

# Seroprevalence and disease burden of chagas disease in south Texas

November 10 2016

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Chagas disease (*Trypanosoma cruzi* infection) is a parasitic infection that can lead to fatal cardiac disease. While Latin America is known as an endemic area, there have been relatively few studies investigating the prevalence of Chagas disease in the Rio Grande Valley of Texas. A paper published in PLOS Neglected Diseases led by researchers at the National School of Tropical Medicine at Baylor College of Medicine suggests that the disease burden in southern Texas is much higher than previously thought. Considering up to 30% of people infected with *Trypanosoma cruzi* can develop fatal cardiomyopathy, this study's findings carry important implications to the health of the population of south Texas.

"Kissing bugs", (triatominae) who feed on both humans and animals, are the vectors primarily responsible for the transmission of Chagas disease. The disease is predominantly found in impoverished regions where substandard living conditions can lead to increased exposure to the parasitic kissing bugs. In order to assess the infection status of vectors and seroprevalence among human and mammal populations living in in the lower Rio Grande Valley, Dr. Melissa Nolan Garcia, instructor of pediatrics at Baylor who is also with Texas Children's Hospital, and colleagues tested kissing bug vectors and retrospectively analyzed previously collected sera from coyotes, stray dogs, and human participants.

Out of 841 human sera samples, 3 people (0,4%) tested positive for *T. cruzi*, while 8% of coyotes and 3.8% of stray dogs were found to be

infected. Among the insects sampled, 56.5% were found to be *T. cruzi* carriers. Based on the findings of the study, the authors estimate that around 4,600 people in the Rio Grande Valley are currently infected with Chagas disease, and of those, an estimated 1,300 are at risk for developing cardiomyopathy. These results not only confirm the risk for disease transmission in south Texas, but indicate that the regional burden of Chagas disease is 23 times higher than previously estimated.

The study does have limitations, as the authors acknowledge that the specimens were originally collected for other studies, and they are now conducting larger, more extensive surveillance studies targeting Chagas risk in this region. Overall, the findings point to a greater need for attention to Chagas disease in United States, particularly the identification of high risk groups. The authors assert that, "with up to 30% of infected individuals developing a potentially fatal cardiac disease, it is imperative that we identify and treat patients before heart disease occurs."

**More information:** *PLOS Neglected Tropical Diseases*,  
[dx.plos.org/10.1371/journal.pntd.0005074](https://doi.org/10.1371/journal.pntd.0005074)

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Citation: Seroprevalence and disease burden of chagas disease in south Texas (2016, November 10) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-11-seroprevalence-disease-burden-chagas-south.html>

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