Program

SARS

Severe Acute Respiratory Syndrome

SCBA

Self Contained Breathing Apparatus

SLPP

State and Local Preparedness Program

SME

State Medical Examiner

SNS

Strategic National Stockpile

SVP

Smallpox Vaccination Program

SWOC

Strengths, Weaknesses, Opportunities and Challenges

TARU

Technical Advisory Response Unit

TED

Training, Education and Demonstration Package

TOPOFF

Top Officials

TRPLT

Terrorism Response and Preparation Leadership Team

US

United States

USDA

United States Department of Agriculture

VAERS

Vaccine Adverse Effects Reporting System

VFC

Vaccines for Children

VIG

Vaccinia Immune Globulin

VMI

Vendor Managed Inventory

WaterCAD

Water Computer Aided Design

WHO

World Health Organization

XML

Extensible Markup Language

24x7

Twenty four hours a day, seven days a week

Glossary

- Antigen -** That part of an agent (bacteria, virus, etc.) capable of stimulating the production of specific antibodies.
- Antibody -** An immunoglobulin found in tissue fluids and blood serum that is produced in response to the stimulus of a specific antigen and is capable of combining with that antigen to neutralize or destroy it.
- Airborne precautions -** Precautions that apply to patients known or suspected to be infected with epidemiologically important pathogens that can be transmitted widely by air currents and may become inhaled by or deposited on a susceptible host within the same room or, depending on environmental factors, over a longer distance from the source patient. These precautions are designed to reduce the risk of such airborne transmission of infectious agents through personal protection devices, such as N95 masks, and special air handling and ventilation systems, such as airborne infection isolation rooms. (Adapted from CDC/HICPAC guidelines.)
- Airborne infection isolation room (AIIR) -** A single patient room in which environmental factors are controlled to minimize the transmission of infectious agents that can be transmitted by the airborne route. These rooms have specific requirements for controlled ventilation, negative pressure, and air filtration and monitoring that are detailed in Guideline for Environmental Infection Control in Health-Care Facilities, 2003.
- Arthralgia -** Pain in a joint without objective signs (see arthritis).
- Arthritis -** Swelling, redness, tenderness, or other specific signs of inflammation in a joint.
- Aseptic -** Absence of infectious microorganisms; free from infection; sterile. (Sometimes used to mean absence of bacteria, example; aseptic meningitis may be caused by virus).
- Asymptomatic -** Without objective evidence of disease or condition.
- Attack Rate -** A measure of the frequency of cases of a disease in a narrowly defined population during a specific interval of time, as in epidemics (# of cases/# of people exposed x 100). Usually expressed as a percent.
- Bacteria -** Unicellular microorganism. There are three principal forms: spherical or ovoid forms called cocci; rod-shaped forms called bacilli or vibrios; and spiral forms called spirilla or spirochetes.
- Bioemergency -** A situation in which a pathogen poses an immediate and severe threat to the lives or health of people in Iowa, to the extent that day-to-day operations of public health authorities are insufficient to address this threat.
- Carrier -** A person or animal that harbors a specific infectious agent (but manifests no discernible clinical disease) and is a potential source of

infection for man or animals. The carrier state can occur in an individual after an infection (which was either asymptomatic or symptomatic and resolved).

- Case -** An infected or diseased person or animal having specific clinical, laboratory, or epidemiologic characteristics.
- Case Definition -** A set of standard criteria for deciding whether a person has a particular disease or health-related condition, by specifying clinical criteria and limitations on time, place, and person (Retrieved from CDC at www.cdc.gov/osels/ph_surveillance/nndss/casedef/index.htm on 3/15/11).
- Case Fatality Rate -** A measure of the likelihood that an ill person (i.e., one who exhibits symptoms) will die as a result of that illness (adapted from Gordis, 2000:44); can be expressed by the ratio:
$$\frac{\text{number who die within a specified time after disease onset or diagnosis}}{\text{number ill}}$$
- Chemoprophylaxis -** The administration of a medicine, including antibiotics, to prevent the development of an infection or prevent the progression of an infection to clinical disease. Example: Rifampin for exposure to meningococcal disease.
- Cohort -** Any defined group of persons selected for a special purpose or study. (From the Latin cohorts, warriors, the tenth part of a legion).
- Cohorting -** Method to isolate separate infectious persons from susceptible ones by grouping persons with the same infection together. Cohorting of staff is to assign specific staff to a group of patients and not have them do care on the unaffected clients.
- Colonization -** Propagation of a microorganism on or within a host without causing cellular injury or infection. A colonized host can serve as a source of infection. Carriers are often said to be colonized with a pathogen.
- Communicable Disease -** An illness which is caused by a specific infectious agent or its toxic products, and which arises through transmission of that agent or its products from a reservoir to a susceptible host.
- Complement -** A chemical in the immune system which can provoke the disintegration of bacteria. It is present in all sera. Complement is not an antibody but may work with antibodies to destroy bacteria.
- Contact -** A person or animal that has been in such association with an infected person or animal, or a contaminated environment, as to have had an opportunity to acquire the etiologic agent.

- Contact Precautions -** Precautions that apply to patients known or suspected to be infected or colonized with epidemiologically important microorganisms that can be transmitted by direct or indirect contact. Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, while indirect-contact transmission involves contact of a susceptible host with a contaminated intermediate object. (Adapted from CDC/HICPAC guidelines.)
- Culture -** The growth of microorganisms on or in substances (especially laboratory media prepared for this purpose).
- Droplets -** Liquid particles expelled into the air during the act of talking, spitting, singing, coughing, or sneezing. Droplets are formed through aerosolization of secretions present in the mouth, nasopharynx and bronchi. They can contain infectious microorganisms.
- Droplet Nuclei -** The dried residues of droplets which may contain one or more infectious microorganisms. In contrast to droplets, droplet nuclei can remain suspended in the air for long periods.
- Droplet Precautions -** Precautions that apply to any patient known or suspected to be infected with epidemiologically important pathogens that can be transmitted by infectious droplets generated from the source person during coughing, sneezing, or talking or during the performance of certain procedures such as suctioning or bronchoscopy. Unlike airborne precautions, because droplets travel only short distances (≤ 3 ft.) and do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission. (Adapted from CDC/HICPAC guidelines.)
- Ecchymosis -** A large, irregularly formed hemorrhagic area of skin. Like a large bruise the color is blue-black changing to a greenish-brown or yellow. May occur with a large bruise.
- Epidemic -** The occurrence of cases of a disease in human populations in a particular geographic area clearly in excess of the usual incidence.
- Common-source epidemic - An epidemic in which one human or one animal or specific vehicle (e.g., food or water) is responsible for transmitting the agent to the case/s identified.
- Point-source epidemic - like a common source but limited to a short time period (e.g., a meal).
- Propagated-source epidemic - An epidemic in which infections are transmitted from person to person or animal to animal in such a fashion that identified cases cannot be attributed to a single source.

Epidemiologist -	A person who applies epidemiologic principles and methods to the prevention and control of disease.
Epidemiology -	The study of the distribution and causes/risk factors of disease in human populations.
Epidemiologically linked case -	A case in which a) the patient has had contact with one or more persons who either have/had the disease or have been exposed to a point source of infection (i.e., a single source of infection, such as an event leading to a foodborne-disease outbreak, to which all confirmed case-patients were exposed) and b) transmission of the agent by the usual modes of transmission is plausible. A case may be considered epidemiologically linked to a laboratory-confirmed case if at least one case in the chain of transmission is laboratory confirmed.
Erythema -	Redness of the skin due to capillary dilatation.
Etiology -	The study or theory of the causes of disease. An etiologic agent is that which causes disease.
Exposure -	The opportunity of a susceptible host to acquire an infection by either a direct or indirect mode of transmission. Example: being bitten by an ill skunk is a potential exposure to rabies.
Fomites -	Inanimate objects, such as toys or articles of clothing, which can become contaminated and, therefore, be a vehicle for transmission.
Fungi -	Simple, dependent plants including molds, rusts, mushrooms, toadstools, lichens and yeasts. Some forms are pathogenic to animals. Example: vaginal "yeast infections".
Hand Hygiene -	A general term that applies to hand washing, antiseptic handwash, antiseptic hand rub, or surgical hand antisepsis. (CDC)
Health Care Provider -	A person who is trained and licensed to give health care. Also, a place licensed to give health care. Doctors, nurses, hospitals, skilled nursing facilities, some assisted living facilities and certain kinds of home health agencies are examples of health care providers. (From the Medicare web site.)
Host -	Organisms, including humans, that are capable of being infected by a specific agent.
Hypothesis -	An unproven assertion or statement based on available information, which commonly deals with the identity of an etiologic agent, the source of infection and the mode of transmission. Its role is to provide a rational basis for further investigation.
Illness -	A subjective state, or experience, characterized by the impairment of normal physiological function and affecting part or all of an organism

(Last, 2001:90 and Princeton University, retrieved 3/10/04).

- Immune Globulin -** A sterile solution of proteins made up of antibodies that are present in adult human blood. Example: RIG - rabies immune globulin.
- Immunoglobulin -** A protein that functions as an antigen receptor.
- Immunity -** Immunity is often used to refer to antibody status.
- Passive immunity refers to antibodies acquired from an outside source either naturally (by maternal transfer) or artificially (by inoculation of specific protective antibodies -- convalescent or immune serum, or immune globulin). Passive immunity is of brief duration (days or months).
- Active immunity lasts years, and is acquired either naturally (by actual infection), or artificially (by inoculation with a vaccine).
- Immunodeficient -** Lacking in the ability to mount an immune response in response to an antigen.
- Incidence -** Number of new cases of a disease occurring within a particular population during a specified period of time.
- Index Case -** The first case among a number of similar cases which are epidemiologically related. Index cases are often identified as a source of contamination or infection.
- Induration -** Extremely hard or firm tissue (e.g. what is measured in a reactive Tuberculin skin test)
- Infection -** The entry and multiplication of an infectious agent in body tissues of man or animal, resulting in cellular injury.
- Infectious Agent -** An organism, usually a microorganism but including larger parasites (such as worms), that is capable of producing infection or infectious disease.
- Infectious Disease -** A disease of man or animal resulting from an invasion of the body by pathogenic agents and the reaction of the tissues to these agents and/or the toxins they produce.
- Infection Control Precautions -** Measures used for decreasing the risk of transmission of microorganisms, particularly in health care facilities or when otherwise providing medical care. These fall into standard, contact, droplet, and airborne categories, which are also defined in this section. (Adapted from CDC/HICPAC guidelines)

Infectivity -	A measure of the likelihood that a person exposed to a pathogen will become infected (i.e., the agent enters, multiplies, and survives within the host) (adapted from Nelson, 2001:27); can be expressed by the ratio: $\frac{\text{number infected}}{\text{number exposed}}$
Infestation -	The lodgment, development, and reproduction of arthropods (e.g., scabies, lice on the body or in the clothing.)
Inflammation -	Normal tissue response to cellular injury or foreign material, characterized by dilation of small blood vessels (capillaries) that usually cause erythema (redness) and warmth and mobilization of defense cells (blood and tissue white blood cells that form pus).
Isolation -	The separation, for the period of communicability, of infected persons or animals from those that are not infected, in such places and under such conditions as will prevent the direct or indirect transmission of the infectious agent from those infected to those who may be susceptible or who may spread the agent to others.
Mean -	Called "the average" in arithmetic. The mean is calculated by adding together all the observed values and dividing by the number of observations.
Monospot -	Agglutination test to detect the Epstein-Barr virus (the cause of mononucleosis).
Morbidity -	Any departure from a state of well-being.
Myalgias -	Tenderness or pain in the muscles.
Nanometer -	One billionth of a meter.
Nosocomial Infection -	An infection resulting from exposure to a source within a health-care facility. The term is applied to such infections transmitted between inpatients, visitors, and hospital personnel.
Nosocomial -	A term used to denote a new disease or condition acquired within a healthcare setting, for example a hospital-acquired infection.
Outbreak -	The occurrence of two or more cases of a disease which are epidemiologically related.
Pandemic -	An epidemic disease affecting people in several countries or continents. Example: In 1919, there was an influenza pandemic.
Parasite -	An organism (often microbial) which lives in or on another organism, at their expense. Parasites are not necessarily harmful to their host.

Pathogen -	An agent capable of causing disease.
Pathogenicity -	The ability of an agent to cause disease in a susceptible host.
Per mucosal -	By means of a mucous membrane. Example: Per mucosal spread of hepatitis B can occur, especially in health care settings.
Personal Protective Equipment -	The equipment and clothing required to mitigate the risk of injury from or exposure to hazardous conditions encountered during the performance of duty. (From the National Oceanographic and Atmospheric Association)
Petechiae -	Small, purplish, hemorrhagic spots on the skin, mucous membranes, or serous surfaces. These are small areas under the skin, which may be due to an abnormality of blood clotting mechanism.
Phagocyte -	A cell which engulfs and destroys foreign particles or microorganisms by digestion.
Primary Case -	The person who first introduces a disease into a defined group, such as a family, and therefore the means by which members of this group may contract the disease. Compare with the definition for index case (adapted from Last, 2001:142 and Gordis, 2000:22).
Prodromal Period -	The prodromal period is that lapse of time between the first vague symptom of disease and the full clinical syndrome upon which a diagnosis can be based.
Prophylaxis -	Measures taken to prevent the development or spread of disease.
Protozoa -	A unicellular animal which usually reproduces asexually by fission.
Public Health Disaster -	Defined in Iowa Code section 135.140 as "a state of disaster emergency proclaimed by the governor in consultation with the department [i.e., IDPH] pursuant to section 29C.6 for a disaster which specifically involves an imminent threat of an illness or health condition that meets any of the following conditions of paragraphs I and II: <ol style="list-style-type: none">I. <i>Is reasonably believed to be caused by any of the following:</i><ol style="list-style-type: none">a. Bioterrorism or other act of terrorism. The appearance of a novel or previously controlled or eradicated infectious agent or biological toxin. A chemical attack or accidental release.b. An intentional or accidental release of radioactive material.c. A nuclear or radiological attack or accident. II. <i>Poses a high probability of any of the following:</i><ol style="list-style-type: none">a. A large number of deaths in the affected population. A large number of serious or long-term disabilities in the affected population.

- b. Widespread exposure to an infectious or toxic agent that poses a significant risk of substantial future harm to a large number of the affected population.”

Although this statutory definition includes the conditions for a “bio-emergency,” as defined earlier in this section, it also encompasses conditions that are not addressed in this plan, including chemical, radioactive, radiological, and nuclear incidents. Also, not every set of conditions that may be considered a bio-emergency by IPDH officials will result in the proclamation of a public health disaster.

Purpura -

A small hemorrhage in the skin, mucous membrane or serosal (serous membrane) surface which can have various manifestations. Hemorrhage into the skin becomes red, then darkens into purple, then brownish-yellow and finally disappears in 2-3 weeks. Areas of discoloration do not disappear under fingertip pressure.

Quarantine -

The limitation of freedom of movement of persons or animals that have been exposed to a communicable disease, within specified limits marked by placards, for a period of time equal to the longest usual incubation period of the disease.

Ratio -

A measure of the frequency of one group of events (e.g., the number of males having a specified disease) relative to the frequency of a different group of events (e.g., the number of females having the specified disease). Example: The male to female ratio for legionellosis is 2.5/1.

Resistance -

The sum total of host mechanisms which interpose barriers to invasion or multiplication of infectious agents, or that prevent damage by the agent's toxic products.

Reservoir -

The habitat where the etiologic agent of a disease normally thrives, grows, and replicates. A reservoir may be human (anthroponotic), animal (zoonotic), or a nonliving environment, such as soil or water (saprotonic). A characteristic feature of most diseases with non-human reservoirs is that once transmitted to humans, the epidemic chain is usually aborted, although the clinical course might be sometimes quite severe, even fatal. (Hubálek:403).

Rickettsia -

A class of bacteria, which like viruses, can only multiply inside other cells.

Risk -

The likelihood that a person having specified characteristics (e.g., age, sex, immune status) will acquire a specified disease.

Secondary Attack Rate -

The frequency of new disease cases among close contacts of known cases. Secondary attack rates are usually calculated for household contacts. Example: The household secondary attack rate for Shigella can be over 50%.

Sepsis -	When a symptomatic person is found to have pathogenic microorganisms or their toxins in the blood.
Serotyping -	The characterization of different strains of a microorganism by the reaction of different stocks of sera with that organism.
Sign -	Objective (can be detected by others) evidence of a disease.
Sporadic Case -	A case with no known epidemiological relationship to any other case(s).
Standard Precautions -	Precautions designed for the care of all patients in health care facilities regardless of their diagnosis or presumed infection status and intended to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection. The main focus is on hand hygiene, the use of protective barriers, and the proper handling of clinical waste. The precautions apply to (1) blood; (2) all body fluids, secretions, and excretions (except sweat), regardless of whether or not they contain visible blood; (3) non-intact skin; and, (4) mucous membranes. (Adapted from CDC/HICPAC guidelines.)
Surveillance of Disease -	The continuing scrutiny of the aspects of the occurrence and spread of a disease that are pertinent to effective control.
Susceptible -	A person or animal lacking sufficient resistance to a particular pathogenic agent to prevent disease if exposed.
Symptom -	Subjective (cannot be detected by others) evidence of a disease.
Syndrome -	The set of signs and symptoms which typify a particular disease.
Toxin -	Proteins or conjugated protein substances which can cause disease. They are produced by some higher plants, certain animals, and pathogenic bacteria.
Toxoid -	A preparation containing detoxified toxin. Toxoids are used to induce specific active immunity to the related toxin.
Transmission Mode -	The means by which disease organisms are spread. For the purposes of this plan, the term applies to how they are spread to humans.
Travel Advisory -	A recommendation against nonessential travel to the area(s) for which it is issued. Travel advisories are issued when the health risk for travelers is thought to be high, and are intended to reduce the number of travelers to high-risk areas and the risk for spreading disease to other areas. (Adapted from CDC guidance).
Travel Alert -	A lower-level notice than a travel advisory that provides information about the disease outbreak and informs travelers how to reduce their risk of acquiring the infection. An alert does not include a recommendation against nonessential travel to the area. (Adapted from CDC guidance).

Triage -	The process for sorting ill or injured people into groups based on their need for or expected benefit from medical treatment. The purpose is to provide for the efficient use of medical and nursing staff and associated facilities.
Vaccine -	A preparation containing killed or living whole microorganisms or a fraction of the organisms having antigenic properties. Vaccine is employed to induce, in the recipient, a specific active immunity to an infectious agent (usually an antibody response).
Vector -	An insect (e.g., tick) or any living carrier that transports an infectious agent from a source of infection to a susceptible host.
Vehicle -	An object or substance that can carry microorganism to a new host.
Virus -	Minute organisms not visible with ordinary light microscopy. They can reproduce only inside of a host cell.
Virulence -	The amount of power and the degree of pathogenicity possessed by organisms.
Zoonosis -	An infection or an infectious disease transmissible under natural conditions between animals and man.