

# EPIDEMIOLOGY NEWSLETTER

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## ANTIBIOTIC-RESISTANT SHIGELLA: THE IMPORTANCE OF LABORATORY TESTING

**Clinicians play a major role in preventing the spread of enteric diseases such as salmonellosis and shigellosis by early detection, prompt reporting and appropriate treatment. This report focuses on shigellosis, a highly infectious diarrheal illness, and the importance of laboratory testing of stool specimens from patients prior to prescribing antibiotics.**

*Shigella* infection can cause abdominal cramps, fever, and bloody diarrhea. Symptoms develop 1-3 days after consuming contaminated food or water. Many cases resolve without medical treatment but persons with severe infections may benefit from antibiotic treatment. However, some strains of *Shigella* have developed resistance to commonly prescribed antibiotics such as ampicillin and trimethoprim/sulfamethoxazole (TMP-SMX).

Concern about the increase in drug resistant strains of *Shigella* has been heightened by a recent multi-state outbreak of *S. sonnei*. The Foodborne and Diarrheal Diseases Branch of the Centers for Disease Control and Prevention has received reports from several western states of 280 culture confirmed cases of shigellosis that were linked to eating a nationally distributed five-layer dip. This product was sold in Clark County. Six laboratory confirmed cases of shigellosis associated with the outbreak were reported to the Health District. Four of these cases were resistant to ampicillin and TMP-SMX. An additional six cases were epidemiologically linked to the culture confirmed cases. Because laboratory testing of stool from patients with diarrheal illness is not routinely done, it is likely that many outbreak associated cases were unrecognized and may have been treated inappropriately.

Outbreaks such as this emphasize the importance of obtaining stool specimens for laboratory testing prior to prescribing antibiotic therapy for patients with diarrheal illness. Laboratory testing not only aids in assuring that patients are treated optimally, but also may play a role in the prevention of further drug resistance. The preferred protocol is to culture two stool specimens collected 24 hours apart.

Laboratory testing of stool specimens of patients with diarrheal illness also has important public health implications. Cases need to be reported to the Clark County Health District so that an investigation can be initiated to determine whether the case is sporadic or part of an outbreak. In addition, cases and household contacts in sensitive occupations (such as food handlers or child care workers) must be excluded from work as mandated by state law, until tests are negative for the organism. Clinical laboratories should send isolates of *Shigella* to the Nevada State Laboratory for serotyping and comparison to other isolates. Identification of matching strains may verify that an outbreak is occurring and enables the Health District to identify the source and take steps to prevent further spread of the illness.

Shigellosis is among the Reportable Diseases of Nevada (see attached list) and should be reported to the Office of Epidemiology by phone at (702) 383-1378 or fax (702) 383-4936.

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## REPORTABLE DISEASES OF NEVADA

The Nevada Administrative Code Chapter 441A requires reports of specified diseases, foodborne illness outbreaks and extraordinary occurrences of illness be made to the local Health Authority. The purpose of disease reporting is to recognize trends in diseases of public health importance and to intervene in outbreak or epidemic situations. The system is founded upon the clinical recognition or suspicion of these diseases by physicians, nurses, and other health professionals. Physicians, veterinarians, dentists, chiropractors, registered nurses, directors of medical facilities, medical laboratories and blood banks are required to report. The following individuals should also report: school authorities, college administrators, directors of child care facilities, nursing homes and correctional institutions. In addition, anyone having knowledge of a case(s) of a communicable disease is required to report. Failure to report is a misdemeanor and may be subject to an administrative fine of \$1,000 for each violation.

WHERE TO REPORT A DISEASE		
DISEASE	PHONE	FAX
HIV/AIDS	383-1244	386-8532
Sexually Transmitted Diseases	383-1365	383-1446
Tuberculosis	383-1369	386-8547
Other Reportable Diseases (see below)	383-1378	383-4936
Foodborne Illness Outbreaks	383-1378	383-4936
Other Extraordinary Occurrence of Disease	383-1378	383-4936

Reports must include: name address, telephone number, age, date of birth, sex, race, occupation, diseases, date of onset, date of diagnosis, and any other available information requested by the health authority.

## LIST OF REPORTABLE DISEASES AND CONDITIONS

AIDS	Granuloma inguinale	* † Plaque
Amebiasis	Haemophilus influenzae	Q Fever
* Animal bite from a rabies susceptible species	(invasive)	Poliomyelitis
Anthrax	Hansen's Disease (leprosy)	Psittacosis
* † Botulism	Hantavirus	* † Rabies (human or animal)
Brucellosis	Hemolytic - uremic syndrome (HUS)	Relapsing Fever
Campylobacteriosis	Hepatitis A. B. C. delta.	Respiratory Syncytial Virus infection (RSV)
Chancroid	unspecified	Rocky Mountain Spotted Fever
Chlamydia	HIV infection	Rotavirus infection
Cholera	Influenza	† Rubella (including congenital)
Coccidioidomycosis	Leishmaniasis	Salmonellosis
Cryptosporidiosis	Leptospirosis	Severe Reaction to Immunization
Dengue	Listeriosis	Shigellosis
† Diphtheria	Lyme Disease	Syphilis (including congenital)
E. coli O157:H7	Lymphogranuloma venereum	Tetanus
Encephalitis	Malaria	Toxic Shock Syndrome
* † Extraordinary occurrence of illness	† Measles (rubeola)	Trichinosis
* † Foodborne disease outbreak	Meningitis (specific type)	† Tuberculosis
Giardiasis	* Meningococcal disease	Tularemia
Gonorrhea	Mumps	Typhoid Fever
	Pertussis	Yersiniosis

\* Must be reported immediately. (Call **385-1291** on weekends and holidays.)

† Must report when suspect

**All diseases must be reported within 24 hours.**