Healthy Kansans living in safe and sustainable environments.
Changes to the KDHE Infectious or Contagious Diseases and Conditions Regulations

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Bureau of Epidemiology and Public Health Informatics
Agenda

❖ Training Session 1
  ➢ Mandated Reporting and Specimen Submission Requirements

❖ Training Session 2
  ➢ Isolation and Quarantine Requirements
  ➢ Rabies Control Requirements
Objectives

▪ Know what infectious diseases are reportable.
▪ Know the timeframe and method of reporting.
▪ Understand the changes to the isolation and quarantine regulation.
▪ Understand the changes to the rabies control regulation.
## Agenda

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<th>Topic</th>
<th>Time</th>
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<tr>
<td>KAR 28-1-2</td>
<td>Public Health in Kansas Mandating Reporting</td>
<td>15 minutes</td>
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<tr>
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<td>Changes to the reporting timeframe and reportable</td>
<td>45 minutes</td>
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<tr>
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<td>disease list</td>
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<td>KAR 28-1-4</td>
<td>Hospital Reporting Requirements</td>
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<td>KAR 28-1-18</td>
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<td>Q &amp; A</td>
<td>15 minutes</td>
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</table>
Three Levels of Public Health

- Local: Local Health Departments
- State: State Health Departments
- National: CDC
- Not a hierarchy
Local Health Departments

- Counties or cities
- First level of contact with public
- Broad power for control measures in Kansas
- Outbreak investigations:
  - foodborne, others
- Surveillance:
  - reportable diseases
- Special projects:
  - usually upon involvement from state/national level
State Health Department

- Broad statutory and regulatory power
- Outbreak investigations:
  - assists local health departments
  - interstate outbreaks
- Surveillance:
  - list of reportable diseases
  - transmit reports to CDC
  - prepare state reports
  - other data sets: cancer registry, hospital discharge
  - KS health information system
- Analytic projects
National Level – CDC

- Outbreak investigations:
  - EPI-Aid

- Surveillance:
  - MMWR
  - National surveys
  - Other special surveillance projects

- Analytic projects:
  - Often with local/states
Different Purposes and Methods

- **State/local level:**
  - Purpose: Link to immediate control efforts/program evaluation.
  - Methods: Real-time data on all cases.

- **Federal level:**
  - Purpose: Monitor national trends, detect emerging problems, demonstrate need for resources.
  - Methods: Aggregate local data, national sample surveys.
Surveillance at the State/Local Level is Linked to Control Activities

- Case level: Assure appropriate treatment
  - Example: Botulism
- Contact level: Assure contacts are treated
  - Example: Pertussis in high risk contacts
- Community level: Remove source of outbreaks
  - Example: Listeria in ice cream
- Program level: Monitor effectiveness in real time
  - Example: Vaccination
Methods of Surveillance – How Do We Capture the Information?

- Passive surveillance: no regular active contact to reporters
- Disease reporting from MDs, facilities, labs
  - communicable disease and condition reporting
Surveillance / Case Reporting

- Determined by states
- Some standardization desirable
  - Nationally notifiable conditions
  - Case definitions
- Council of State and Territorial Epidemiologists
  - Since 1951
- Collaborative process
The National Notifiable Disease Surveillance System (NNDSS)

- Recommended list of conditions under surveillance (CDC and CSTE).
- States implement national list according to local considerations through statute/regulatory process.
- States collect standard data elements and apply standard case definitions (CDC/CSTE).
- States forward individual case-level data to CDC without identifiers on a voluntary basis.
Reportable Diseases in Kansas

Kansas Department of Health and Environment
- Division of Health
  - Bureau of Disease Control and Prevention
    - TB, HIV/AIDS, STIs
  - Bureau of Epidemiology and Public Health Informatics
    - All other infectious conditions in humans and rabies in animals

Kansas Department of Agriculture
- Division of Animal Health
  - Infectious conditions in animals
Why do we investigate?
Why Investigate?

- To prevent the spread of illness!
- Trace disease source and spread
- Identify outbreaks
- Implement control and prevention measures
- Gain information for policy, education
  - Used by state, CDC
  - Design disease control activities
  - Evaluate programs and vaccine efficacy
Mandated Reporting
Who Reports?

Physicians and Physician’s Assistants

Nurses

Social Worker

Dentists

Administrator – Hospitals or LTCF

Teacher or School Administrator

Immunity for reporting Confidential

KSA 65-118
What to report?

- First and last name
- Address
- Telephone number
- Date of birth
- Sex
- Race
- Ethnicity
- Pregnancy status
- Date of symptom onset
- Diagnosis
- Diagnostic tests
- Type and site of specimen
- Date of specimen collection
- Results
- Treatment
- Name, address, and telephone of attending physician
How to Report

4-Hour Reportable Diseases

KSA 65-118
KAR 28-1-2

All Other Reportable Diseases

Local Health Department

Kansas Department of Health and Environment
Laboratory Reporting

4-Hour Reportable Diseases

All Other Reportable Diseases

Kansas Department of Health and Environment

KSA 65-118
KAR 28-1-18
Laboratory Reporting

KSA 65-118
KAR 28-1-18
Questions
Update to KAR 28-1-2
Reporting Requirements of Infectious or Contagious Diseases and Conditions
Rationale for Revisions

- Last revised in 2006
  - Harmonization with Nationally Notifiable Conditions list desirable
- Changes in terminology
- K.A.R. 28-1-2 limited to infectious diseases, so conditions required to be reported in several places
- Inadequate information reported
- Need for more rapid reporting and updated methods (ELR)
Time Frames to Report

- **Previous Requirements**
  - 4 hours by telephone for urgent conditions
  - 7 days for others

- **Current Requirements**
  - 4 hours by telephone for urgent conditions *(no change)*
  - 24 hours for all others
    - Grace period for weekends and holidays
New 4-hour Reportable Diseases

- Changed reporting from 7 days to 4 hours
  - Diphtheria
  - Tetanus

- New 4-hour reportable diseases
  - Novel influenza A virus
  - Vaccinia, post-vaccination or secondary transmission
  - Viral hemorrhagic fevers
  - Unexplained death suspected to be due to an unidentified infectious agent
Novel Influenza A

- Human infections with novel influenza A viruses may signal the beginning of an influenza pandemic
- Rapid detection and reporting of human infections with novel influenza A viruses
  - Prompt detection and characterization of the virus
  - Determine the potential for a pandemic
  - Accelerate the implementation of effective public health responses
Novel Influenza A

- Different from currently circulating human influenza H1 and H3 viruses
- H2, H5, H7, and H9 subtypes
- Influenza H1 and H3 subtypes
  - from a non-human species
  - genetic reassortment between animal and human viruses
- Novel subtypes are detected by State Public Health Laboratory and confirmed at CDC
Vaccinia

- Purpose of reporting and surveillance
  - To identify vaccinia disease developing in a person or close contact following a smallpox vaccination
  - To ensure prompt evaluation and treatment as appropriate, and prevent secondary transmission
  - To ensure reporting of such events to the Vaccine Adverse Events Reporting Systems (VAERS) to track the frequency and epidemiology of such events
- Primary and secondary cases are reportable
- Vaccinia immune globulin (VIG) is available
Vaccinia Disease

- Infection occurs following a smallpox vaccination
- Self-inoculation to a secondary site
- Transmission to another individual through contact with unhealed vaccination site
- Reported sites
  - Eye, face, nose, mouth, lips, genitalia, and anus
Viral Hemorrhagic Fever

- Includes Crimean-Congo hemorrhagic fever virus, Ebola virus, Lassa virus, Lujo virus, Marburg virus and the New World arenaviruses (Guanarito virus, Junin virus, Machupo virus, and Sabia virus)
- Used to be reportable when identified in the course of a possible bioterrorism act
- Potential for natural introduction
Unexplained Deaths

- Purpose of reporting and surveillance
  - To identify emerging pathogens in Kansas
  - To raise the index of suspicion of a possible bioterrorism event
  - To recognize infectious diseases with potential public health impact
Unexplained Deaths – When to Report

- Clinically consistent with hallmarks of an infectious process
  - Fever
  - Leukocytosis
  - Histopathologic evidence of an acute infectious process
  - Physician-diagnosed syndrome
- Preliminary testing has not revealed a cause
- Absence of a chronic or immunocompromising condition, no trauma, no toxic exposure, no preceding nosocomial infection
Diseases Removed from the 4-hour Reportable List

- Not reportable
  - Bacterial Meningitis
  - Unless meningitis is thought to be caused by a reportable disease

- Now reportable within 24 hours
  - Pertussis
  - Rabies, animals
Still Reportable – 4-Hours

- Clusters, outbreaks, and epidemics
- Terrorist acts
  - Biological
  - Chemical
  - Radiological
- Unusual disease or manifestation of illness
Diseases Added to the 24-hour Reportable List

- Acute flaccid myelitis
- Anaplasmosis
- Babesiosis
- Blood lead levels (any results)
- *Candida auris*
- Carbapenem-resistant bacterial infections or colonization
- Carbon monoxide poisoning
- Coccidioidomycosis
- Hepatitis B in children < 5 years – All lab results
- Histoplasmosis
- Leptospirosis
- Vancomycin-intermediate *S. aureus*
- Vancomycin-resistant *S. aureus*
- Vibriosis (non-cholera Vibrio spp.)
Harmonization with Nationally Notifiable Conditions list

- Babesiosis
- Coccidioidomycosis
- Hepatitis A
- Histoplasmosis
- Leptospirosis
- Vancomycin-intermediate S. aureus (VISA)
- Vancomycin-resistant S. aureus (VRSA)
- Vibriosis (non-cholera Vibrio spp.)
Acute Flaccid Myelitis (AFM)

Symptoms of AFM:
- Difficulty moving the eyes or drooping eyelids
- Facial droop or weakness
- Difficulty with swallowing or slurred speech
- Sudden arm or leg weakness

The Nervous System:
- Brain
- Spinal cord
- Nerves
## AFM Specimen Collection

<table>
<thead>
<tr>
<th>Specimen Collection</th>
<th>Specimen submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cerebrospinal fluid (CSF)</td>
<td>Submit to CDC for testing</td>
</tr>
<tr>
<td>Blood (serum and whole blood)</td>
<td>Submit to CDC for testing</td>
</tr>
<tr>
<td>Stool, preferably two stool specimens collected as soon after onset of limb weakness and separated by 24 hours</td>
<td>Submit to CDC for testing</td>
</tr>
<tr>
<td>Upper respiratory tract, preferably nasopharyngeal (NP) OR nasal (mid-turbinate [MT]) + oropharyngeal (OP) swab</td>
<td>Submit to CDC for testing ONLY if tested positive for enterovirus or rhinovirus at external lab</td>
</tr>
</tbody>
</table>

KDHE will coordinate all shipping to CDC
Anaplasmosis

- Anaplasmosis is a disease caused by the bacterium *Anaplasma phagocytophilum*
- This organism was previously known by
  - *Ehrlichia equi*
  - *Ehrlichia phagocytophilum*,
- Disease was previously known as human granulocytic ehrlichiosis (HGE)
- Change in 2001 identified that this organism belonged to the genus *Anaplasma*
Babesiosis

- Became nationally notifiable in 2011
- Parasitic tick-borne infection
  - Blacklegged tick (*Ixodes scapularis*)
- *Babesia* spp. can also be transmitted via blood products
- There is no licensed screening test available for detecting *Babesia* spp. in blood donors
Coccidioidomycosis (Valley Fever)

- Coccidioidomycosis is an infection of the lungs caused by the fungal species Coccidioides
- Coccidioides grow in soil, particularly in arid areas
- Infection occurs by inhaling contaminated dust with fungal spores

**Purpose of Reporting and Surveillance**
- To track the emergence of *Coccidioides* in Kansas
- To monitor trends in the disease due to *Coccidioides*
- Nationally notifiable since 1995
Histoplasmosis

- Histoplasmosis is one of the most common endemic fungal infections in the United States.
- Inhalation of spores found in soil contaminated with bird or bat droppings.
- Not nationally notifiable.
  - True number of cases is unknown and is difficult to ascertain.
- Ten states track cases.
  - Most in the central states.
Leptospirosis

- Re-emerging bacterial disease affecting both humans and animals
- Incidence is increasing and exposure shifting from occupational to recreational (Climate Change?)
- 100-200 human cases of leptospirosis reported annually through 1994
- 1995- ceased to be a nationally notifiable condition
- Remained reportable disease in 36 states and territories
- In 2013 became nationally notifiable again
Hepatitis A

- Previously all positive Hepatitis A were reportable
- Total antibody positive – most likely immunity not disease
- Only IgM + results are reportable
Hepatitis B in children < 5 years – All lab results

- Perinatal Hepatitis B Prevention Program
  - Ensures prevention of transmission of hepatitis B from mother to infant during birth
- Metrics of the Program
  - HBIG and hepatitis B birth dose given within 12 hours
  - Completion of the 3-dose series
  - Post vaccination serological testing (PVST)
PVST

Post-vaccination serological testing (PVST)

- Ensures infant is not infected AND immunity has been conferred

Hepatitis B Surface Antigen

Determines Infection Status

Hepatitis B Surface Antibodies

Determines Immunity Status

*Not included in Standard Hepatitis Panel*
Vibriosis and Cholera
Cholera

- Profuse watery diarrhea, vomiting, and leg cramps
- Toxigenic *Vibrio cholerae* (serogroup O1 or O139)
- 12 hours to 5 days for symptoms to appear
- Inadequate water treatment, poor sanitation, and inadequate hygiene
- Rare in the US (0-5 cases annually)
- Last case in Kansas was in 1988
GI Panel

GI PANEL MENU

**BACTERIA:**
- Campylobacter (jejuni, coli and upsaliensis)
- Clostridium difficile (toxin A/B)
- Plesiomonas shigelloides
- Salmonella
- Yersinia enterocolitica
- **Vibrio (parahaemolyticus, vulnificus and cholerae)**
- **Vibrio cholerae**

**DIARRHEAGENIC E. COLI/SHIGELLA:**
- Enteroaggregative *E. coli* (EAEC)
- Enteropathogenic *E. coli* (EPEC)
- Enterotoxigenic *E. coli* (ETEC) *lt/st*
- Shiga-like toxin-producing *E. coli* (STEC) *stx1/stx2*
- *E. coli* O157
- *Shigella/Enteroinvasive E. coli* (EIEC)

**PARASITES:**
- Cryptosporidium
- Cyclospora cayetanensis
- Entamoeba histolytica
- *Giardia lamblia*

**VIRUSES:**
- Adenovirus F40/41
- Astrovirus
- Norovirus GI/GII
- Rotavirus A
- Sapovirus (I, II, IV & V)
Vibriosis and Cholera

Vibrio cholerae

O1 and O139

Cholera

Vibrio parahaemolyticus

All other strains

Vibrio vulnificus

Vibriosis
Vibriosis OR Cholera

**Vibrio cholerae species**

**Symptoms**
- Watery diarrhea
- Vomiting
- Wound infection

**International Travel**
- Latin America
- Parts of Africa
- Asia
- Outbreak (Haiti)

**Symptoms**
- Profuse watery diarrhea
- Vomiting
- Leg cramps

**Consumed raw seafood**
- Exposure to brackish or saltwater
- No international travel

**Vibriosis**

**Cholera**

**Wound infection**
Multi-Drug Resistant Organisms (MDROS)
Carbapenem-Resistant Enterobacteriaceae (CRE)

- Enterobacteriaceae are gut bacteria that can spread to other parts of the body causing infection
- These bacteria develop resistance to one or more carbapenem antibiotics
  - Ertapenem, imipenem, meropenem, and doripenem
- Carbapenems are often last resort antibiotic for difficult to treat infections
Carbapenemase-Producing (CRE)

- Bacteria produce a carbapenemase enzyme that hydrolyze (destroy) antibiotics
- Five different enzymes have been discovered
  - *Klebsiella pneumoniae* carbapenemase (KPC) most common in the United States
- Genes encoded on mobile elements that can spread to other gram-negative bacteria
# Carbapenemase-Producing (CRE)

<table>
<thead>
<tr>
<th>Enterobacteriaceae family (CRE)</th>
<th>Acinetobacter spp. (CRAB)</th>
<th>Pseudomonas aeruginosa (CRPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resistant to any carbapenem:</strong></td>
<td><strong>Resistant to any carbapenem:</strong></td>
<td><strong>Resistant to any carbapenem:</strong></td>
</tr>
<tr>
<td>Ertapenem ≥2 µg/mL or ≤18 mm</td>
<td>Ertapenem N/A (excluded)</td>
<td>Ertapenem N/A (excluded)</td>
</tr>
<tr>
<td>Doripenem ≥4 µg/mL or ≤19 mm</td>
<td>Doripenem ≥8 µg/mL or ≤14 mm</td>
<td>Doripenem ≥8 µg/mL or ≤15 mm</td>
</tr>
<tr>
<td>Imipenem* ≥4 µg/mL or ≤19 mm</td>
<td>Imipenem ≥8 µg/mL or ≤18 mm</td>
<td>Imipenem ≥8 µg/mL or ≤15 mm</td>
</tr>
<tr>
<td>Meropenem ≥4 µg/mL or ≤19 mm</td>
<td>Meropenem ≥8 µg/mL or ≤14 mm</td>
<td>Meropenem ≥8 µg/mL or ≤15 mm</td>
</tr>
</tbody>
</table>

**OR**

Any CRE, CRAB, or CRPA positive for carbapenemase by CIM, mCIM⁺, CarbaNP, or PCR
Not Your Typical Fungi

- Invasive *Candida auris* mortality 30-60% (CDC)
- Contaminates patient environment
- Person-person transmission
- Prolonged colonization possible
- Difficult to detect
- Multidrug resistant
Transmission

• Direct contact with infected or colonized patient

• Direct contact with contaminated environment and fomites
  • CDC study showed persistence >4 weeks on plastic surfaces (in lab)

• Hardy organism
  • Standard hospital products inadequate
  • Limited treatment options
US Map: Clinical cases of *C. auris* by state, May 31, 2018
# C. auris Misidentified

<table>
<thead>
<tr>
<th>Identification Method</th>
<th>Organism C. auris can be misidentified as:</th>
</tr>
</thead>
</table>
| Vitek 2 YST                                 | Candida haemulonii  
Candida duobushaemulonii  
Candida spp. not identified |
| API 20C                                     | Rhodotorula glutinis (characteristic red color not present)  
Candida sake  
Candida spp. not identified |
| BD Phoenix Yeast Identification System      | Candida haemulonii  
Candida catenulate  
Candida spp. not identified |
| MicroScan                                  | Candida famata  
Candida guilliermondii*  
Candida lusitaniae*  
Candida parapsilosis*  
Candida spp. not identified |
| RapID Yeast Plus                           | Candida parapsilosis*  
Candida spp. not identified |
VISA and VRSA

- Staphylococcus aureus
- Intermediate or resistant to vancomycin
- Rare
- Nationally notifiable in 2004
- Monitor for emergence and increasing occurrence
  - Priority for CDC
Other Reportable Conditions
Blood Lead Poisoning

- All blood lead test results are reportable to KDHE within 24 hours
- If blood is being drawn at an external lab, or if samples are sent to a reference lab for analysis, a notifiable disease form is not needed
- Hospitals/clinics using a point of care machine should contact Laurie Render (laurie.render@ks.gov) to discuss test result reporting
Carbon Monoxide Poisoning

- All suspect carbon monoxide poisoning cases (regardless of test results) are reportable to KDHE within 24 hours

- Fax Carbon Monoxide Poisoning Reporting Form http://www.kdheks.gov/epi/disease_reporting.html to 877-427-7318
Today's date: ______________________________

**PATIENT INFORMATION**

Name: ________________________________

Last ____________________ First ____________ Middle ____________

Mobile phone: ________________________________ Home phone: ________________________________

Residential address: ____________________________________________ Apartment number: ____________

City: ________________________________ State: ____________ Zip: ____________

Date of Birth (if unknown, provide age): ________________________________

Race: [ ] White [ ] Black [ ] Asian

[ ] American Indian / Alaska Native [ ] Native Hawaiian / Pacific Islander

Ethnicity: [ ] Hispanic [ ] Non-Hispanic

Sex: [ ] Male [ ] Female [ ] Pregnant? [ ] Yes [ ] No [ ] Unknown

**EXPOSURE INFORMATION**

Date and time of incident: ________________________________ Time: _______ : _______ AM or PM

**Site of exposure:**

[ ] Public Setting → [ ] Residential → [ ] Public setting:

[ ] Daycare [ ] Nursing Home [ ] Correctional Facility [ ] Hotel [ ] School

[ ] Shelter [ ] Restaurant

[ ] Residential: [ ] Single Family Home [ ] Apartment Building [ ] Mobile Dwelling [ ] Duplex/Townhouse

Name and city of site of exposure: ____________________________________________

**Poisoning intent:** [ ] Intentional CO poisoning [ ] Unintentional CO poisoning [ ] Unsure

**Fire related:** [ ] Yes [ ] No [ ] Unsure
DISEASE OR CONDITION INFORMATION

Symptom onset date: __________________________

Hospitalized? □ Yes □ No □ Unknown

Hospital: __________________________

Died? □ Yes □ No

Laboratory name: __________________________

Specimen collection date: __________________________

Test(s) performed: __________________________

Test result(s): __________________________

FACILITY AND PHYSICIAN INFORMATION

Facility name: __________________________

Facility city: __________________________

Physician name: __________________________

Phone #: __________________________

Name of person reporting: __________________________

Phone #: __________________________

TREATMENT INFORMATION

Treated? □ Yes □ No □ Unknown

Treatment type, dosage, and duration: __________________________
Suspect Cases – 24 Hour Reportable

- Need a case report form
  - Acute Flaccid Myelitis
  - Carbon monoxide
  - Chickenpox
  - Hansen’s disease (Leprosy)
  - Hantavirus
  - Hemolytic uremic syndrome
  - Pediatric influenza deaths
  - Trichinosis
  - Whooping cough (Pertussis)
Questions
Update to KAR 28-1-4
Hospital Reporting Requirements
Hospital Reporting Requirements*

- Number of laboratory tests
- Number of pharmacy prescriptions
- Number of ER visits

* If information can be provided with minimum additional burden
Update to KAR 28-1-18
Reporting and Submission Requirements for Laboratories
Laboratory Reporting

Reportable Diseases → Electronic Laboratory Reporting (ELR)

4-Hour Reportable Diseases → Kansas Department of Health and Environment
Specimens

1. Isolates of positive cultures
2. Original clinical specimen
3. Nucleic acid
4. Other clinical material
Laboratory Specimen Submission Requirements

- Candida auris
- Carbapenem-resistant organisms
- Haemophilus influenzae (pts. w/ invasive disease)
- Listeria spp.
- Mycobacterium tuberculosis
- Neisseria meningitidis
- Salmonella spp.
- Shiga toxin-producing E. coli
- Shigella spp.
- Streptococcus pneumoniae (invasive disease)
- Vibrio spp.
Questions
BREAK
Isolation and Quarantine
Rabies Control
# Agenda

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<td>KAR 28-1-6</td>
<td>Isolation and Quarantine</td>
<td>45 minutes</td>
</tr>
<tr>
<td>KAR 28-1-13</td>
<td>Rabies Control</td>
<td>45 minutes</td>
</tr>
<tr>
<td></td>
<td>Q &amp; A</td>
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KAR 28-1-6
Updates to the Isolation and Quarantine of Infectious or Contagious Diseases
Rationale: Isolation and Quarantine

- Last revised: 2007
- Need to incorporate current recommendations
- Problems with previous regulations
  - 24-hour vaccination requirement after VPD report to public health
  - Susceptible health care workers not excluded from work after VPD exposure
  - Outdated terminology
- Guidance document to be adopted by reference
  - Requirements for isolation and quarantine for some conditions are complex
  - Regulatory format is limiting
Requirements for Isolation and Quarantine of Infectious or Contagious Diseases

March 15, 2018

Kansas Department of Health and Environment
Division of Public Health
Bureau of Epidemiology and Public Health Informatics
Curtis State Office Building
Topeka, KS 66612

Prevention and Control for Specific Diseases

- a.k.a. “isolation and quarantine”
- Scaled measures of prevention and control
- Consistent with epidemiology and current scientific recommendations
- Updated terms
  - Contact, droplet, and airborne precautions
- Conditions not subject to isolation or quarantine are listed
Changes to Format

- Guidance document will include specific details regarding:
  - Control of Cases
  - Control of Contacts
- Disease are alphabetized
- Definitions
Isolation and Quarantine

▪ May be altered by the local health officer or the secretary of KDHE
  ▪ Necessary for public health
▪ Based on current medical knowledge
  ▪ Incubation
  ▪ Communicable period
  ▪ Mode of Transmission
  ▪ Susceptibility
Susceptible Person

- Person who is
  - Exposed to a person with an infectious or contagious disease
  - Exposed to a contaminated environment
- Criteria
  - Has no history of disease, documented by a physician, that would confer lifetime immunity; \textbf{and}
  - No laboratory evidence of immunity; \textbf{and}
  - No documentation of having been age appropriately vaccinated according to ACIP; \textbf{and}
  - No documentation acceptable to the secretary that demonstrates current immunity
Age Appropriately Vaccinated

- Documentation of age-appropriate vaccination with MMR and Varicella
  - One dose for preschool-aged children > 12 months
  - Two doses for children in kindergarten through 12th grade
  - Two doses for health-care personnel

Enteric Diseases
Enteric Diseases – Control of Cases

Exclusion
- Food Employee
- Healthcare worker
- Attending child care
- Working in child care

Amebiasis

Campylobacter
Giardiasis
Salmonellosis
Vibriosis

Cryptosporidiosis

No exclusions for contacts
Enteric Diseases – Control of Cases

No exclusions for contacts
Drug Resistant Organisms
Candida auris, Carbapenem-Resistant Bacteria – Control of Cases

- Contact precautions for persons infected or colonized
- No other isolation requirements

No exclusions for contacts
**Clostridium difficile, VISA, or VRSA Infections**

- Contact precautions for persons during acute illness
- No other isolation requirements

*No exclusions for contacts*
Vaccine Preventable Diseases
Cutaneous Diphtheria - Control of Cases

- Contact Precautions
- Home Isolation

Lesion

No Symptoms

14
Pharyngeal Diphtheria – Control of Cases

Droplet Precautions

Home Isolation

Nose and Throat

Nose and Throat

No Symptoms

24h

14
Pharyngeal Diphtheria – Control of Contacts

- Regardless of immunization status
- Monitor for 7 days
- Both nose and throat specimens cultured
  - If positive, consider same as case

No exclusion for contacts of cutaneous diphtheria
Pharyngeal Diphtheria – Control of Contacts

Exclusion

- Food Employee
- Healthcare worker
- Attending or working in child care facility, school, or adult day care

Nose and Throat

- 24h
- 24h

28 Days
Haemophilus influenzae, invasive disease – Control of Cases

Droplet precautions for 24 hours after initiation of antibiotics

No exclusions for contacts
Hepatitis A – Control of Cases

Exclusion
• Food Employee
• Healthcare worker
• Attending child care
• Working in child care

7 days after jaundice

14 Days from Onset
Hepatitis A – Control of Contacts

Exclusion
- Food Employee
- Healthcare worker
- Attending child care
- Working in child care

PEP with vaccine or IG within 14 days of exposure:
- No Exclusion

No PEP or PEP after 14 days of exposure:
- Excluded for 28 days
Herpes Zoster Virus (Shingles) – Control of Cases

Hospitalized and Disseminated

Airborne and contact precautions until lesions are crusted

Disseminated

Exclude until lesions are crusted

Cover Lesions

Not Disseminated

Can’t cover lesions then exclude

Food employees
Health care workers
Attending or working
Child care facility
Influenza – Control of Cases

- Droplet precautions for seven days
- Immunocompromised for duration of illness
- Home isolation for seven days
- Immunocompromised for duration of illness
- Unless seeking medical care

No regulations for contacts
Measles – Control of Cases

Airborne precautions for four days following rash onset

Home isolation for four days following rash onset
• Except when seeking medical care
Measles – Control of Contacts

Exclusion for Susceptible Contacts

- Working in an adult care home, correctional facility, or health care facility
- Attending or working in child care facility, school, or adult day care

21 days from last exposure

72 hours of first exposure

No Exclusion

Age Appropriately
Measles - Scenarios
Measles in a Daycare

- An infant with suspected measles was reported to KDHE within 4 hours
- There is considerable interaction between all the children and staff at the daycare
### Line list of Exposed Children and Staff

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Immunization Status</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child – 6 months</td>
<td>No MMR</td>
<td>Exclude for 21 days</td>
</tr>
<tr>
<td>Child - 12 months</td>
<td>No MMR</td>
<td>MMR within 72 hours or Exclude for 21 days</td>
</tr>
<tr>
<td>Child – 12 months</td>
<td>1 MMR</td>
<td>No Exclusion</td>
</tr>
<tr>
<td>Child – 4 years</td>
<td>1 MMR</td>
<td>Recommend MMR; No Exclusion</td>
</tr>
<tr>
<td>Child - Kindergarten</td>
<td>No MMR</td>
<td>Exclude for 21 days</td>
</tr>
<tr>
<td>Child - Kindergarten</td>
<td>1 MMR</td>
<td>MMR within 72 hours or Exclude for 21 days</td>
</tr>
<tr>
<td>Child - Kindergarten</td>
<td>2 MMR</td>
<td>No Exclusion</td>
</tr>
<tr>
<td>Staff – 25 years</td>
<td>2 MMR – Not Documented</td>
<td>Titers or Exclusion</td>
</tr>
<tr>
<td>Staff – 65 years</td>
<td>Unknown</td>
<td>No Exclusion; born before 1957</td>
</tr>
</tbody>
</table>
Measles in a Hospital

- An unvaccinated child was admitted to the hospital with suspected measles
- The hospital reported this case to KDHE within 4 hours
- Three nurses and a physician were exposed
Line List of Exposed Staff

- Nurse 1 – 28 years
  - No documented MMR
  - Titers if negative, exclude for 21 days

- Nurse 2 - 65 years
  - No documented MMR
  - Titers, if negative, exclude for 21 days

- Nurse 3 – 35 years
  - 2 MMR
  - No Exclusion

- Physician – 45 years
  - Positive titers
  - No Exclusion
Meningococcal Disease

Droplet precautions until 24 hours after initiation of antibiotic therapy

No regulation for non-hospitalized persons or contacts
Mumps – Control of Cases

Droplet precautions
- Nine days following onset of any symptom
- Five days after onset of parotitis

In home isolation
- Nine days following onset of any symptom
- Five days following the onset of parotitis
- Except when seeking medical care
Mumps – Control of Contacts

Exclusion for Susceptible Contacts

- Working in an adult care home, correctional facility, or health care facility
- Attending or working in child care facility, school, or adult day care

12 to 25 days from last exposure

No post-exposure vaccination to allow return to school or work site
Mumps Scenario
Mumps in a School

- A 15 year old child was diagnosed with mumps and KDHE was notified by telephone within 4 hours.
- Exposed persons were identified:
  - One household contact that attends daycare.
  - Two student contacts in a classroom.
  - One teacher in a classroom.
Line List of Exposed Staff

- **Household Contact – 2 years**: No documented MMR → Exclude from day 12 to 25
- **Student 1 – 15 years**: 1 MMR → Exclude from day 12 to 25
- **Student 2 – 5 years**: 2 MMR → No Exclusion
- **Teacher – 62 years**: No documented doses → No Exclusion; born before 1957
Pertussis – Control of Cases

- Droplet Precautions
- Home Isolation

Treatment Completion

21 Days
Pertussis – Control of Contacts

Susceptible Contacts

- Working in an adult care home, correctional facility, or health care facility
- Attending or working in child care facility, school, or adult day care

Monitor for 21 days from last exposure

No Exclusion for Contacts
Poliomyelitis – Control of Cases

Contact precautions for duration of illness

No regulations for non-hospitalized cases or contacts
Rubella – Control of Cases

Droplet precautions for seven days after onset of rash

In home isolation for seven days after onset of rash
Rubella – Control of Contacts

Exclusion for Susceptible Contacts

- Working in an adult care home, correctional facility, or health care facility
- Attending or working in child care facility, school, or adult day care

No post-exposure vaccination to allow return to school or work site

21 days from last exposure
Varicella – Control of Cases

Airborne precautions until vesicles are dry and crusted or for six days following onset of rash

Remain in home isolation until vesicles are dry and crusted or for six days following onset of rash
Varicella – Control of Contacts

Exclusion for Susceptible Contacts

- Working in an adult care home, correctional facility, or health care facility
- Attending or working in child care facility, school, or adult day care

21 days from last exposure

72 hours of first exposure

No Exclusion
Other Diseases
Pediculosis (head lice)

- No regulation
- CDC, American Academy of Pediatrics, and National Association of School Nurses advocate that children should not be excluded for lice or nits
Plague – Control of Cases

Droplet Precautions

48h
Plague – Control of Cases

- No Isolation
- 7 Days
Streptococcal Disease – Control of Cases

**Exclusion**
- Food Employee
- Attending child care or school
- Working in child care or school

**Droplet Precautions**

**Home Isolation**

**No regulations for contacts**

10 Days

24h
Vaccinia – Control of Cases

Contact precautions duration of acute illness and lesions are dry and crusted

No regulation for non-hospitalized persons or contacts
Viral hemorrhagic fevers

Droplet precautions

Airborne precautions if performing aerosol-generating procedures

No regulation for non-hospitalized persons or contacts
Discussion / Questions