

# epiTRENDS

Epidemiology and Public Health Practice in WA

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## Histoplasmosis

Fungi causing human infections are among the emerging diseases of concern. *Histoplasma* is among such pathogens, and may have a greater geographic distribution than previously documented.

### The Agent

*Histoplasma capsulatum* is found in many countries globally but is most common in North and Central America. It occurs in the environment, particularly in soil containing droppings from birds or bats. The fungus can cause mycosis in humans as well as affecting other animals such as dogs and cats.



*Histoplasma capsulatum*  
cdc.gov

Fungal spores enter the body mainly through inhalation, rarely as a primary skin infection or by organ transplantation. Often a person has no symptoms so is unaware of the infection. Most infections involve the lung but if a yeast form of *Histoplasma* develops it can spread to lymph nodes and through the bloodstream to affect any organ. When symptoms occur they range from a mild flu-like illness to disseminated or chronic infection depending on degree of exposure and host factors. There is no person-to-person or animal-to-person transmission.

Complications can include severe lung infection, eye infection, pericarditis, adrenal insufficiency, or meningitis. Severe disease is more likely with age extremes and with immunocompromise due to disease (such as untreated HIV infection) or to therapeutics (such as high dose steroids). Surveillance through skin test sensitivity suggests high levels of exposure to *Histoplasma* in endemic areas with much lower rates of symptomatic illnesses.

Many people who have milder symptoms are never diagnosed and recover without treatment. *Histoplasma* antigen detection in urine and/or serum is the most sensitive method for diagnosing acute or disseminated histoplasmosis; antibody testing, culture, PCR, and microscopy are also available. Cross-reactivity of fungal pathogens on serologic tests can complicate diagnosis.



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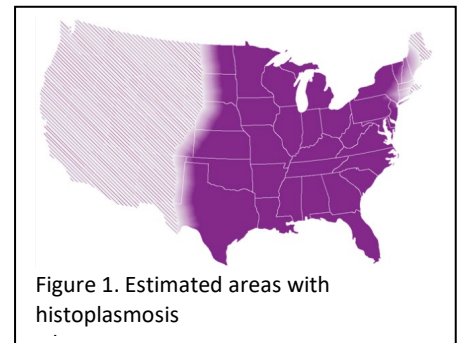
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Antifungal medication can be prescribed for severe, chronic, or disseminated infections. Treatment typically lasts for months. Histoplasmosis does not result in long-term immunity, so after a person completes treatment it is important to avoid activities that resulted in exposure.

### **Epidemiology of Histoplasmosis**

There is an increased risk of exposure to the fungus directly from concentrated bat or bird droppings or if those droppings contaminate material that is being disturbed. Work activities that may cause high-level exposures include removing bird droppings during bridge maintenance or roost clean-up activities, cleaning chicken coops, or cleaning and remodeling buildings where birds such as pigeons had entry. Farming, landscaping, construction, or disturbing soil in caves can also result in exposures.

Diagnoses of histoplasmosis in humans are most common in North and Central America but the disease also occurs in parts of South America, Africa, Asia, and Australia. In the United States, histoplasmosis is considered endemic in central and eastern states around the Ohio and Mississippi river valleys based on skin test surveys, mainly done a generation ago (Figure 1). Most reported human cases in this country occur singly with only rare outbreaks identified, all within endemic states (see Resources and Figure 2). Common-source histoplasmosis outbreaks often involve high-risk activities that disrupt soil, such as construction, renovation, or cleaning up bird roosting sites.



Histoplasmosis in domestic animals such as horses, dogs or cats may be recognized by a veterinarian. Illness in animals can range from asymptomatic to severe and as in humans the clinical signs of histoplasmosis are diverse, depending on the involved organs.

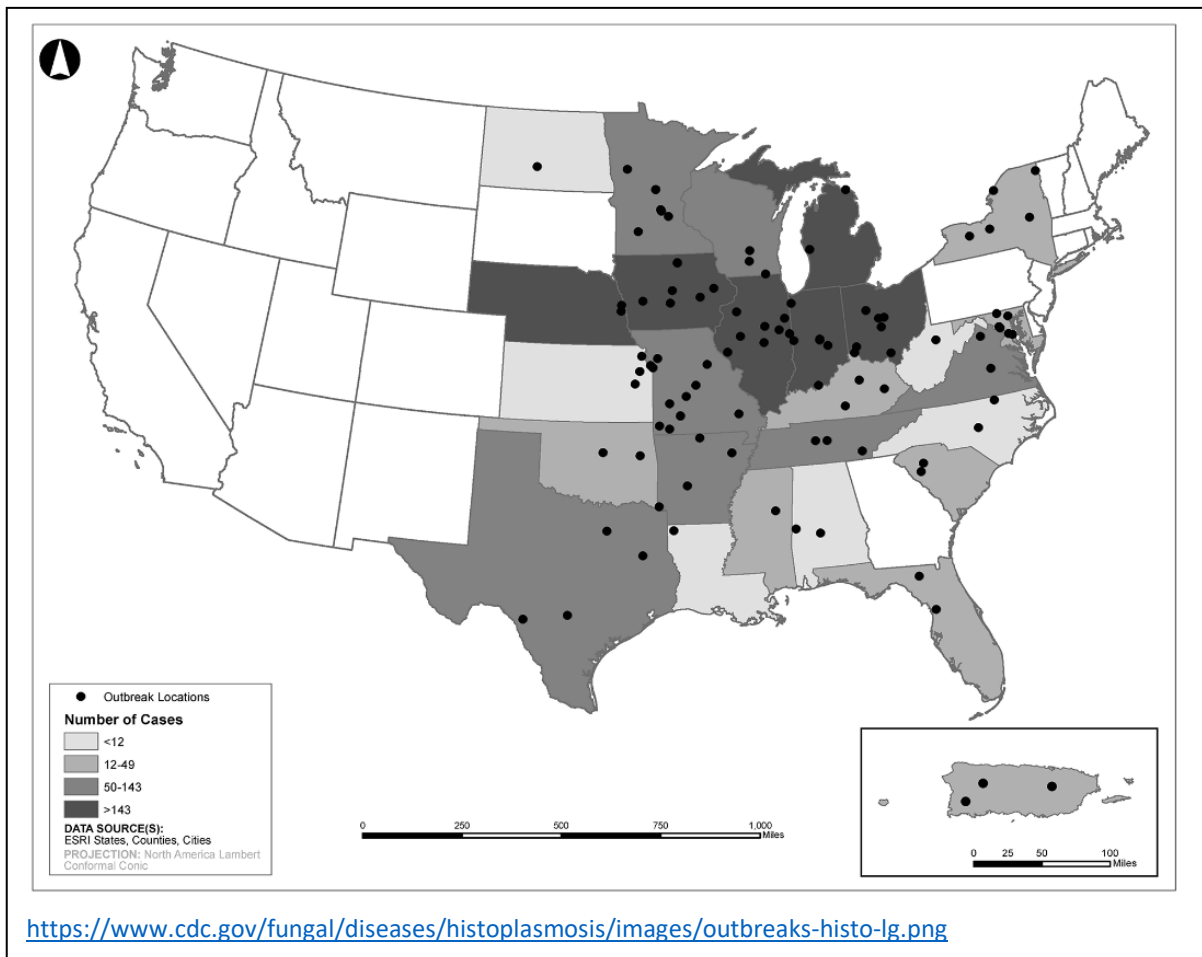
There are occasional reports of apparently locally-acquired histoplasmosis from states outside the typical endemic areas in the country. Based on environmental conditions of soil temperatures and rainfall levels likely suitable for histoplasmosis, the agent and therefore histoplasmosis cases could occur further west in the United States than the currently defined endemic states, particularly potential impacts of climate change.

### **Washington State**

Histoplasmosis is a notifiable condition in Washington. Prior to 2023, histoplasmosis was occasionally reported as a rare disease of public health significance; in January 2023 it was added to the state’s notifiable conditions list (see Resources). During 2015-2022, zero to three cases of histoplasmosis were reported each year. In 2023, 13 cases were reported. Most case patients have had travel to or residence in known endemic regions; however, some records have insufficient information to determine likely region of exposure. At present, no confirmed locally-acquired cases of histoplasmosis have been documented in Washington. No environmental surveillance is currently underway in the state for the pathogen.

Specifying histoplasmosis as a notifiable condition in 2023 improved the sensitivity of surveillance in Washington to detect the presence or emergence of *Histoplasma* in the region. However, much is still unknown regarding the endemic habitats of the fungus, and potential impacts of climate change to expand its endemic area. Prompt reporting of cases by providers and thorough interviews of cases can contribute to the understanding of this agent.

Figure 2. Histoplasmosis outbreaks in the United States, 1983-2013



## Resources

Overview of histoplasmosis:

<https://www.cdc.gov/fungal/diseases/histoplasmosis/index.html>

Medical management of histoplasmosis:

[https://ein.idsociety.org/media/resources/publications/papers/2022/2022\\_HistoOFID\\_Mazi.pdf](https://ein.idsociety.org/media/resources/publications/papers/2022/2022_HistoOFID_Mazi.pdf)

Mapping histoplasmosis exposure in the United States:

[https://wwwnc.cdc.gov/eid/article/24/10/18-0032\\_article](https://wwwnc.cdc.gov/eid/article/24/10/18-0032_article)

Epidemiology of Histoplasmosis Outbreaks, United States, 1938-2013

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4766901/pdf/15-1117.pdf>

Notifiable conditions in Washington

<https://doh.wa.gov/public-health-provider-resources/notifiable-conditions/list-notifiable-conditions>