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Cryptosporidium and Giardia: Waterborne zoonotic pathogens

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Abstract:

Cryptosporidiosis and giardiasis cause morbidity and mortality in animals and humans, manifesting primarily as diarrhea, with the most severe infections in immune-compromised individuals. Of 15 named species of *Cryptosporidium* infectious for nonhuman vertebrate hosts *C. baileyi*, *C. canis*, *C. felis*, *C. hominis*, *C. meleagridis*, *C. muris*, and *C. parvum* also infect humans. Humans are the primary hosts for *C. hominis*, and except for *C. parvum*, which is prevalent in nonhuman hosts and is the most frequently reported zoonotic species, the other aforementioned species have been reported primarily in immunocompromised humans. *Giardia duodenalis* is an umbrella group consisting of assemblages (genotypes) A through G. Assemblages A and B infect humans and other animals. The *Cryptosporidium* oocyst and *Giardia* cyst stages can remain infective under cool, moist conditions for months, especially where water temperatures in rivers, lakes, and ponds is low but above freezing. Surveys of surface water, groundwater, estuaries, and seawater have demonstrated that oocysts and cysts are present frequently and in geographically isolated locations. Based on numerous reports of outbreaks related to drinking water in North America water is clearly a major vehicle for transmission of both *Cryptosporidium* and *Giardia*.

Impact Statement:

Provide guidance and cooperation with federal and state agencies involved in epidemiology of waterborne pathogens.

Category: Invited Speakers

Type of Presentation: Oral Presentation