Babesiosis

Babesiosis is a Class B Disease and must be reported to the state within one business day.

Babesiosis is a parasitic tick-borne zoonotic disease caused by *Babesia* genus protozoa. The most common species is *Babesia microti*; other species include *B. duncani* and *B. divergens*. The primary mammalian reservoir identified for *B. microti* in endemic areas is a species of mouse, *Peromyscus leucopus*, the "white-footed mouse," although other mammalian species may also serve as competent reservoirs. The disease is transmitted by *Ixodes scapularis* (also known as the deer tick or blacklegged tick), which has been found in most of the eastern and central United States. This is the same species of tick that spreads Lyme disease, though cases of babesiosis are less frequently identified. By most recent national data, the Centers for Disease Control and Prevention (CDC) reports there are about 1,700 cases in the U.S. each year, with 94% occurring in northeastern and upper midwestern states. This geographical distribution of cases is similar to the distribution of Lyme disease.

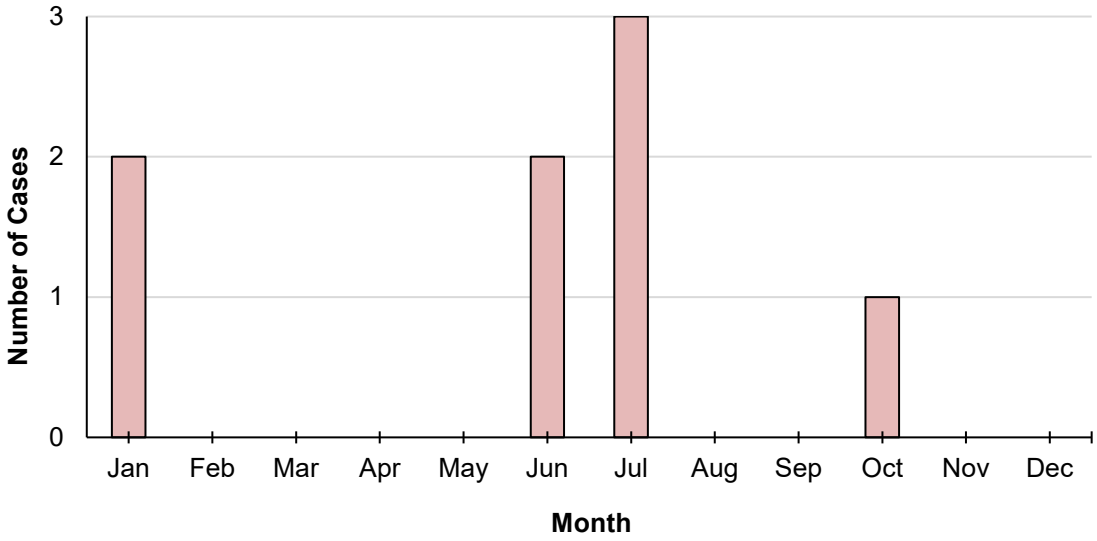
It is also possible to become infected with babesiosis through blood transfusions or congenital transmission – when an infection is passed from a mother to a baby during pregnancy. There is currently no Food and Drug Administration approved test available to screen blood donors for *Babesia* before collecting their blood; therefore, there is a risk of infected blood being used during blood transfusions. Although the CDC states that babesiosis is "the most frequently reported transfusion-transmitted parasitic infection in the U.S.," it is still relatively uncommon.

The clinical manifestations of infection are either asymptomatic, ill with mild symptoms, or severe complications. Mild to moderate flu-like symptoms (such as fever, chills, sweats, headache, myalgia, arthralgia, malaise, fatigue, and weakness), can develop and last for several weeks. Non-flu symptoms can include hemolytic anemia or jaundice. Severe disease typically occurs in the immunosuppressed or elderly, but can have serious outcomes such as acute respiratory failure, congestive heart failure, liver and renal failure, splenic infarction, and disseminated intravascular coagulation.

There have only been eight reported cases of babesiosis in Louisiana since 2013. Six of these cases had recent travel to a midwestern or northeastern state prior to diagnosis, and one is suspected to have become infected during a blood transfusion. Cases have ranged in age from 28 years to 73 years, and 63% of reported cases in Louisiana have been males. Most have been residents of different parishes.

The *Babesia* parasite is most commonly spread by *I. scapularis* during the tick's nymphal stage, which is typically during warmer months. The CDC stated that about 82% of babesiosis cases in the U.S. in 2011 occurred between June and August. This seasonality is not as apparent in Louisiana due to the small amount of data (Figure 1).

Figure 1. Number of Cases of Babesiosis by Month - Louisiana, 2013-2022



Due to the difficulty in properly identifying a case of babesiosis, there are three ways that cases can be classified: confirmed, probable, or suspect. A confirmed case must have clinical symptoms and identification of *Babesia* organisms or DNA in blood samples. A probable case must have some form of lab evidence and either clinical symptoms or an epidemiological link to another case. A suspected case has lab evidence, but no symptoms or epidemiological information. In Louisiana, there have been five confirmed cases and three probable cases since 2013 (Figure 2).

Figure 2. Confirmed and Probable Cases of Babesiosis in Louisiana, 2013-2022