Communicable Disease Recognition and Reporting

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Communicable Disease Unit

Kent County Health Department
Objectives

- How infections are spread
- Types of illnesses
  - Symptoms to look for
  - Exclusion Recommendations
- Disease Reporting
How Infections Are Spread

- **Fecal-oral:** Contact with human stool
- **Respiratory:** Contact with droplets from the nose, throat and mouth.
- **Direct skin to skin contact:** Contact with infected skin or contaminated items
- **Bloodborne:** Contact with blood or body fluids
Myths and Facts

- Myth: You are more likely to spread germs by kissing and hugging rather than shaking hands.
- Fact: Unless people wash their hands EACH TIME they cough or sneeze, they are more likely to spread germs with their hands.

Wash Your Hands Properly and Often!!!!
Examples of illnesses

- **Fecal-oral:** Hepatitis A, *Salmonella*, *E. coli*, Norovirus, *Shigella*
- **Respiratory:** Influenza, Meningitis, Whooping Cough, Colds
- **Direct skin to skin contact:** (rash like illnesses): Scabies, Chicken Pox, Impetigo, MRSA, pink eye, lice
- **Bloodborne:** Hepatitis B, Hepatitis C, HIV
Gastrointestinal Illness
Symptoms To Look For

- Stomach cramps
- Diarrhea (with or without blood)
- Nausea/vomiting
- Fatigue
- Fever
Campylobacter

- The most common cause of bacterial gastroenteritis in the U.S.
- A very small number of organisms (fewer than 500) can cause illness in humans
- Contact with infected pets (especially puppies and kittens) or farm animals
- Almost all raw poultry is contaminated with campylobacter
- Unpasteurized milk also a common source
Campylobacter

- Spread from person to person is unusual

- Exclusion Recommendation: 48 hours after treatment initiated or until asymptomatic, whichever is shorter
E. Coli O157:H7

- The major source for human illnesses is cattle
- Ingestion of contaminated food or water
- Contaminated unpasteurized items such as raw milk or cider pose a greater risk
- Bloody diarrhea
- Also non O157:H7 shiga-toxin producing strains (STEC)
**E. Coli O157:H7**

- Person to person spread through poor hand washing and contamination
- Exclusion Recommendation: Until 2 successive negative stool samples (collected 24 hours apart and not sooner than 48 hours after last dose of antimicrobials) or until 10 days after symptoms end
- Exclusion applies to children and staff
Salmonella

- Salmonellosis is more common in the summer than winter
- Inadequately cooked food (poultry, eggs)
- Children are the most likely to get salmonella. The rate of diagnosed infections in children less than five years old is about five times higher than the rate in all other persons
- Young children, the elderly, and the immunocompromised are the most likely to have severe infections
- CDC estimates that 74,000 cases of Salmonella per year are associated with exposure to reptiles or amphibians (directly or indirectly)
- Nationwide outbreaks associated with veggie snacks, jalapeño peppers, peanut butter, and eggs.
Salmonella

- Infants pose a greater risk of transmission
- Exclusion recommendation: until diarrhea stops
Shigella

- Humans are the only reservoir for the bacteria
- Very small infectious rate. 10-100 organisms can cause infection
- Children in daycare centers and nurseries are most at risk for infection
- Disease occurs worldwide with no seasonal incidence
Shigella

- Exclusion Recommendation: until 2 negative successive stool samples or after completion of 5 days of antibiotics.
- Applies to children and staff
Norovirus

- Most common cause of non-bacterial GI outbreaks
- Small number of viral particles required to cause illness
- Incubation period: 24-48 hours
- Illness duration: 24-48 hours
- High rate of secondary transmission
- Be aware of “public vomiting incidents”
- Bleach-based solution required for cleanup
Norovirus

- Exclusion Recommendation: until 48 hours after symptoms stop
- KCHD will assist with epidemiologic investigation, including specimen collection and testing, and provide guidance on cleaning
Hepatitis A

- Long incubation period (28-30 days)
- Symptoms: Fever, lack of appetite, nausea, abdominal discomfort, jaundice
- Childhood infection is asymptomatic or mild
- Transmission most effective one week prior and a few days after onset of jaundice
- Prolonged viral excretion (up to 6 months) has been documented in infants and children
Hepatitis A

- Exclusion Recommendation: Exclude until 7 days after onset of illness
- Post-exposure prophylaxis (with vaccine or immune globulin) for un-immunized close contacts
Respiratory Illness
Symptoms to Look For

- **Respiratory**
  - Runny nose
  - Sneezing
  - Coughing
  - Headache
  - Fever
  - Sore throat

- Difficulty breathing
- Shortness of breath
- Pain or tightness in chest
- Swelling of the sinuses
A Cold or the Flu?

- In general, flu symptoms are more severe than cold symptoms
- The flu usually starts very suddenly with a high fever, chills, body aches and tiredness

<table>
<thead>
<tr>
<th>Symptoms</th>
<th>Influenza</th>
<th>Cold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever</td>
<td>Usual, high (100-102, sometimes higher)</td>
<td>Rare</td>
</tr>
<tr>
<td>Headache</td>
<td>Common</td>
<td>Rare</td>
</tr>
<tr>
<td>General Aches/Pains</td>
<td>Usual, often severe</td>
<td>Slight</td>
</tr>
<tr>
<td>Fatigue/Weakness</td>
<td>Usual, can last up to 3 weeks</td>
<td>Sometimes</td>
</tr>
<tr>
<td>Extreme Exhaustion</td>
<td>Usual, at the beginning of illness</td>
<td>Never</td>
</tr>
<tr>
<td>Stuffy, runny nose</td>
<td>Sometimes</td>
<td>Common</td>
</tr>
<tr>
<td>Sneezing</td>
<td>Sometimes</td>
<td>Usual</td>
</tr>
<tr>
<td>Sore throat</td>
<td>Sometimes</td>
<td>Common</td>
</tr>
<tr>
<td>Cough</td>
<td>Common, can become severe</td>
<td>Common, hacking</td>
</tr>
<tr>
<td>Chest Discomfort</td>
<td>Common</td>
<td>Mild to moderate</td>
</tr>
</tbody>
</table>
Influenza

- Illness more severe for very young, elderly, or those with pre-existing health conditions
- Yearly, 5-20% of population get the flu
- Annually causes >200,000 hospitalizations in the US
- ~24,000 deaths yearly in US (90% in those >65 years old)
- Exacerbates other conditions (like asthma)
- Exclusion Recommendations: until fever-free for 24 hours w/o use of medications
Influenza-Like Illness

Percentage of School & Daycare Center Attendees With Influenza-like Illness* as Reported to the Kent County Health Department

* Influenza-like Illness (ILI) is defined as any child with pneumonia or fever and any of the following symptoms: sore throat, cough, generalized aching in the back or limb muscles. Vomiting and diarrhea alone is NOT respiratory flu.
Meningitis – Viral vs. Bacterial

- Similar Presentations
  - Headache, stiff neck, photophobia, fever
- Similar treatment upon presentation to HCP
  - Will begin antibiotic therapy until bacterial is ruled out
  - Spinal tap
- Concerned if culture reveals evidence of *Neisseria meningitidis* or *Haemophilus influenzae* type b (Hib)
  - Gram negative stain
  - Positive culture
- KCHD will perform contact tracing and arrange for post-exposure prophylaxis (PEP)
Pertussis

- Highly contagious
- Three stages of cough
- First stage similar to the common cold, but is the stage at which patients are most contagious

### Disease Progression:

<table>
<thead>
<tr>
<th>Weeks</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
</table>

**Stage 1 - Catarrhal Stage**
May last 1 to 2 weeks

- Symptoms: runny nose, low-grade fever, mild, occasional cough
- Highly contagious

**Stage 2 - Paroxysmal Stage**

- Lasts from 1-6 weeks; may extend to 10 weeks
- Symptoms: fits of numerous, rapid coughs followed by "whoop" sound; vomiting and exhaustion after coughing fits (called paroxysms)

**Stage 3 - Convalescent Stage**

- Lasts about 2-3 weeks; susceptible to other respiratory infections for many
- Recovery is gradual. Coughing lessens but fits of coughing may return.
Pertussis

- Can cause serious complications in infants and young children, especially those not fully vaccinated
- 50% of those less than 1 require hospitalization
- KCHD performs contact tracing and arranges PEP
- Recent outbreaks
Exclusion Recommendation: until completed 5 days of antibiotic treatment.
- Cases who do not receive treatment should be isolated for 3 weeks after onset of paroxysmal cough or until the end of cough (whichever is 1st)
- Household/close contacts require post-exposure treatment
- Inadequately immunized household contacts under 7 may be excluded for 3 weeks after last exposure or until 5 days of treatment completed
Rash Illness
Symptoms To Look For

- Redness on skin
- May or may not itch
- May or may not have a fever.
- A rash without a fever is GENERALLY not a reason to keep a child home.
Common Rashes

Chicken Pox

Measles
Common Rashes

Fifth’s Disease

Hand Foot & Mouth Disease
Common Rashes: Ringworm
Common Rashes: Scabies
Common Rashes: Impetigo
Exclusion Recommendations

- Chickenpox
  - Until lesions are dry and crusted. Usually 5 days in unimmunized children or 1-4 days in previously immunized children.

- Fifth’s Disease – Exclude while fever present

- Hand, Foot and Mouth – Exclude while fever present

- Ringworm
  - Until begin treatment with prescription medication

- Scabies
  - Until 24 hours after treatment initiated

- Impetigo
  - Until 24 hours after treatment initiated
MRSA

- A few MRSA cases in school are not unusual
- Minor skin infections
- Easily treated
- Death in children from CA-MRSA is rare
- Transmission is usually person-to-person
- Hygiene and hand-washing are key
MRSA

- Do NOT need to close school
- Do NOT exclude infected child if wound can remain covered and dry
- Usually not necessary for mass notification of parents/staff
- If there are 3 or more related cases in a school, contact KCHD
Disease Reporting
Michigan’s communicable disease rules are promulgated under the authority conferred on the Department of Community Health by section 5111 of Act. No. 368 of the Public Acts of 1978, as amended, being 333.511 of the Michigan Compiled laws.

Suspected violations of these rules will be reported to the appropriate licensing boards of the responsible health care professional.

These rules can be found at:
Who Should Report?

- Physicians, clinical laboratories, primary and secondary schools, childcare centers, and camps are required to report the occurrence or suspected occurrence of any disease, condition or infection as identified in the Michigan Communicable Disease Rules (R325.171 et al.)
Population Exposure
Person Becomes Ill
Person Seeks Care
Specimen obtained
Lab tests for organism
Culture-Confirmed Cases
Reported to Local Health Department
Reported to MDCH
Reported to CDC

Physician
KCHD
MDCH
CDC

World Health Organization

- U.S Statistics - MMWR (Weekly)
- Michigan Statistics (Research and Prevention)
- Health Alerts
- Notifiable Disease Report

• Health Alerts • Notifiable Disease Report • U.S Statistics - MMWR (Weekly) • Michigan Statistics (Research and Prevention)
## Michigan Disease Surveillance System

- **Case Investigation**
- **System Administration**
- **Reports**
- **Help**
- **Logout**

### Displaying results 1-10 of 40 found

<table>
<thead>
<tr>
<th>Investigation Status</th>
<th>Disease</th>
<th>Patient Name</th>
<th>Referral Date</th>
<th>Investigator</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active</td>
<td>Botulism - Foodborne</td>
<td>ROBERT SMITH</td>
<td>11/21/2003</td>
<td>USER, SUPER</td>
<td>Oakland County</td>
</tr>
<tr>
<td>New</td>
<td>Anthrax</td>
<td>JEAN SIMMONS</td>
<td>11/21/2003</td>
<td>USER, SUPER</td>
<td>Statewide</td>
</tr>
<tr>
<td>New</td>
<td>Cholera</td>
<td>JOEY TRIBBIANI</td>
<td>11/21/2003</td>
<td>USER, SUPER</td>
<td>Ingham County</td>
</tr>
<tr>
<td>New</td>
<td>Typhoid Fever</td>
<td>TIFFANY TYPHOID</td>
<td>11/21/2003</td>
<td>USER, SUPER</td>
<td>Allegan County</td>
</tr>
<tr>
<td>New</td>
<td>Streptococcal Toxic Shock</td>
<td>MIGHTY MOUSE</td>
<td>11/21/2003</td>
<td>ADMIN, LHJ</td>
<td>Berrien County</td>
</tr>
<tr>
<td>New</td>
<td>Botulism - Foodborne</td>
<td>JAMES COLLINS</td>
<td>11/24/2003</td>
<td>USER, SUPER</td>
<td>Oakland County</td>
</tr>
<tr>
<td>New</td>
<td>Brucellosis</td>
<td>JAMES LEE</td>
<td>11/24/2003</td>
<td>CLERICAL, LHJ</td>
<td>Washtenaw County</td>
</tr>
<tr>
<td>New</td>
<td>Salmonellosis</td>
<td>CHERYL MCDIARMID</td>
<td>11/24/2003</td>
<td>USER, SUPER</td>
<td>Ingham County</td>
</tr>
<tr>
<td>New</td>
<td>Salmonellosis</td>
<td>MICHAEL POPOVICH</td>
<td>11/24/2003</td>
<td>USER, SUPER</td>
<td>Detroit City</td>
</tr>
<tr>
<td>New</td>
<td>Salmonellosis</td>
<td>BRAD CARLSON</td>
<td>11/24/2003</td>
<td>ADMIN, LHJ</td>
<td>Washtenaw County</td>
</tr>
</tbody>
</table>

### Navigation

- [< First ]
- 1 2 3 4
- [Next >>]
- [Last >]
School Reporting

- **Aggregate Numbers**
  - Influenza-Like Illness
  - Gastrointestinal Illness

- **Individual Cases**
  - Meningitis – Viral and Bacterial
  - Measles
  - Pertussis
  - Hepatitis A
  - Chickenpox

- **Clusters**
  - Gastrointestinal Illness
  - Rash Illness/Skin Infections
  - Respiratory Illness
**Kent County Reporting Form**

**Section 1: Basic Information**

**Michigan School Building Weekly Report of Communicable Disease**
According to the State of Michigan Public Health Code (Public Act 368, of 1978 as amended), THE LOCAL HEALTH DEPARTMENT SHALL BE NOTIFIED IMMEDIATELY OF THE OCCURRENCE OF COMMUNICABLE DISEASE (ESPECIALLY RASH-LIKE ILLNESSES WITH FEVER). In addition to immediate notification by telephone at 616.632.7228, please include all occurrences on this form and fax to 616.632.7085 before 11 AM on Friday.

<table>
<thead>
<tr>
<th>Section 1. Please print clearly and complete in full. Your ID Number is your State ID number that begins with “41”.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week Ending</strong></td>
</tr>
<tr>
<td>[ ]</td>
</tr>
<tr>
<td><strong>Date:</strong></td>
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<td>[ ]</td>
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<tr>
<td><strong>Telephone:</strong></td>
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<td>[ ]</td>
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</tbody>
</table>

**NOTE:** State of Michigan Reporting Form is also acceptable.
**REPORTING FORM**

Section 2 – Aggregate Numbers

<table>
<thead>
<tr>
<th>Flu Types</th>
<th>Number Of Cases</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influenza Like Illness</td>
<td></td>
<td>Any child with pneumonia or fever and any of the following symptoms:</td>
</tr>
<tr>
<td>(Respiratory flu)</td>
<td></td>
<td>sore throat, cough, generalized aching in the back or limb muscles.</td>
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<td></td>
<td></td>
<td><strong>Vomiting and diarrhea alone is NOT respiratory flu.</strong></td>
</tr>
<tr>
<td>Gastrointestinal Illness</td>
<td></td>
<td>Any child with vomiting and/or diarrhea.</td>
</tr>
<tr>
<td>(Stomach flu)</td>
<td></td>
<td><strong>ONLY</strong></td>
</tr>
<tr>
<td>Unknown “Flu”</td>
<td></td>
<td>Parent reports “my child has the flu”, no symptom information available.</td>
</tr>
</tbody>
</table>
SECTION 3. List all confirmed or suspected cases of communicable diseases, including: Chickenpox, Measles, Rubella (German Measles), Mumps, Hepatitis, Pertussis (Whooping Cough), Haemophilus influenzae type B, Encephalitis and Meningitis or other—please specify. Please attach additional sheets as needed.

Also report within 24 hours the unusual occurrence or outbreak of any disease or infection.

| Name | Phone & Address | Date of Birth | Sex | Grade | Date First Absent | Disease | Diagnosed by:  
Dr., parent, teacher |
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<tr>
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On-Line Reporting

- Reports can also be submitted on-line
- Call 632-7228 to obtain a username and password for the on-line system or find the registration form at:
  [http://www.accesskent.com/Health/HealthDepartment/CD_Epid/pdfs/Online_Registration_Form.pdf](http://www.accesskent.com/Health/HealthDepartment/CD_Epid/pdfs/Online_Registration_Form.pdf)
Communicable Disease Reporting

Michigan School Building Weekly Report of Communicable Disease to Kent County Health Department

**Part 1** - Please report the total number of cases of each illness in this section. These cases do not need to be reported by student. Click **Next Page** below to report specific cases of communicable diseases.

<table>
<thead>
<tr>
<th>Week Ending:</th>
<th>3 / 25 / 2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>School:</td>
<td>Kent County Admin</td>
</tr>
<tr>
<td>School ID:</td>
<td></td>
</tr>
<tr>
<td>Submitted by:</td>
<td>Mary Lutzke</td>
</tr>
<tr>
<td>Title:</td>
<td>Epidemiologist</td>
</tr>
<tr>
<td>Phone:</td>
<td>(616)362-7237</td>
</tr>
<tr>
<td>Fax:</td>
<td>(616)632-7084</td>
</tr>
<tr>
<td>E-Mail:</td>
<td><a href="mailto:mary.lutzke@kentcounty.org">mary.lutzke@kentcounty.org</a></td>
</tr>
</tbody>
</table>

* Enrollment: [ ]
* Nothing to Report: [ ]
* Did school close this week due to excessive absences? [ ] Yes [ ] No

**Please Indicate the NUMBER of cases of each illness. These DO NOT need to be listed individually in the following section.**

<table>
<thead>
<tr>
<th>Flu Types</th>
<th>Number of Cases</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Influenza Like Illness (Respiratory Flu)</td>
<td>[ ]</td>
<td>Any child with pneumonia or fever AND any one of the following symptoms: sore throat, cough, generalized aching in the back or limb muscles. <strong>Vomiting and/or diarrhea alone are NOT typical symptoms of respiratory flu.</strong></td>
</tr>
<tr>
<td>* Gastrointestinal Illness (Stomach Flu)</td>
<td>[ ]</td>
<td>Any child with vomiting and/or diarrhea.</td>
</tr>
<tr>
<td>* Unknown Influenza (&quot;Flu&quot;)</td>
<td>[ ]</td>
<td>Parent reports &quot;my child has the flu&quot;, no symptom information available.</td>
</tr>
</tbody>
</table>

Number of absences due to Asthma, or "Breathing Problems": [ ]

<table>
<thead>
<tr>
<th>Illness</th>
<th>[ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strep Throat</td>
<td></td>
</tr>
<tr>
<td>Pink Eye (conjunctivitis)</td>
<td></td>
</tr>
<tr>
<td>Head Lice</td>
<td></td>
</tr>
<tr>
<td>Scarlet Fever</td>
<td></td>
</tr>
<tr>
<td>Fifth Disease</td>
<td></td>
</tr>
<tr>
<td>Impetigo</td>
<td></td>
</tr>
</tbody>
</table>
Communicable Disease Reporting

Michigan School Building Weekly Report of Communicable Disease to Kent County Health Department

Part 2 - Click Add Another to enter another case. Click Finish after entry of the last case.

According to the state of Michigan Public Health Code (Public Act 368, of 1978 as amended), the local health department immediately of the occurrence of communicable disease (especially rash - like illnesses with fever). Please include all occurrences.

List all confirmed or suspected cases of communicable diseases, including: Chickenpox, Measles, Rubella (German Measles or GERD), Pertussis (Whooping Cough), Haemophilus Influenza type B, Encephalitis, and Meningitis or other - please specify.

In case of unusual occurrences, call the Health Department immediately at: (616) 632-7228. Also report within 24 hours the unusual occurrence or outbreak of any disease or infection.

First Name: __________________________ Last Name: __________________________
Street: __________________________ City: __________________________ Zip: __________________________
Phone: _________- _________- _________

Age: _________ Sex: M ☐ F ☐
Grade: __________ Daycare ☐
Date First Absent: 6 ☐ / 13 ☐ / 2005 ☐
Diagnosed by: Doctor ☐

Disease: Chicken Pox
If other, please describe: __________________________

Add Another ☐ Finish ☐ Reset ☐
Reporting Clusters

- Signs and symptoms
- Duration of illness
- Number of Cases (students and staff)
- Total students/staff in facility
- Date of symptom onset
- Location of cases (i.e. same class, grade, or wing)
- Name, DOB and grade of those ill

Use of a line list may be helpful.
Where to Get More Information

- Kent County Health Department
  - (616) 632-7228
  - www.accesskent.com/health
- Centers for Disease Control and Prevention (CDC) website:
  - www.cdc.gov