State of Montana *Health Alert Network*

DPHHS HAN

Health Advisory

Cover Sheet

DATE: June 8, 2015

SUBJECT: Ciprofloxacin- and Azithromycin-Nonsusceptible Shigellosis in the United States and Montana

For LOCAL HEALTH DEPARTMENT reference only

DPHHS Subject Matter Resource for more information regarding this HAN, contact:

DPHHS CDCP
Epidemiology Section
1-406-444-0273

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Categories of Health Alert Messages:

Health Alert: conveys the highest level of importance; warrants immediate action or attention.
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State of Montana *Health Alert Network*

DPHHS HAN

Information Sheet

Date: June 8, 2015

Subject: Ciprofloxacin- and Azithromycin-Nonsusceptible Shigellosis in the United States and Montana

Background: In recent months, several cases of antimicrobial resistant shigellosis with matching pulse-field electrophoresis patterns (PFGE) have been reported in Montana. Four cases, from two counties and reported between December 2014 and April 2015, were resistant to: 1) ampicillin, 2) ciprofloxacin, 3) nalidixic acid, 4) streptomycin, 5) sulfisoxazole, 6) tetracycline, and 7) trimethoprim/sulphamethoxazole. Two of them have self-identified as men who have sex with men (MSM). For the two others, no risk factors could be identified. No young children were reported ill with this strain.

Targeted outreach and educational messaging have been provided and no other cases of drug resistant shigellosis have been reported in Montana since April 2015. However, neighboring states continue to experience increases levels of disease.

Information: The risk of shigellosis is generally higher for MSM and children in day care settings. Montana experienced two outbreaks of shigellosis between 2013 and 2014 – both occurred in pre-school settings. If drug-resistant *Shigella* continues to spread in the community, it may become difficult to treat patients successfully and control the spread of disease among the population.

Recommendations:

Providers:

- Obtain stool cultures from patients suspected of having shigellosis
- Report all cases of Shigellosis to your local health department as soon as possible, and confer regarding submission of specimens to the Montana Public Health Laboratory (MTPHL)
- The Montana Public Health Laboratory (MTPHL) has the ability to test for resistant strains of Shigellosis and a specimen should be submitted for all suspected cases. MTPHL can be contacted regarding testing at 1-800-821-7284
- See the attached CDC Health Alert Network message for additional clinical recommendations

Local health jurisdictions:

- Work with providers and/or cases to ensure submission of specimens for testing
- The concentration of resistant cases of Shigellosis in MSM should be considered when conferring with providers and cases for investigation
- Determine travel history and the potential for out of state contacts in all adult cases in particular
- CDC has developed new guidance and a fact sheet on prevention of shigellosis among MSM, it can be found at: http://www.cdc.gov/shigella/msm.html
- See the attached CDC Health Alert Network message for additional clinical recommendations

This is an official

CDC HEALTH ADVISORY

Distributed via the CDC Health Alert Network
June 4, 2015, 14:00 EST (2:00 PM EST)
CDCHAN-00379

Ciprofloxacin- and Azithromycin-Nonsusceptible Shigellosis in the United States

Summary: *CDC continues to receive new reports of infections with Shigella strains that are not susceptible to ciprofloxacin and/or azithromycin, the antimicrobial agents most commonly used to treat shigellosis. Most cases have been reported among gay, bisexual, and other men who have sex with men (collectively referred to as MSM) in Illinois, Minnesota, and Montana and among international travelers, but cases are also occurring among other populations. Shigellosis is very contagious and can spread quickly through communities and across different segments of the population.*

CDC recommends meticulous handwashing and other hygiene practices to prevent shigellosis and encourages patients with symptoms of shigellosis such as diarrhea and fever to visit a healthcare provider. Clinicians should obtain stool cultures from patients suspected of having shigellosis, counsel patients about shigellosis prevention, and, when treatment is required, select drugs based on antimicrobial susceptibility test results.

This Health Alert Network (HAN) Advisory provides the following:

- *Information about the current status of the outbreaks;*
- *Recommendations for clinical management, counseling, and follow-up of exposed patients and their contacts;*
- *Recommendations on general prevention methods for the public, childcare centers, MSM, and international travelers;*
- *Information about testing and interpretation of azithromycin susceptibility among shigellae; and*
- *Information about revisions to CDC's Shigella website on shigellosis prevention among MSM.*

Background

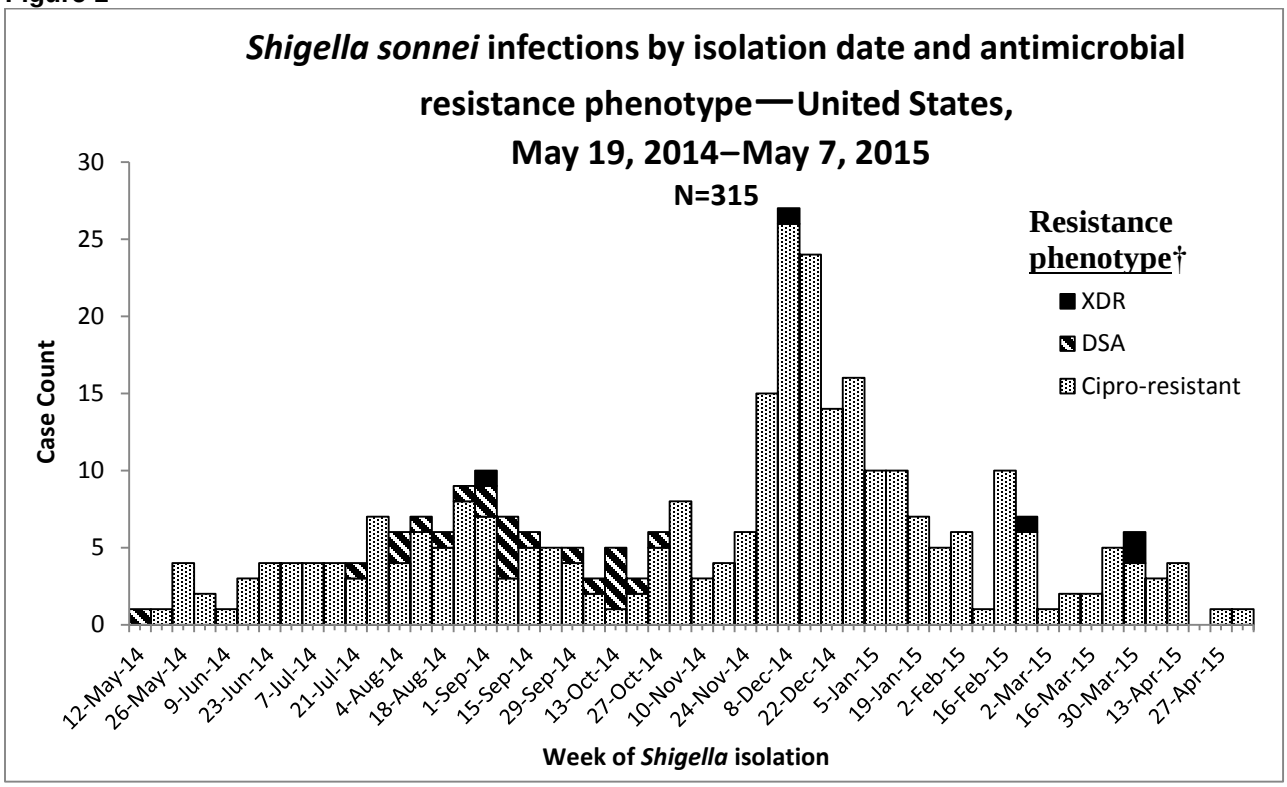
Recent Outbreaks of Multidrug-Resistant *Shigella sonnei* Infections

1. **Extremely drug-resistant (XDR) shigellosis:** As of May 7, 2015, five confirmed cases of XDR shigellosis were identified with onset dates from September 7, 2014 through April 4, 2015, in Illinois and Montana residents. The isolates were tested by CDC's National Antimicrobial Resistance Monitoring System (NARMS) and were resistant to ampicillin, ciprofloxacin, nalidixic acid, streptomycin, sulfisoxazole, tetracycline, and trimethoprim/sulphamethoxazole; had azithromycin minimum inhibitory concentrations >16 µg/ml; and harbored macrolide resistance genes *mph*A and *erm*B. Of the five cases, three self-identified as MSM and two are known to have experienced >14 days of diarrhea. Additionally, in March 2015, a Colorado resident who self-identified as MSM was infected with *S. sonnei* that was resistant to ciprofloxacin, nalidixic acid, and trimethoprim/sulphamethoxazole, and had azithromycin minimum inhibitory concentrations >16 µg/ml. All six of these cases yielded a pulsed-field gel electrophoresis (PFGE) pattern indistinguishable from those associated with an ongoing cluster summarized in 2) below.

2. **Ciprofloxacin-resistant shigellosis:** From May 2014 through April 2015, 179 cases with one of five highly-related PFGE patterns were identified in 34 states and Puerto Rico; approximately half of those who provided information reported international travel before illness onset. Ten of the cases identified by PulseNet, and another 115 cases without PFGE data, were part of an outbreak in San Francisco, California. All San Francisco isolates, and 89% of isolates overall, were resistant to ciprofloxacin. Nineteen cases are known to have occurred among MSM, and several MSM sub-clusters have been reported throughout the United States. A sub-outbreak in a childcare center made 16 people ill. Please see the MMWR report for more information: (http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6412a2.htm?s_cid=mm6412a2_e).

3. **Shigellosis with decreased susceptibility to azithromycin (DSA):**[1] MSM in Chicago, Illinois, and metropolitan Minneapolis/St. Paul, Minnesota, were involved in an outbreak from May 13 through December 8, 2014. Twenty-two isolates displayed highly similar PFGE patterns and had DSA; two additional isolates had indistinguishable PFGE patterns but did not undergo antimicrobial susceptibility testing. All 22 patients were adult males; 15 of 17 with information self-identified as MSM, and 12 were known to have HIV infection. An additional case with an indistinguishable PFGE pattern occurred in an MSM in San Francisco in January 2015, but the isolate was not available for azithromycin susceptibility testing. Please see the MMWR report for more information: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6421a7.htm?s_cid=mm6421a7_w

Figure 1



†DSA, decreased susceptibility to azithromycin. XDR, resistant to at least ampicillin, trimethoprim/sulfamethoxazole, and ciprofloxacin, and with decreased susceptibility to azithromycin

[1] The term decreased susceptibility to azithromycin, or DSA, is used because clinical breakpoints have not been defined for azithromycin susceptibility among shigellae.

General Prevention Recommendations

- Always practice good hygiene, such as washing hands with soap before preparing food or eating and after using the toilet, and follow the recommendations below.
- Childcare centers should:
  - Ensure handwashing stations are at the appropriate height for young children, well-stocked with soap and paper towels, and located near diapering, toilet, food preparation, and dining areas.
  - Require handwashing among children and staff upon arrival at the facility, after diaper changes and toileting, after outdoor play, before eating, and before departing the facility.
  - Follow proper diapering procedures. For more information about this, see: http://www.cdc.gov/healthywater/pdf/hygiene/Diapering-procedures-childcare-508c.PDF
  - Assign separate staff to food preparation and diapering.
  - Avoid providing wading pools or basins of water for sensory play.
  - Exclude children and staff with diarrhea as directed by local ordinances.

- MSM should:
  - Avoid sex while ill or while partners are ill with diarrhea and for a few weeks after recovering.
  - Wash hands, genitals, and anus with soap before and after sex.
  - Use barriers such as dental dams and gloves during anal rimming and fisting.
  - Use condoms during anal or oral sex.
  - For more information about *Shigella i*nfections among MSM, see http://www.cdc.gov/shigella/msm.html.
  -
- International travelers should:
  - Strictly observe food, water, and hand hygiene precautions. For more information about this, see http://www.cdc.gov/shigella/msm.html.
  - Consider taking bismuth subsalicylate (e.g., Pepto-Bismol, Kaopectate) to prevent travelers' diarrhea.

Recommendations for Shigellosis Patients

Patients infected with *Shigella* can protect others through the following actions:

- All patients should:
  - Wash hands with soap after using the toilet.
  - Not prepare food for others while experiencing diarrhea, if possible.
    - Professional food service workers should follow the guidance of their local health department about exclusion from and return to work.
  - Not swim for 1 week after recovering from diarrhea.
- Children in childcare and childcare staff should:
  - Stay home while ill with shigellosis.
  - Follow the guidance of the local health department about return to the childcare facility.
- MSM should:
  - Avoid sex while ill with diarrhea and for a few weeks after recovering**.** Shigellae have been documented in stool for as long as 11 weeks after diarrhea has stopped, although most patients are likely to have shigellae in stool for a shorter period of time. Avoid sex for a few weeks after recovering or until a convalescent

stool culture is negative to reduce the likelihood of transmission to sexual partners.

- After resuming sex, protect others by:
  - Washing hands, genitals, and anus with soap before and after sex.
  - Using barriers such as dental dams and gloves during anal rimming and fisting.
  - Using condoms during anal and oral sex.
- For more information about *Shigella* infections among gay and bisexual men, see http://www.cdc.gov/shigella/msm.html.

Recommendations for Clinicians

- Obtain stool cultures from patients suspected of having shigellosis.
- Base treatment for shigellosis, when needed, on the antimicrobial susceptibility profile of the individual isolate, or during a local outbreak, that of the outbreak strain.
- Counsel shigellosis patients about the importance of meticulous handwashing after using the toilet, and avoiding activities most likely to transmit the infection to others, such as preparing food for others, swimming, group play among young children, and certain sexual activities (e.g., anal rimming or fisting).
- Recommend symptomatic contacts of shigellosis patients, particularly those suspected to have a multidrug-resistant strain, seek health care.
- For shigellosis patients with treatment failure or prolonged diarrhea, obtain follow-up stool cultures at short intervals (e.g., semi-weekly) until the patient has a negative culture. Shedding of multidrug-resistant shigellae in feces may be prolonged, particularly if the patient was treated with an antimicrobial medication to which the isolate was resistant. Confirming clearance of shigellae from stool will allow more accurate counseling about the timelines appropriate for return to higher-risk activities.

Testing and Interpretation of Azithromycin Susceptibility among Shigellae

Antimicrobial susceptibility testing guidelines and interpretive criteria for azithromycin and *Shigella* have not been published by clinical laboratory organizations, such as the Clinical and Laboratory Standards Institute. CDC's National Antimicrobial Resistance Monitoring System (NARMS) has developed a protocol to test *Shigella* for susceptibility to azithromycin using the disk diffusion method. Health department and clinical laboratories that wish to use the protocol for epidemiologic purposes may contact Davina Campbell at xew9@cdc.gov for more information.

Revisions to CDC's *Shigella* Website, Including Prevention among MSM

CDC recently updated the Frequently Asked Questions page on its *Shigella* website (http://www.cdc.gov/shigella/general-information.html). In addition, CDC developed new guidance and a fact sheet on prevention of shigellosis among MSM (http://www.cdc.gov/shigella/msm.html).

For More Information

- For more information on *Shigella*, see http://www.cdc.gov/shigella/index.html or contact Jacqueline Hurd at xyf2@cdc.gov.

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

Categories of Health Alert Network messages:

Health Alert	Requires immediate action or attention; highest level of importance
Health Advisory	May not require immediate action; provides important information for a specific incident or situation
Health Update	Unlikely to require immediate action; provides updated information regarding an incident or situation
HAN Info Service	Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##