

## Giardiasis

*Giardiasis is a Class C Disease and must be reported to the state within five business days.*

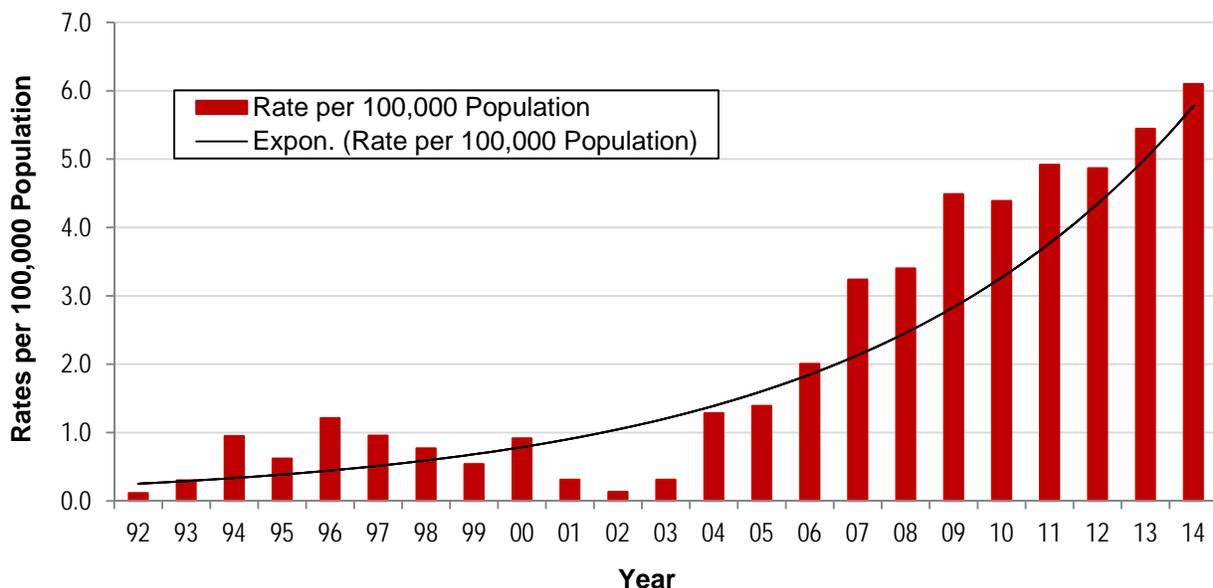
*Giardia lamblia*, also referred to as *Giardia intestinalis*, is a flagellate protozoan that infects principally the upper small intestine and is the most commonly diagnosed intestinal parasite in U.S. public health laboratories. Persons are infected most commonly by consumption of contaminated water, but infection from consumption of contaminated food and fecal-oral (hands and fomites) transmission also occurs. Person-to-person transmission most commonly occurs in child care centers or in institutions for the mentally retarded. Diagnosis is traditionally made by the identification of cysts, (the resistant stage responsible for infection), or trophozoites in the feces, duodenal fluid, or mucosa.

Surveys of the United States have demonstrated prevalence rates of *Giardia* organisms in stool specimens that range from 1% to 20%, depending on geographic location and age.

Although humans are the principal reservoir of infection, *Giardia* can infect dogs, cats, beavers and other animals. Semi-aquatic animals can serve as zoonotic hosts and can transfer the organism to humans through contaminated water. *Giardia* are considered resistant to chlorine and the small size of the cysts, (8-12 microns), renders some filtration systems useless.

Over the last six years, there has been from about 150 to 300 cases reported. The annual incidence rates in Louisiana range from 0.12 to 6.1 cases per 100,000 population (Figure 1).

**Figure 1:** Reported *Giardia* Rates - Louisiana, 1992-2014



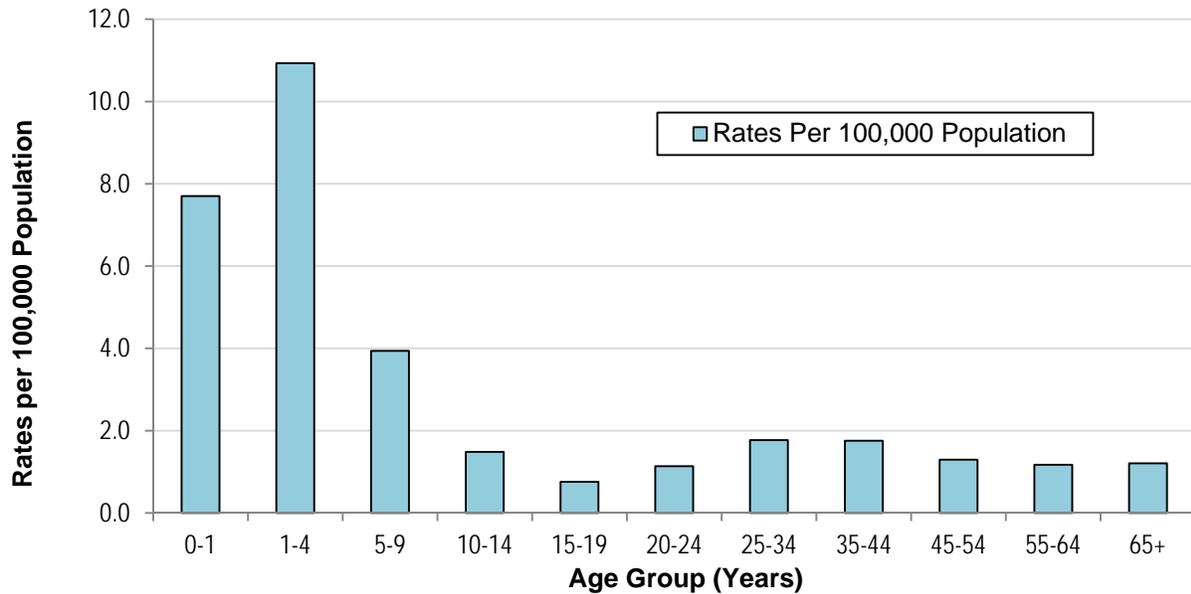
These low incidence rates are influenced by the often asymptomatic nature of the disease and under-reporting. The highest incidence rates are seen in Ascension, Livingston, West Baton Rouge, West Feliciana, Point Coupee, Caldwell and Acadia Parishes (counties) (Table).

**Table:** Average incidence by parish - Louisiana, 2008-2014

Parish	Avg. Inc	Parish	Avg. Inc.
ACADIA	9.0	MADISON	1.1
ALLEN	4.8	MOREHOUSE	3.4
ASCENSION	16.2	NATCHITOCHES	1.4
ASSUMPTION	2.4	ORLEANS	2.7
AVOUELLES	1.9	OUACHITA	2.3
BEAUREGARD	3.9	PLAQUEMINES	0.6
BIENVILLE	0.9	POINTE COUPEE	9.7
BOSSIER	1.7	RAPIDES	3.8
CADDO	3.5	RED RIVER	1.4
CALCASIEU	3.6	RICHLAND	2.7
CALDWELL	9.5	SABINE	2.3
CAMERON	1.9	ST. BERNARD	3.7
CATAHOULA	4.1	ST. CHARLES	1.9
CLAIBORNE	1.7	ST. HELENA	4.9
CONCORDIA	2.0	ST. JAMES	3.7
DESOTO	3.1	ST. JOHN	3.4
EAST BATON ROUGE	7.6	ST. LANDRY	4.9
EAST CARROLL	0.0	ST. MARTIN	5.8
EAST FELICIANA	6.7	ST. MARY	1.8
EVANGELINE	4.9	ST. TAMMANY	7.8
FRANKLIN	3.3	TANGIPAHOA	8.3
GRANT	3.2	TENSAS	0.0
IBERIA	6.8	TERREBONNE	3.9
IBERVILLE	3.7	UNION	2.4
JACKSON	0.0	VERMILION	8.5
JEFFERSON	1.8	VERNON	2.8
JEFF. DAVIS	5.2	WASHINGTON	6.2
LA SALLE	7.5	WEBSTER	1.4
LAFAYETTE	4.5	WEST BATON ROUGE	10.7
LAFOURCHE	2.6	WEST CARROLL	1.2
LINCOLN	3.6	WEST FELICIANA	10.6
LIVINGSTON	11.7	WINN	0.9

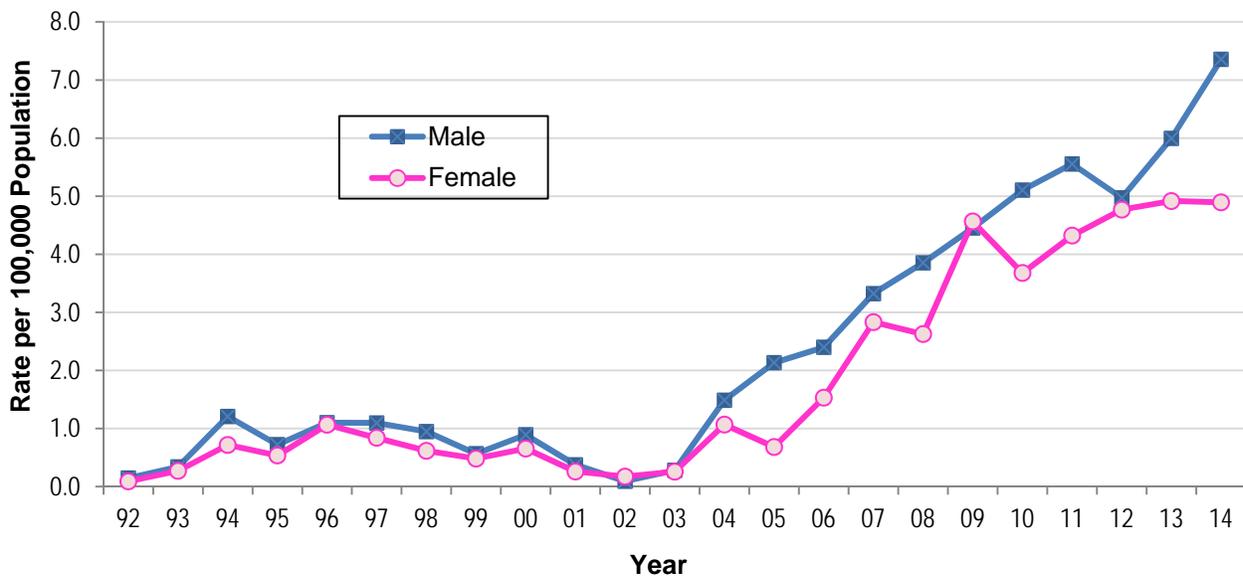
Nationally a bimodal age distribution in giardiasis rates is observed; the highest rates occur among newborns to children five years of age, followed closely by persons aged 31 to 40 years. In Louisiana, the highest incidence rates of giardiasis occur in children aged one to four years (Figure 2).

**Figure 2:** Reported Giardia Rates, by age group - Louisiana, 1992-2014



Females and males have exhibited similar rate trends throughout the 22-year period. The average incidence rate among men is 2.4 cases per 100,000 population, which is only slightly higher compared to the average incidence rate among women of 1.8 cases per 100,000 population (Figure 3).

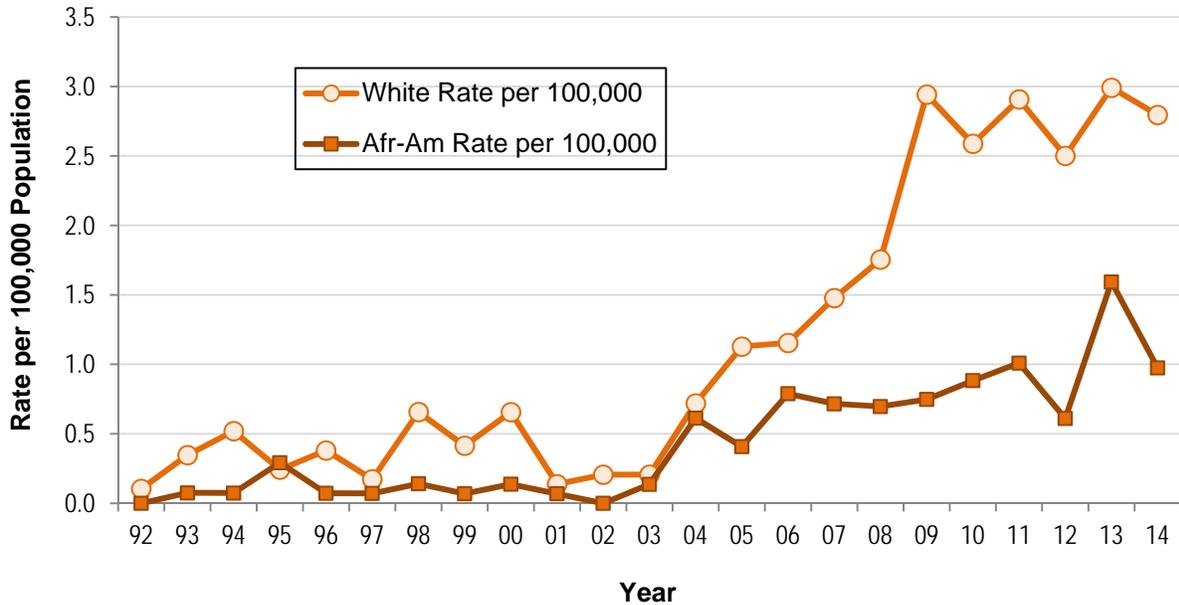
**Figure 3:** Reported Giardia cases by gender - Louisiana, 1992-2014



Nationally, incidence rates are higher in Whites than in African-Americans; Louisiana shows the same racial distribution. The increase in incidence rates for Whites and African-Americans over

the last ten years is most likely a reflection of the availability of complete demographic information on cases (Figure 4).

**Figure 4:** Reported Giardia annual incidence rates by race - Louisiana, 1992-2014



In the U.S. a seasonal peak in age-specific case reports coincides with the summer recreational water season and may reflect the heavy use by young children of communal swimming venues (e.g., lakes, rivers, swimming pools and water parks) (Figure 5).

**Figure 5:** Average reported Giardia cases by month - Louisiana, 1992-2014

