

Short Report: Benznidazole Shortage Makes Chagas Disease a Neglected Tropical Disease in Developed Countries: Data from Spain

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Abstract. Chagas disease is a neglected tropical disease endemic in Latin America. The first-line treatment option is benznidazole, but stocks are expected to run out in the coming months. Spain would need around 5 million benznidazole tablets. This drug shortage could make Chagas disease a neglected tropical disease also in developed countries.

Chagas disease, caused by the protozoan *Trypanosoma cruzi* is endemic in Latin America. The World Health Organization (WHO) estimates around 8 million people are infected worldwide, Bolivia being the country with the highest disease burden in the world. Chagas disease has now surpassed geographical borders caused by the increase in mobile populations: Spain ranks second to the United States in terms of the number of Latin American immigrants and has the highest prevalence of Chagas disease among European countries.¹

Estimates of the burden of Chagas disease among migrants are usually based on infection rates in their countries of origin. It is assumed that the prevalence of infection in the host country is the same as that in the country of origin and this is the main limitation for obtaining accurate estimations in non-endemic countries. Seroprevalence data in immigrants are now available to estimate the disease burden in Spain.

Benznidazole is the first-line treatment option for Chagas disease and it is only produced by the Brazilian state-owned laboratory LAFEPE (Laboratório Farmacêutico do Estado de Pernambuco). Stocks of benznidazole are expected to run out in the coming months, as communicated by Médecins Sans Frontières (MSF, <http://tinyurl.com/638kyls>) and reported recently in several journals, leaving thousands without treatment not only in endemic areas but worldwide.

Until recently, benznidazole was mainly used in the acute phase of the disease. Current evidence supports treatment of chronically infected patients with mild cardiovascular symptoms as progression of the disease may be delayed²; this has also contributed to the increasing demand for the drug. The ongoing BENEFIT trial is assessing the role of etiologic treatment with benznidazole on incipient chagasic cardiomyopathy,³ results are expected in 2014. According to experts in the field, treatment of Chagas disease in the United States and in other non-endemic areas should generally be offered to adults between 19 and 50 years of age (especially women of reproductive age who are not currently pregnant). These recommendations exclude patients with advanced chagasic cardiomyopathy.⁴

To calculate the amount of benznidazole needed to treat adult Chagas disease patients in Spain different factors were considered (Table 1):

Current number of registered migrants from Bolivia 19–50 years of age living in Spain⁵: 161,809.

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Trypanosoma cruzi infection prevalence rates in adult migrants from Bolivia, calculated from studies performed in non-clinical settings (such as migrant associations), blood-donation centers, and maternity hospitals^{6–11}: 15.5%. Around 5% of infected patients have severe disease, 20% have early visceral involvement, and 75% are asymptomatic.

The number of adult Bolivian migrants needing treatment with benznidazole in Spain would be 23,826 (5,016 would be eligible to start treatment immediately and for 18,810 treatment could be deferred). Considering standard benznidazole treatment doses of 5 mg/kg for 60 days, an adult of average weight (70 kg) would need 210 tablets (100 mg/tablet) to complete the treatment. In total, 1,053,360 tablets are currently needed to treat adult patients with early visceral involvement and 3,950,100 tablets to treat asymptomatic patients in the near future.

In Spain alone, at least 5,003,460 benznidazole tablets are needed. This figure would be even greater if we consider the tablets needed to treat infected newborn children and adolescents, immunosuppressed patients, and non-Bolivian Chagas disease patients (the latter account for around 25% of the total number of infected patients^{6–11}).

With this letter we would like to highlight that the shortage of benznidazole could become a public health problem even in non-endemic countries, as has occurred with other anti-infective drug shortages.¹² In Spain, more than 23,000 people will not receive the treatment they need. Moreover, screening campaigns of a frequently silent and under- or misdiagnosed disease are going to be threatened if this situation is not resolved shortly.

The current shortage of benznidazole makes Chagas disease a neglected tropical disease also in developed countries.

TABLE 1

Number of migrants from Bolivia in Spain and need for benznidazole for infected patients

N	
2,120,652	Registered migrants from Latin America living currently in Spain
206,635	9.7% from Bolivia
161,809	78.3% adults (between 19 and 50 years of age) from Bolivia
25,080	15.5% <i>Trypanosoma cruzi</i> infection prevalence rate in adult migrants from Bolivia
5,016	~20% with mild visceral involvement and would be eligible to start treatment immediately
18,810	~75% asymptomatic and treatment could be deferred; ~5% with severe visceral involvement and treatment is not indicated

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