Communicable Disease Prevention in the Workplace

Stark County Health Department
Sherry A. Smith MS, BSN, RN
Julia Wagner MPH
Objectives

Part I: An overview of prevention in the community

Part II: Common communicable diseases

Part III: Risk Management in the Workplace
Communicable Diseases

Diseases you can “catch” from:

- People (e.g. measles)
- Insects (e.g. mosquitoes)
- Animals (e.g. bats, horses, cattle)
- The environment (e.g. contaminated water, waste)
The Health Department’s Role:

- Surveillance and monitoring of communicable diseases in order to detect outbreaks early and prevent their spread
How It’s Done:

1. Receive reports from primary care offices, hospitals, laboratories, school nurses, and concerned citizens
2. Follow up with phone interviews
3. Enforce isolation requirements
4. Conduct site visits to provide assistance to those dealing with an outbreak and provide guidance to prevent it’s spread
Who must report:

- Healthcare providers with knowledge of a case or suspect case of a disease which is required to be reported
- Laboratorians that examine specimens of human origin with evidence of diseases which are required to be reported
- Any individual having knowledge of a person suffering from a disease suspected of being communicable
To Whom to Report:

- To the local health jurisdiction in which the case or suspected case resides
## What is reportable?

### Class A:

Diseases of major public health concern because of the severity of disease or potential for epidemic spread — report immediately via telephone upon recognition that a case, a suspected case, or a positive laboratory result exists.

- Anthrax
- Botulism, foodborne
- Cholera
- Diphtheria
- Influenza A — novel virus infection
- Measles
- Meningococcal disease
- Middle East Respiratory Syndrome (MERS)
- Plague
- Rabies, human
- Rubella (not congenital)
- Severe acute respiratory syndrome (SARS)
- Smallpox
- Tularemia
- Viral hemorrhagic fever (VHF), including Ebola virus disease, Lassa
- Fever, Marburg hemorrhagic fever, and Crimean-Congo hemorrhagic fever
- Yellow fever

Any unexpected pattern of cases, suspected cases, deaths or increased incidence of any other disease of major public health concern, because of the severity of disease or potential for epidemic spread, which may indicate a newly recognized infectious agent, outbreak, epidemic, related public health hazard or act of bioterrorism.
An overview of prevention in the community

### Class B:
Disease of public health concern needing timely response because of potential for epidemic spread – report by the end of the next business day after the existence of a case, a suspected case, or a positive laboratory result is known.

- Amebiasis
- Arboviral neuroinvasive and non-neuroinvasive disease:
  - Chikungunya virus infection
  - Eastern equine encephalitis virus disease
  - LaCrosse virus disease (other California serogroup virus disease)
  - Powassan virus disease
  - St. Louis encephalitis virus disease
  - West Nile virus infection
  - Western equine encephalitis virus disease
  - Other arthropod-borne diseases
- Babesiosis
- Botulism
- infant
- wound
- Brucellosis
- Campylobacteriosis
- Chancroid
- *Chlamydia trachomatis* infections
- Coccidioidomycosis
- Creutzfeldt-Jakob disease (CJD)
- Cryptosporidiosis
- Cyclosporiasis
- Dengue
- *E. coli* 0157:H7 and Shiga toxin-producing *E. coli* (STEC)
- Ehrlichiosis/anaplasmosis
- Giardiasis
- Gonorrhea (*Neisseria gonorrhoeae*)
- *Haemophilus influenzae* (invasive disease)
- Hantavirus
- Hemolytic uremic syndrome (HUS)
- Hepatitis A
- Hepatitis B (non-perinatal)
- Hepatitis B (perinatal)
- Hepatitis C
- Hepatitis D (delta hepatitis)
- Hepatitis E
- Influenza-associated hospitalization
- Influenza-associated pediatric mortality
- Legionnaires’ disease
- Leprosy (Hansen disease)
- Leptospirosis
- Listeriosis
- Lyme disease
- Malaria
- Meningitis:
  - Aseptic (viral)
  - Bacterial
- Mumps
- Mycobacterial disease, other than tuberculosis (MOTT)
- Pertussis
- Poliomyelitis (including vaccine-associated cases)
- Psittacosis
- Q fever
- Rubella (congenital)
- Salmonellosis
- Shigellosis
- Spotted Fever Rickettsiosis, including Rocky Mountain spotted fever (RMSF)
- *Staphylococcus aureus*, with resistance or intermediate resistance to vancomycin (VRSA, VISA)
- Streptococcal disease, group A, invasive (IGAS)
- Streptococcal disease, group B, in newborn
- Streptococcal toxic shock syndrome (STSS)
- *Streptococcus pneumoniae*, invasive disease (ISP)
- Syphilis
- Tetanus
- Toxic shock syndrome (TSS)
- Trichinellosis
- Tuberculosis (TB), including multi-drug resistant tuberculosis (MDR-TB)
- Typhoid fever
- Typhus fever
- Variella
- Vibriosis
- Yersiniosis
Institutional Outbreaks

“Two or more cases of similar illness with a common exposure at an institution”

Class C:
Report an outbreak, unusual incident or epidemic of other diseases (e.g. histoplasmosis, pediculosis, scabies, staphylococcal infections) by the end of the next business day.

Outbreaks:
- Community
- Foodborne
- Healthcare-associated
- Institutional
- Waterborne
- Zoonotic
In general why report?

- Protect and improve the health of the public
- Prevent the spread of diseases
- Protect contacts from possible infection
- Recognize related cases in order to detect outbreaks
Influenza

A respiratory illness caused by a virus that generally comes on suddenly. Some of the symptoms are as follows:

- Fever (not everyone will have a fever)
- Cough
- Sore throat
- Runny or stuffy nose
- Muscle or body aches
- Headaches
- Fatigue (tiredness)
- Some people may have vomiting and diarrhea, though this is more common in children than adults.
Part II: Common communicable diseases

Symptoms of Influenza

Central
- Headache

Systemic
- Fever (usually high)

Muscular
- (Extreme) tiredness

Joints
- Aches

Nasopharynx
- Runny or stuffy nose
- Sore throat
- Aches

Respiratory
- Coughing

Gastric
- Vomiting
Part II: Common communicable diseases

Complications

- Pneumonia
- Bronchitis
- Sinus and ear infections
- Worsening of chronic health problems
- Hospitalizations
- Death
Transmission

- Spread by respiratory droplets and direct contact
- Contagious one day before symptoms start and five to seven days after symptoms start
  - Children may be contagious longer
  - Some people may be infected with the influenza virus and not show any symptoms regardless, they are still contagious during these times.
Prevention

- Prevent the spread by cleaning surfaces up to 5 foot distance from the infected person.
- Properly covering your mouth when coughing or sneezing
- Following good hand hygiene habits
- Getting vaccinated
- Staying home from work when sick
Vaccination

• Reduces the risk of infection and the severity of symptoms if contracted
  – Reduces the risk of spreading the flu
  – Reduces the risk of dangerous complications of influenza

• Influenza vaccination of healthy working adults saves $47 per person annually in health care costs and sick days
YOU CANNOT GET THE FLU FROM THE FLU SHOT!!
Flu Season

In the northern hemisphere an increase in flu cases occur annually during the winter months. Here, flu season is generally followed from October to May.

- During the 2014-2015 influenza season, Stark County had 583 residents hospitalized for influenza.
• Influenza is the leading infectious disease killer in the US with 35-40,000 deaths per year
Projected lost earnings due to illness and loss of life amounted to $16.3 billion (C.I., $8.7, $31.0) annually.

The total economic burden of annual influenza epidemics using projected statistical life values amounted to $87.1 billion (C.I., $47.2, $149.5).

Protect your Business

- Host a vaccination clinic
- Promote flu vaccination in your business
- Partner with a provider or pharmacy
- Share the Flu Vaccine Finder
- Offer free or reduced-cost vaccines
- Announce availability through newsletters, email or paycheck inserts
Part II: Common communicable diseases

Additional Resources for your business can be found at: http://www.cdcfoundation.org/businesspulse/flu-prevention-infographic#challenges_anchor.
The Common Cold

Symptoms: Sore throat, runny nose, sneezing
- Though symptoms may be similar colds are usually milder than the flu.
- People with colds are more likely to have a runny or stuffy nose.
- Colds generally do not result in serious health problems, such as pneumonia, bacterial infections, or hospitalizations.

- Acquired through direct and indirect contact (dirty tissues) and inhalation of respiratory droplets (Remember 5 ft.!)
The Common Cold

• Contagious for 24 hours before symptoms appear to 5 days after onset
• Though there are no vaccines available for a cold, all other preventative measures remain the same.
The Common Cold

• According to the Centers for Disease Control and Prevention, common colds are the number one reason adults miss work.
  – Adults have an average of about 2-3 colds per year and a the average cold last 7-10 days.
Tuberculosis

- Tuberculosis (TB) is a bacteria that can infect any organ of the body, but is only contagious if it infects the lungs or larynx.
**Tuberculosis**

**Latent TB**: infected, but the body is able to fight the bacteria. They are not symptomatic nor are they contagious regardless of infection location.

**Active TB**: infected and the body cannot fight off the infection. Symptoms occur such as severe fatigue, weight loss, and coughing.
Part II: Common communicable diseases

Tuberculosis

A Positive TB skin test

– Does not indicate contagious TB disease
– Does indicate that you were exposed to TB in the past
– May take medication to prevent the development or progression of the disease
Tuberculosis

Suspect Active TB:

- Requires extensive investigation and testing of possible contacts
- Local health department closely monitors treatment through Directly Observed Therapy (DOT)
  - Treatment lasts a minimum of 6 months
Tuberculosis in Stark County

Stark County is a low risk community

2013:
• 0 confirmed cases

2014:
• 1 confirmed case

So far in 2015:
• 2 confirmed cases

➢ There were no cases of INH or multidrug resistant TB cases in Stark from 2011-2014.
Part II: Common communicable diseases

Mumps Re-Emerging

361 cases of mumps in central Ohio

Officials in Ohio are urging those at high risk of mumps to get vaccinated as an outbreak spreads...

60 reported cases of mumps at University of Illinois since April

By Ann Claire Stapleton and Debra Goldschmidt, CNN

The NHL’s mumps epidemic hits Rangers again

By Larry Brooks

December 13, 2014 | 2:04am
Mumps

- an acute, viral disease characterized by fever, swelling, and tenderness of one or more salivary glands.
- This virus is spread by the infected person’s saliva or mucous when they cough, sneeze or wipe their mouth and touch something without washing their hands.
- A person is contagious five days before their salivary glands start to swell.
Mumps

• Complications may cause encephalitis, meningitis, infertility, or deafness

• The MMR vaccine is currently the best form of prevention.
  – 2 doses are 88% effective in preventing an exposed individual from becoming ill with the mumps virus.
Part II: Common communicable diseases

Measles Re-Emerging
Measles

• An acute respiratory illness caused by a virus which starts off causing a fever and cough. It ends with a three day rash wrapping around the body.

• The virus is transmitted through respiratory droplets similar to mumps. The measles virus can remain infectious for up to two hours even after the infected individual leaves the area.

• An infected individual is contagious from four days before their rash onset to four days after the rash appears.
Measles

• Complication can occur causing bronchitis, pneumonia, encephalitis leading to permanent brain damage and death among children.

• The MMR vaccine is currently the best form of prevention.
  – 2 doses are 97% effective in preventing an exposed individual from becoming ill with the measles virus.
Part II: Common communicable diseases

Pertussis Re-Emerging

California Battles Worst Whooping Cough Epidemic In Seven Decades

Whooping Cough Outbreak Grows
Pertussis

• A bacterial respiratory illness also known as “whooping cough.” It is characterized by coughing attacks that cause the individual to need to take a deep breath and make the “whoop” sound.

• Transmitted through close contact with infectious respiratory droplets.

• An infected individual may not develop symptoms for three weeks, but are still contagious.
Part II: Common communicable diseases

Pertussis

Disease Progression:

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

- Complications can cause pneumonia, convulsions, apnea, encephalopathy, and death.
- The DTaP vaccine is the best form of prevention and the Tdap booster shots are available for adolescents and adults.
Part II: Common communicable diseases

Legionnaire's Disease Re-Emerging
Legionnaire's Disease

- Caused by the Legionella bacteria which grows in warm stagnant water. Symptoms include fever, shortness of breath, coughing, and pneumonia.
- Transmitted when the harboring water is aerosolized through a cooling tower, air conditioner, humidifier, etc. and a person breaths it in.
- This bacteria can not be spread person to person.
Legionella

• Complications can include lung failure and death if left untreated.

• There is no vaccine available, but antibiotics are typically successful.

• The best form of prevention is to maintain water systems appropriately. Treating water with heat or disinfectant will kill off any of the Legionella bacteria.
Workplace Transmission

Communicable diseases spread easily in our workplaces

- Groups of people in close contact, for extended periods and on a daily basis
- Culture of attendance even when sick
- Possible contact with asymptomatic carriers e.g. contagious before the symptoms show
- Non-vaccinated populations or exposure to populations with poor personal health hygiene habits
- Environmental e.g. Returning to workplaces that may have been flooded, contaminated with waste water/surface water
Hand Washing is one of the most important measures in preventing transmission of infection. Hands should be washed using soap, water and dried:

- **before**
  - handling, preparing or eating food
- **before and after**
  - assisting students with eating/meals
  - assisting students with toileting
  - providing first aid or medication
  - contact with an ill or injured person
- **after**
  - contact with blood or body fluids
  - (this includes your own e.g. sneezing/coughing)
  - removal of protective gloves
  - using the toilet; and
  - after contact with animals.
Vaccination

• Where a vaccination exists, this is the highest order of protection from the infectious disease.

• Vaccination boosts the immune system and creates immunity that protects from an infection without causing the suffering of the disease itself.

• Most vaccines contain a little bit of the disease germ that is weak or dead. Vaccines do NOT contain the type of germ that makes you sick.

• Getting the vaccine is a much safer way to make antibodies without having to suffer the disease itself.
Recommended Vaccinations for:

- Persons who work with children
  - Influenza
  - MMR (measles, mumps, rubella)
  - Pertussis (whooping cough)
  - Varicella (chicken pox)

- Staff working in early childhood education and care
  - All of the above plus hepatitis A.
Vaccination Cont.’

• Know your immunization status - Review your immunization records. If you don’t have any, consider a blood test to confirm your existing immunization status. You may find you need a “booster”.
  – Keep this information handy.

• Before traveling outside of the United States, employees should review their immunization history and determine from the CDC website, as well as their own healthcare provider, what vaccinations are needed for the countries to which they are traveling.
Contaminated food and drink are the major sources of intestinal or stomach illnesses while traveling.

Simple rule of thumb: “Boil it, cook it, peel it, or forget it.”
– In areas with poor sanitation, only the following beverages may be safe to drink: boiled water, hot beverages such as coffee or tea made with boiled water; and canned or bottled carbonated beverages.
– Ice may be made from unsafe water and should be avoided.
– Water on the surface of the beverage can or bottle may also be contaminated. Therefore, the area of the can or bottle that will touch the mouth should be wiped clean and dried.
– In areas where water is contaminated, travelers should not brush their teeth with tap water.
When Traveling

• Before traveling abroad, employees should check the CDC website at http://www.cdc.gov/travel/ for travel alerts or travel advisories regarding the potential for exposure to various diseases.
• For travel within the United States, employees should visit the CDC website http://www.cdc.gov/mmwr/.
  – A travel advisory recommends that nonessential travel be deferred
  – A travel alert does not advise against travel, but informs travelers of a health concern and provides advice about specific precautions.
When Traveling

• If the CDC issues a travel advisory for an area to which an employee is scheduled to travel, employees are to discuss with their supervisor whether to postpone the trip or cancel the trip and use an alternative method of communication, such as an audio or teleconference or live video feed.

• Employees are expected to identify medical care resources when traveling to areas subject to a travel alert or advisory.

• The Human Resources Department should contact employees already in an area when an alert or advisory is issued.
Crisis Management Plan

• Create/Review/Update crisis management and business continuity plans.

• Make sure to include:
  – Who takes charge of crisis management plan as well as who and how employees are contacted
  – Identify the skill sets needed to maintain minimum operations
  – Review contracts to address commitments during a disease outbreak
  – Create framework for media, shareholders, and customer communications.

Crisis Management Plan Cont’

• Make sure the following are considered:
  – The role of government during a facility outbreak
  – Vaccination availability and forms
  – Support clinics
  – Contact tracing
  – Laboratory testing
  – Prevention control guidelines
Crisis Management Plan Cont’

The role of the Employer:

• Test the continuity plan
• Exercise the communication plans for all stakeholders
• Establish/Reconfirm contact protocols to public health and safety agencies. Assure that lines of communication are open and flowing
• Develop and test a medical/wellness plan that includes vaccinations, antiviral medications, exposure reduction and avoidance, and employee education
• In order to be prepared prior to an outbreak the aforementioned steps should be explored, a stockpile of potential supplies should be kept, and all procedures should be documented including the economic impact and recovery processes.

• Being prepared in advance could make the difference between keeping the business going or shutting down.
For more information on any of the communicable diseases we mentioned today please see the Centers for Disease Control and Prevention at [www.cdc.gov](http://www.cdc.gov).

You can also call us at the Stark County Health Department at 330.493.9914 or visit our website for the most recent statistics at [www.starkhealth.org](http://www.starkhealth.org)
The End!