2012 Changes to the National Notifiable Disease Surveillance System (NNDSS)

West Michigan Epi Exchange
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Background

- The list of nationally notifiable infectious diseases is revised periodically
  - Disease may be added as a new pathogen emerges
  - Disease may be deleted as incidence declines
- The Council of State and Territorial Epidemiologists (CSTE), with input from CDC, makes recommendations annually for additions and deletions to the list of nationally notifiable diseases
- Reporting of diseases is mandated at the state level and the list varies slightly by state
  - CDC has some case definitions available to non-nationally notifiable diseases
  - For other diseases there is not a national case definition

2012 NNDSS Changes

- Addition of “suspect case” to salmonella and shigellosis
- New reportable conditions, Melioidosis
- Various revisions to case definitions and laboratory criteria for selected national surveillance case definitions
- Should be used for reporting new 2012 cases beginning in January 2012
Where can these revisions be found?

- The CDC's case definitions for Nationally Notifiable Infectious Conditions can be found from the link in MDSS.
- But this link takes you to the 2011 case definitions.
- The 2012 revisions are currently in PDF format and can be found under the "Contents" box.

Addition of “Suspect Case” to Salmonella

- The “Suspect Case” is a new case classification.
- The suspected category will enable public health to track and assess salmonellosis cases diagnosed by non-culture-based laboratory methods.
- Salmonella
  - Laboratory Criteria: Suspect – Detection of Salmonella from a clinical specimen using a non-culture-based method.
  - Case Classification: Suspect – A case that meets the suspect laboratory criteria for diagnosis.

Addition of “Suspect Case” to Shigellosis

- The “Suspect Case” is a new case classification.
- The suspected category will enable public health to track and assess shigellosis cases diagnosed by non-culture-based laboratory methods.
- Shigellosis
  - Laboratory Criteria: Suspect – Detection of Shigella from a clinical specimen using a non-culture based method.
  - Case Classification: Suspect – A case that meets the suspect laboratory criteria for diagnosis.
Caused by the bacterium *Burkholderia pseudomallei*

- Found in water and soil
- Infection through direct contact with an environmental source or through aerosolization
- B. pseudomallei infection has been identified in humans and animals
- Melioidosis may present as a localized infection, pneumonia, bacteremia or disseminated infection and is potentially severe and fatal
- Incubation period: generally 1–21 days (median 9 days)
- Disease may occur decades after exposure
- With a high inoculum, symptoms may appear within a few hours of exposure
- Predominant in tropical climates and primarily endemic in southeast Asia, China and northern Australia

**Melioidosis**

- Melioidosis is considered to be a global threat by many experts
- *Burkholderia pseudomallei* is included on the list of category B bioterrorism agents and toxins due to its suitability as a biological weapon
- In the United States, confirmed cases have occurred among travelers to and immigrants from areas of endemcity
- B. pseudomallei has also been isolated from military personnel of all nationalities (including U.S. troops) who have served in areas endemic for melioidosis

**Melioidosis Case Classification**

- **Probable**: A case that meets the clinical case definition, one or more of the probable lab criteria, and one of the following epidemiologic findings:
  - History of travel to a melioidosis-endemic region, OR
  - Known exposure to B. pseudomallei as a result of intentional release or occupational risk (lab exposure).
- **Confirmed**: A case that is laboratory confirmed, with or without clinical evidence
Clinical presentation of the disease varies on a case by case basis. The following characteristics are typical of melioidosis. An acute or chronic localized infection which may or may not include symptoms of fever and muscle aches. Such infection often results in ulcer, nodule, or skin abscess. An acute pulmonary infection with symptoms of high fever, headache, chest pain, anorexia, and general musculoskeletal. A bloodstream infection with symptoms of fever, headache, respiratory distress, abdominal discomfort, joint pain, muscle tenderness, and/or disorientation. A disseminated infection with symptoms of fever, weight loss, stomach or chest pain, muscle or joint pain, and/or headache or seizure. Abscesses in the liver, lung, spleen, and prostate are often observed in patients diagnosed with disseminated infections; less frequently, brain abscesses may be seen.

Confirmed:
- Isolation of B. pseudomallei from a clinical specimen of a case of severe febrile illness: Culture of the organism may be done by blood, sputum, urine, pus, throat swab, or swabs from organ abscesses or wounds.
- Evidence of a fourfold or greater rise in B. pseudomallei antibody titer by IHA between acute and convalescent phase serum specimens obtained greater than or equal to 2 weeks apart.
- Evidence of B. pseudomallei DNA (for example, by LRN-validated polymerase chain reaction) in a clinical specimen collected from a normally sterile site (blood) or lesion of other affected tissue (abscesses, wound).

Probable:
- Evidence of a fourfold or greater rise in B. pseudomallei antibody titer by IHA between acute and convalescent phase serum specimens obtained greater than or equal to 2 weeks apart.
- Evidence of B. pseudomallei DNA (for example, by LRN-validated polymerase chain reaction) in a clinical specimen collected from a normally sterile site (blood) or lesion of other affected tissue (abscesses, wound).

Cryptosporidiosis
- More specific clinical description
  - Diarrhea duration of 72 hours or more, abdominal cramping, vomiting, or anorexia
  - Laboratory criteria changes
    - Addition of Enzyme Immunoassay (EIA) or Light microscopy of stained specimen as laboratory criteria for a confirmed case
    - Addition of rapid card test or a laboratory test of unknown method as laboratory criteria for a probable case
- Additional Comment:
  - Persons who have a diarrheal illness and are epidemiologically linked to a probable case because that individual was only diagnosed with cryptosporidiosis by an immunocard/rapid test/ or unknown test method cannot be classified as probable cases.
  - These epidemiological links can be considered suspect cases only
Hepatitis A

Additions and a deletion to clinical signs and symptoms specified in the case definition were made

2012 Clinical Description:

- An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and either
  - a) jaundice, or
  - b) elevated serum aminotransferase (alanine aminotransferase or aspartate aminotransferase) levels

Hepatitis B, Acute

Revisions to specific signs and symptoms in the clinical case definition and laboratory criteria

2012 Clinical Description:

- An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and either
  - a) jaundice, or
  - b) elevated serum alanine aminotransferase (ALT) levels >100 IU/L

* A documented negative hepatitis B surface antigen (HBsAg) laboratory test result within 6 months prior to a positive test (either HBsAg, hepatitis B "e" antigen [HBeAg], or hepatitis B virus nucleic acid testing [HBV NAT] including genotype) result does not require an acute clinical presentation to meet the surveillance case definition

Hepatitis B, Acute cont.

Laboratory Criteria for Diagnosis:

- HBsAg positive, AND
- Immunoglobulin M (IgM) antibody to hepatitis B core antigen (IgM anti-HBc) positive (if done)
- The criteria of having a negative IgM anti-HAV was removed
Hepatitis B, chronic

- Laboratory criteria revised
  - Specifies that a positive hepatitis B virus (HBV) DNA includes qualitative, quantitative and genotype testing.

Hepatitis C, Acute

- Revisions to specific signs and symptoms in the clinical case definition and laboratory criteria
  - 2012 Clinical Description:
    - An acute illness with a discrete onset of any sign or symptom* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and either
      - a) jaundice, or
      - b) elevated serum alanine aminotransferase (ALT) levels >400 IU/L.

- A documented negative HCV antibody laboratory test result followed within 6 months by a positive test (as described in the laboratory criteria for diagnosis) result does not require an acute clinical presentation to meet the surveillance case definition.

Hepatitis C, Acute

- Laboratory criteria revised
  - Specifies that Nucleic Acid Test (NAT) for HCV RNA positive includes qualitative, quantitative and genotype testing.
  - Specifies “if done” for meeting the following two criteria
    - Absence of IgM antibody to hepatitis A virus (if done) (IgM anti HAV), AND
    - Absence of IgM antibody to hepatitis B core antigen (if done) (IgM anti HBc)
**Hepatitis C, Chronic**

- The laboratory criteria were revised
- 2012 Laboratory Criteria for Diagnosis
- Laboratory Criteria for Diagnosis
  - One or more of the following three criteria (except in persons less than 18 months of age, for whom only criteria 3 would meet the case classification criteria):
    - Antibodies to hepatitis C virus (anti-HCV) screening test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay as defined by CDC, OR
    - Hepatitis C virus recombinant immunoblot assay (HCV RIBA) positive, OR
    - Nucleic acid test (NAT) for HCV RNA positive (including qualitative, quantitative or genotype testing)

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**2012 Case classification**

- Suspect:
  - Parotitis, acute salivary gland swelling, orchitis, or oophoritis unexplained by another more likely diagnosis, OR
  - A positive lab result with no mumps clinical symptoms (with or without epidemiological linkage to a confirmed or probable case).

- Probable:
  - Acute parotitis or other salivary gland swelling lasting at least 2 days, or orchitis or oophoritis unexplained by another more likely diagnosis, OR
  - A person with a positive test for serum anti-mumps immunoglobulin M (IgM) antibody, OR
  - A person with epidemiological linkage to another probable or confirmed case or linkage to a group/community defined by public health during an outbreak of mumps.
Mumps

- 2013 Case classification, cont.
  - Confirmed:
    - A positive mumps laboratory confirmation for mumps virus with reverse transcription polymerase chain reaction (RT-PCR) or culture in a patient with an acute illness characterized by any of the following:
    - Acute parotitis or other salivary gland swelling, lasting at least 2 days
    - Aseptic meningitis
    - Encephalitis
    - Hearing loss
    - Orchitis
    - Oophoritis
    - Mastitis
    - Pancreatitis

Vibriosis

- The case definition was expanded to include other species that cause vibriosis
- Laboratory Criteria for Diagnosis
  - Isolation of a species of the family Vibrionaceae (other than toxigenic Vibrio cholerae O1 or O139, which are reportable as cholera) from a clinical specimen
- Comment: Genera in the family Vibrionaceae (not all have been recognized to cause human illness) currently include:
  - Aliivibrio
  - Alloomonas
  - Catenococcus
  - Enterovibrio
  - Grimontia
  - Listonella
  - Photobacterium
  - Salinivibrio
  - Vibrio