

**Table 17-8** Features of Bacterial Enterocolitides

Infection Type	Geography	Reservoir	Transmission	Epidemiology	Affected GI Sites	Symptoms	Complications
Cholera	India, Africa	Shellfish	Fecal-oral, water	Sporadic, endemic, epidemic	Small intestine	Severe watery diarrhea	Dehydration, electrolyte imbalances
<i>Campylobacter</i> spp.	Developed countries	Chickens, sheep, pigs, cattle	Poultry, milk, other foods	Sporadic; children, travelers	Colon	Watery or bloody diarrhea	Arthritis, Guillain-Barré syndrome
Shigellosis	Worldwide, endemic in developing countries	Humans	Fecal-oral, food, water	Children, migrant workers, travelers, nursing homes	Left colon, ileum	Bloody diarrhea	Reactive arthritis, urethritis, conjunctivitis, hemolytic-uremic syndrome
Salmonellosis	Worldwide	Poultry, farm animals, reptiles	Meat, poultry, eggs, milk	Children, older adults	Colon and small intestine	Watery or bloody diarrhea	Sepsis, abscess
Enteric (typhoid) fever	India, Mexico, Philippines	Humans	Fecal-oral, water	Children, adolescents, travelers	Small intestine	Bloody diarrhea, fever	Chronic infection, carrier state, encephalopathy, myocarditis, intestinal perforation
<i>Yersinia</i> spp.	Northern and central Europe	Pigs, cows, puppies, cats	Pork, milk, water	Clustered cases	Ileum, appendix, right colon	Abdominal pain, fever, diarrhea	Reactive arthritis, erythema nodosum
<i>Escherichia coli</i>							
Enterotoxigenic (ETEC)	Developing countries	Unknown	Food or fecal-oral	Infants, adolescents, travelers	Small intestine	Severe watery diarrhea	Dehydration, electrolyte imbalances
Enteropathogenic (EPEC)	Worldwide	Humans	Fecal-oral	Infants	Small intestine	Watery diarrhea	Dehydration, electrolyte imbalances
Enterohemorrhagic (EHEC)	Worldwide	Widespread, includes cattle	Beef, milk, produce	Sporadic and epidemic	Colon	Bloody diarrhea	Hemolytic-uremic syndrome
Enteroinvasive (EIEC)	Developing countries	Unknown	Cheese, other foods, water	Young children	Colon	Bloody diarrhea	Unknown
Enteraggregative (EAEC)	Worldwide	Unknown	Unknown	Children, adults, travelers	Colon	Nonbloody diarrhea, afebrile	Poorly defined
Pseudomembranous colitis ( <i>C. difficile</i> )	Worldwide	Humans, hospitals	Antibiotics allow emergence	Immunosuppressed, antibiotic-treated	Colon	Watery diarrhea, fever	Relapse, toxic megacolon
Whipple disease	Rural > urban	Unknown	Unknown	Rare	Small intestine	Malabsorption	Arthritis, CNS disease
Mycobacterial infection	Worldwide	Unknown	Unknown	Immunosuppressed, endemic	Small intestine	Malabsorption	Pneumonia, infection at other sites

CNS, Central nervous system; GI, gastrointestinal.

dehydration, hypotension, muscular cramping, anuria, shock, loss of consciousness, and death. Most deaths occur within the first 24 hours after presentation. Although the mortality for severe cholera is about 50% without treatment, timely fluid replacement can save more than 99% of patients. Oral rehydration is often sufficient. Because of an improved understanding of the host and *Vibrio* proteins involved, new therapies are being developed, including CFTR inhibitors that block chloride secretion and prevent diarrhea. Prophylactic vaccination is a long-term goal, and data from trials of new cholera vaccines have prompted the WHO to recommend vaccination with other prevention and control strategies in endemic regions and during outbreaks. However, it should be noted that variant strains

that cause more severe clinical disease may be displacing earlier strains as the major cause of disease. Thus, vaccines may need to be modified to keep pace with changes in pathogenic cholera strains.

### *Campylobacter* Enterocolitis

*Campylobacter jejuni* is the most common bacterial enteric pathogen in developed countries and is an important cause of traveler's diarrhea. Most infections are associated with ingestion of improperly cooked chicken, but outbreaks can also be caused by unpasteurized milk or contaminated water. It is an important bacterial cause of food poisoning.