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# Chagas: The disease that traveled in the suitcases of globalization – a review on dissemination and global impacts

**Chagas: A doença que viajou nas malas da globalização – uma revisão sobre a disseminação e impactos globais**

**Chagas: La enfermedad que viajaba en las maletas de la globalización - una revisión sobre su diseminación e impactos globales**

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**Abstract**
Background: Chagas disease (CD), caused by *Trypanosoma cruzi*, was historically confined to Latin America but has spread worldwide in recent decades due to globalization and human migration, becoming a global public health concern. Aim: To critically review recent scientific literature on the global dissemination of CD, emphasizing its expansion to non-endemic countries and the challenges faced by health systems in detection, prevention, and treatment. Methods: A narrative review was conducted between September and October 2025, including publications from 2000 to 2025 in English, Spanish, and Portuguese. Searches were performed in PubMed, Scopus, SciELO, Web of Science, and CDC databases, focusing on studies addressing prevalence, transmission, and surveillance of CD. Results: The review identified an increasing number of *T. cruzi* infections in Europe, North America, Japan, and Australia, particularly among Latin American migrants. In the United States, evidence supports the existence of autochthonous transmission and established sylvatic cycles. Despite progress in vector and transfusional control in Latin America, underdiagnosis and lack of awareness remain major global challenges. Conclusion: CD has become a transnational disease that mirrors global health inequities and systemic weaknesses in surveillance. Addressing it requires coordinated international policies, strengthened diagnostic networks, and a commitment to universal access to care within an ethical and equitable global health framework.
**Keywords:** Chagas disease; *Trypanosoma cruzi*; Globalization; Migration; Global Health.

**Resumo**
Introdução: A Doença de Chagas (DC), causada pelo *Trypanosoma cruzi*, historicamente endêmica na América Latina, expandiu-se para outros continentes nas últimas décadas, impulsionada pela globalização e pela migração humana. Esse movimento transformou a DC em um problema de saúde pública global. Objetivo: Revisar criticamente a literatura recente sobre a disseminação global da DC, enfatizando a expansão para países não endêmicos e os desafios enfrentados pelos sistemas de saúde na detecção, prevenção e tratamento. Metodologia: Revisão narrativa realizada entre setembro e outubro de 2025, com busca nas bases PubMed, Scopus, SciELO, Web of Science e CDC, incluindo publicações de 2000 a 2025, em português, inglês e espanhol. Foram analisados artigos, revisões e relatórios epidemiológicos sobre prevalência, transmissão e vigilância da DC. Resultados: Identificou-se a presença crescente da infecção por *T. cruzi* em países da Europa, América do Norte, Japão e Austrália, principalmente entre migrantes latino-americanos. Nos Estados Unidos, há evidências de transmissão autóctone e manutenção de ciclos silváticos. Apesar dos avanços no controle vetorial e transfusional na América Latina, a subnotificação e o subdiagnóstico

persistem globalmente. Conclusão: A DC tornou-se uma enfermidade transnacional, cuja disseminação reflete desigualdades sociais e lacunas nos sistemas de vigilância. Enfrentar essa realidade requer políticas globais integradas, fortalecimento da cooperação internacional e garantia do direito universal ao diagnóstico e tratamento, incorporando os princípios de equidade e justiça sanitária.
**Palavras-chave:** Doença de Chagas; *Trypanosoma cruzi*; Globalização; Migração; Saúde Global.

**Resumen**
Introducción: La enfermedad de Chagas (EC), causada por *Trypanosoma cruzi*, históricamente endémica en América Latina, se ha expandido a otros continentes en las últimas décadas, impulsada por la globalización y la migración humana. Este proceso transformó a la EC en un problema de salud pública global. Objetivo: Revisar críticamente la literatura reciente sobre la diseminación global de la EC, destacando la expansión hacia países no endémicos y los desafíos que enfrentan los sistemas de salud en la detección, prevención y tratamiento. Metodología: Revisión narrativa realizada entre septiembre y octubre de 2025, con búsqueda en las bases PubMed, Scopus, SciELO, Web of Science y CDC, incluyendo publicaciones entre 2000 y 2025, en portugués, inglés y español. Se analizaron artículos, revisiones y reportes epidemiológicos sobre prevalencia, transmisión y vigilancia de la EC. Resultados: Se identificó una presencia creciente de la infección por *T. cruzi* en países de Europa, América del Norte, Japón y Australia, principalmente entre migrantes latinoamericanos. En Estados Unidos, existen evidencias de transmisión autóctona y de mantenimiento de ciclos silváticos. A pesar de los avances en el control vectorial y transfusional en América Latina, la subnotificación y el subdiagnóstico persisten a nivel global. Conclusión: La EC se ha convertido en una enfermedad transnacional cuya diseminación refleja desigualdades sociales y vacíos en los sistemas de vigilancia. Afrontar esta realidad requiere políticas globales integradas, fortalecimiento de la cooperación internacional y garantía del derecho universal al diagnóstico y tratamiento, incorporando los principios de equidad y justicia sanitaria.
**Palabras clave:** Enfermedad de Chagas; *Trypanosoma cruzi*; Globalización; Migración; Salud Global.

## 1. Introduction

Chagas disease (CD), also known as American trypanosomiasis, is a parasitic infection caused by *Trypanosoma cruzi*, historically endemic in 21 Latin American countries. Clinically, it presents two distinct phases: the acute phase and the chronic phase. The acute phase occurs soon after infection, usually with nonspecific symptoms such as fever, malaise, lymphadenopathy, and, in some cases, characteristic signs such as the "Romaña sign" (unilateral eyelid edema). The chronic phase, which can manifest years or decades later, is divided into indeterminate, cardiac, and digestive forms. The cardiac form is the most frequent and severe, characterized by arrhythmias, heart failure, and risk of sudden death. These clinical manifestations reflect *T. cruzi's* tropism for muscle and nerve tissue, making CD a chronic, progressive disease with significant clinical and social repercussions (Dias et al., 2015).

Although vector control has reduced transmission in several Latin American countries, the number of people infected outside endemic areas has been increasing, particularly in Europe and the United States (Beatty et al., 2025; WHO, 2025). In Europe, it is estimated that more than 400,000 individuals live with the infection, many of them underdiagnosed due to the absence of systematic screening in pregnant women and blood donors (Antinori et al., 2017; Bocchi, 2022). In Portugal, Chagas disease is little known. It is estimated that 99% of cases are underdiagnosed in this country (Cortez et al., 2012). This scenario reflects the neglected nature of the disease and the ongoing risk of dissemination through vertical and transfusional transmission routes.

In the United States, recent studies have questioned the country's classification as non-endemic. Evidence indicates the presence of naturally infected vectors, autochthonous human cases, and transmission among domestic and wild animals. It is estimated that between 300,000 and 350,000 people are infected, some of whom were likely infected locally (Beatty et al., 2025; Higuita et al., 2024). This situation demonstrates that *T. cruzi* is already established within North American ecosystems, albeit with low transmission intensity.

In this context, CD has "traveled in the suitcases of globalization", crossing borders and demanding active surveillance in countries previously considered outside the risk zone for this disease. Therefore, this article aims to critically

review recent scientific literature on the global dissemination of CD, emphasizing its expansion to non-endemic countries and the challenges faced by health systems in detection, prevention, and treatment.

## 2. Methodology

This study consists of a narrative literature review, a methodological approach that allows for a broad and critical analysis of different types of sources, with the aim of describing and discussing the "state of the art" on a specific topic (Siddaway et al., 2019). A qualitative, documental research of indirect sources was conducted (Pereira et al., 2018), without strict systematization criteria (Rother, 2007). The review focused on understanding the global dissemination of CD and its impact on non-endemic countries.

The bibliographic search was conducted between September and October 2025, covering publications from 2000 to 2025, in English, Spanish, and Portuguese. Unlike systematic or integrative reviews, the narrative review offers greater methodological flexibility, as it is not constrained by strictly predefined search strategies or fixed inclusion and exclusion criteria (Siddaway et al., 2019). This flexibility allows for the incorporation of different types of studies and approaches, depending on their conceptual, theoretical, or practical relevance to the research objective.

Searches were performed in the PubMed, Scopus, SciELO, and Web of Science databases, as well as in the repository of the Centers for Disease Control and Prevention (CDC), the latter selected due to its epidemiological relevance and the availability of official data on autochthonous cases, vectors, and surveillance of CD in the United States of America (USA).

The following descriptors and Boolean combinations were used: *"Chagas disease" OR "Trypanosoma cruzi" AND ("globalization" OR "migration" OR "disease dissemination" OR "United States" OR "Europe" OR "non-endemic countries" OR "epidemiology")*.

Included in the review were original articles, systematic reviews, epidemiological analyses, official guidelines, and scientific commentaries published in peer-reviewed journals that addressed the geographic expansion, transmission modes, prevalence, or control challenges of CD. Studies of a purely experimental nature, isolated clinical case reports, and articles without direct relevance to the topic of global dissemination were excluded.

The analysis followed a qualitative and interpretative approach aimed at identifying convergences among the described epidemiological trends, gaps in surveillance policies, and emerging challenges in the prevention, diagnosis, and treatment of the disease in non-endemic contexts.

## 3. Results and Discussion

To facilitate the understanding of the complexity involved in the global dissemination of CD and its impact on public health, the results of this review were organized into three thematic axes. The first section addresses the epidemiological and clinical aspects of the disease, focusing on its etiology, manifestations, and current geographical distribution, providing an essential foundation for understanding the problem. The second section discusses the main transmission routes and the role of human mobility in the spread of the disease, highlighting how globalization has contributed to the arrival of CD in non-endemic countries. Finally, the third section compiles prevention and control strategies, as well as the challenges faced at the global level, emphasizing the actions proposed by international organizations and the obstacles encountered in case detection, treatment, and follow-up. This thematic structure was designed to organize the findings in a logical and didactic manner, allowing for a more structured and comprehensive analysis of the reviewed scientific literature.

**Overview of Chagas disease: from discovery to endemic persistence**

Chagas disease, also known as American trypanosomiasis, is an emblematic example of a neglected tropical disease that has transcended both geographical and temporal boundaries. Discovered in 1909 by Carlos Chagas, infection by *T. cruzi* remains a persistent challenge to global public health, one that originated in Latin America and has since expanded silently along the routes of globalization and social inequality (Dias et al., 2016; Antinori et al., 2017; Gómez-Ochoa et al., 2022).

Transmission occurs through multiple routes: the primary mode is vector-borne transmission, mediated by the feces of triatomine insects ("kissing bugs"), when the parasite penetrates the skin or mucous membranes after a bite (Dias et al., 2016). However, with advances in vector control programs across Latin America, other transmission routes have gained prominence, such as blood transfusion, organ transplantation from infected donors, exposure to contaminated sharp instruments, laboratory contamination, congenital transmission (from mother to child during pregnancy), and oral transmission associated with the ingestion of food or beverages contaminated with the parasite (Dias et al., 2015; Bocchi et al., 2017).

Historically confined to impoverished rural areas of Latin America, CD has consolidated itself as a complex zoonosis sustained by the interaction between sylvatic, peridomestic, and domestic transmission cycles (Coura et al., 2014; Silveira, 2000). The vector thrives in precarious housing and sanitation conditions, which provide a favorable environment for domiciliation and maintenance of the parasitic cycle. Nevertheless, environmental changes and rural exodus have reconfigured the epidemiological landscape, introducing *T. cruzi* into urban centers and previously non-endemic regions (Mazzardo et al., 2024).

In recent decades, a significant decline in classical vector transmission has been observed in Southern Cone countries, reflecting intergovernmental campaigns and progress in controlling *Triatoma infestans* and *Rhodnius prolixus* (Westphalen et al., 2012). However, the current scenario is marked by the rise of other transmission routes, especially oral transmission, predominant in the Brazilian Amazon, and vertical transmission, now responsible for most cases in countries where vector-borne infection has been controlled (Mazzardo et al., 2024; WHO, 2025).

According to estimates from the World Health Organization (WHO, 2025) and the Pan American Health Organization (PAHO, 2023), more than 7 million people are currently infected worldwide, and over 100 million live at risk of infection. Although 21 Latin American countries remain classified as endemic, *T. cruzi* infection has already been identified in 44 countries, including the United States, Canada, Spain, Italy, Japan, and Australia (WHO, 2025; PAHO, 2023; Santos et al., 2009). This dispersion reflects contemporary migratory flows and the persistent diagnostic invisibility in non-endemic contexts, where clinical and laboratory knowledge about the disease remains limited (Bocchi et al., 2022; Santos et al., 2009).

In Latin America, it is estimated that approximately 30,000 new cases and 10,000 deaths occur annually, with prevalence still concentrated in vulnerable, rural, and peripheral populations (PAHO, 2023). In Brazil, although the main vector has been controlled since the 2000s, outbreaks of oral transmission and congenital infections continue to be reported, revealing a dynamic and regionally unequal epidemiology (Mazzardo et al., 2024).

The current complexity of CD goes beyond geographical boundaries; it is deeply rooted in social structures marked by exclusion and neglect. It is estimated that only 10% of infected individuals receive a diagnosis, and fewer than 1% have access to specific etiological treatment, typically based on benznidazole or nifurtimox (Cucunubá et al., 2024; PAHO, 2023). Epidemiological invisibility, combined with a shortage of trained professionals and limited sustainable public policies, perpetuates the cycle of endemic persistence (Ferrão et al., 2013).

Moreover, demographic transition and the aging of infected populations, now predominantly adult and elderly, present new clinical challenges, including overlapping comorbidities and an increased burden of Chagasic cardiomyopathy (Ribeiro et al., 2024). This demographic profile demonstrates that CD, far from being an eradicated problem, has evolved into a chronic

and globally disseminated condition whose impacts transcend the biological sphere, reaching social, economic, and ethical dimensions (Dias et al., 2016; PAHO, 2023; WHO, 2025).

Although advances in vector control and screening policies represent significant achievements, the trajectory of CD continues to be shaped by historical inequalities and chronic underfunding of public health initiatives. Increasing international migration, unplanned urbanization, and the progression of climate change, which may expand vector distribution areas, underscore the urgent need for intersectoral approaches and continuous epidemiological surveillance (Cucunubá et al., 2024; Westphalen et al., 2012).

Vector control and screening programs have profoundly transformed the epidemiological landscape of CD, particularly in Latin America. Regional initiatives such as the Southern Cone Initiative (1991), the Andean Initiative (1997), and the Central American Initiative (1997) promoted coordinated campaigns for household insecticide application, housing improvement, and elimination of non-native vectors such as *Triatoma infestans* and *Rhodnius prolixus*, resulting in significant reductions in vector-borne transmission in countries such as Brazil, Chile, Uruguay, and Guatemala (Silveira, 2000; Coura et al., 2014; Cucunubá et al., 2024).

At the same time, systematic screening of blood and organ donations, implemented almost universally across Latin American blood banks and progressively extended to non-endemic countries, has drastically reduced transfusional and transplant-related transmission (PAHO, 2023; WHO, 2025). Globally, screening programs for pregnant women and newborns in countries such as Spain, the United States, and Japan have contributed to the early identification of congenital infections and the interruption of vertical transmission chains (Bocchi et al., 2022; Ribeiro et al., 2024). These advances demonstrate that, when there is international cooperation, political commitment, and sustained surveillance, it is possible to transform the history of a neglected endemic disease into an example of successful transcontinental epidemiological control.

More than a tropical endemic disease, CD has become a marker of health inequity and unequal globalization. Understanding its contemporary epidemiology means understanding how *T. cruzi* continues to "travel", not only through human migratory flows but also through the structural gaps of a world that still unequally distributes the risks and protections of health.

**From Endemic to Global: Epidemiological Transformations and Challenges of Chagas Disease**

In recent decades, CD has undergone an epidemiological transition, shifting from a rural affliction, restricted to Latin America, to a global phenomenon of growing relevance. The increase in migratory flows, new trade routes, and enhanced intercontinentais connections have transformed *T. cruzi* into a transnational challenge, with boundaries no longer limited to the habitat of the triatomine vector. This silent and asymmetrical expansion has highlighted the vulnerability of health systems unprepared to detect and manage a disease historically associated with poverty and social invisibility (Dias et al., 2016; PAHO, 2023; WHO, 2025).

It is estimated that currently over 400,000 people infected with *T. cruzi* live outside the Americas, especially in Europe, North America, Japan, and Australia (Bocchi et al., 2022). The migration of Latin American populations to these countries, particularly from the 1980s and 1990s onward, was a key factor in the globalization of the disease (Antinori et al., 2017). In this context, transmission patterns have shifted. While the vector still plays an important role in endemic areas, in non-endemic countries transmission occurs predominantly via blood transfusion, vertical (transplacental), and congenital routes, reflecting not only human displacement but also structural gaps in screening and surveillance programs (Dias et al., 2016; Bocchi, 2023).

Europe has become the main hub of the disease outside the Americas, particularly in Spain, Italy, Switzerland, and the United Kingdom (Antinori et al., 2017; Navarro et al., 2022). In 2018, an estimated 55,367 migrants from endemic countries were living with CD in Spain, with a prevalence of 2.1% (Navarro et al., 2022). Bolivians represented more than half of the cases (53.9%), highlighting the disproportionate impact on Andean communities. Underdiagnosis remains alarming: approximately 71% of cases go undetected. It is estimated that 783,871 women of reproductive age from Chagas-endemic areas were living in Spain, of whom approximately 23,382 (3%) were infected with *T. cruzi*. Most cases were concentrated among Bolivian women, with around 12,777 infections (43.4% of all adult migrants from Bolivia), followed by Paraguayan (2,592; 54.9%) and Honduran women (1,995; 61.6%), highlighting the relevance of these populations in the dynamics of congenital transmission in non-endemic settings (Navarro et al., 2022).

A similar situation is observed in other European countries, where prevalences of up to 18% have been reported among Bolivian immigrants (Antinori et al., 2017). Cases of autochthonous congenital transmission have also been documented in Switzerland (Jackson et al., 2009) and Japan (Imai et al., 2014), reinforcing that the absence of vectors does not eliminate the risk of infection persistence.

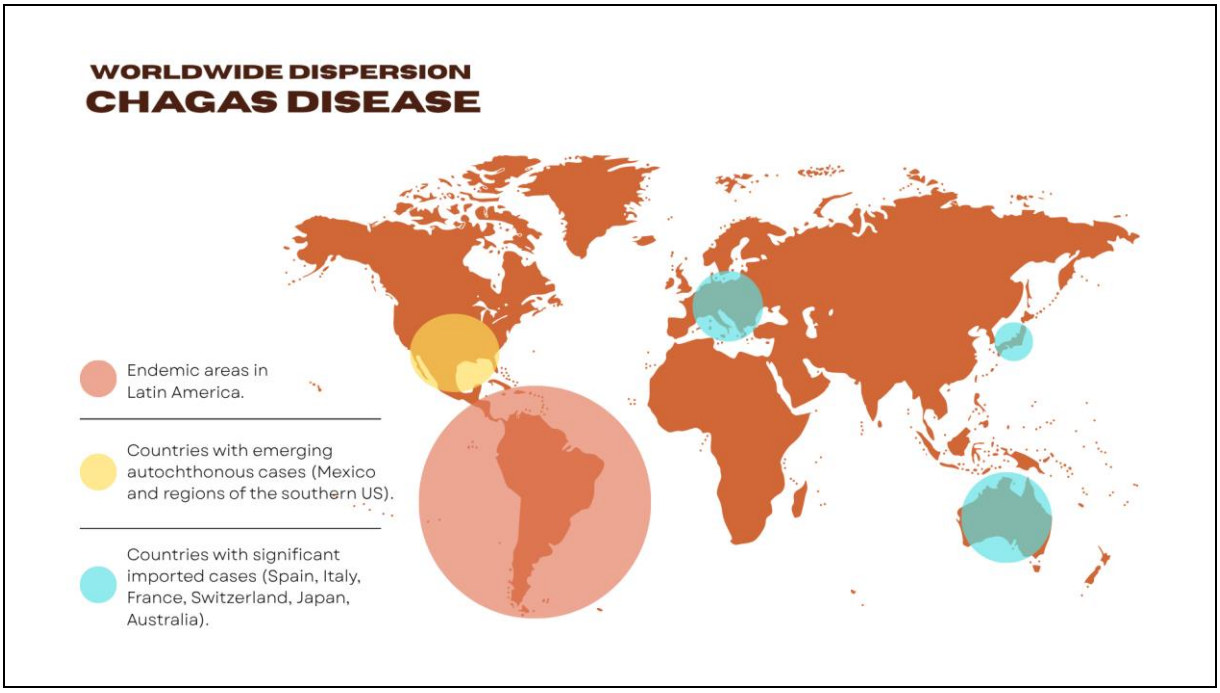
Historically, the United States of America (USA) has been considered a “non-endemic” area. However, recent evidence challenges this classification. Studies by Beatty et al. (2025) demonstrate that the country has robust sylvatic cycles of *T. cruzi*, maintained by multiple species of triatomines and mammalian reservoirs, such as opossums, raccoons, coyotes, and armadillos, in at least 17 southern and central states. Of the 11 triatomine species identified in the U.S., nine show natural infection by the parasite, the most relevant being *Triatoma sanguisuga*, *T. gerstaeckeri*, *T. protracta*, and *T. rubida*.

Detection of autochthonous human cases in Texas, Louisiana, Arizona, California, and Missouri confirms the presence of local transmission (Beard et al., 2003; Dorn et al., 2007; Turabelidze et al., 2018). In Texas, for example, *T. gerstaeckeri* has been the vector most associated with infections in dogs and humans, with insect infection rates exceeding 50% (Beatty et al., 2025). Additionally, *T. cruzi* has been identified in domestic and working dogs in 23 states, with 431 confirmed cases between 2013 and 2015 alone. These findings support proposals to reclassify the USA as a “hypoendemic” country, as the maintenance of active sylvatic and periurban cycles indicates a low-intensity but persistent endemicity.

Recent mapping studies estimate that approximately 288,000 people live with *T. cruzi* infection in the USA, of whom 10,000 are autochthonous cases and 43,000 are women of reproductive age, with a potential for 22 to 108 congenital cases per year (Irish et al., 2022). The most affected states include Texas, California, Florida, Louisiana, and Arizona, with case concentrations also in metropolitan areas such as Los Angeles, Houston, and Washington, D.C. Maintaining the “non-endemic” classification contributes to underdiagnosis and the lack of systematic screening policies, perpetuating the epidemiological invisibility of the disease (Beatty et al., 2025).

The geographic expansion of CD (Figure 1) reveals a contemporary paradox: the globalization that has driven technological development and interconnectivity has also facilitated the spread of neglected diseases. More than a biological event, the dispersion of CD is a social and political phenomenon, exposing the shortcomings of international health surveillance and the gap between countries in recognizing tropical diseases as global threats.

**Figure 1 -** Illustrative global map showing the spread of Chagas disease.




Note: The map dimensions and affected regions are for illustrative purposes only.
Source: Prepared by the author based on data from the World Health Organization (WHO, 2023), Pan American Health Organization (PAHO, 2024) and Beatty et al., 2025.

In receiving countries, the absence of universal screening protocols, low clinical suspicion, and limited awareness among healthcare professionals convert the disease into an "invisible epidemic". As Bocchi et al. (2022) note, most cases remain latent for decades and are diagnosed only when irreversible cardiac or digestive manifestations appear. Therefore, controlling CD outside Latin America requires not only entomological surveillance but also integrated migratory health policies that recognize the right to diagnosis and treatment as part of global health equity.

**Prevention, Control Strategies, and Challenges in Global Public Health**

The trajectory of CD, once restricted to Latin America, reflects the profound contradictions of globalization in the field of public health. Although vector and transfusional control efforts have substantially reduced transmission in endemic areas, increasing human mobility and structural inequalities have allowed *T. cruzi* to cross geographic, political, and social borders, consolidating itself as a global challenge (Cortez et al., 2012; Dias et al., 2016; Antinori et al., 2017; Bochi, 2023; Bochi et al., 2025).

In non-endemic countries, CD remains largely invisible to health systems, which often lack knowledge of its clinical manifestations and diagnostic protocols. Studies conducted in Europe and North America show that underdiagnosis is widespread. It is estimated that fewer than 1% of infected individuals in the United States have access to testing and treatment (Higuita et al., 2024). This gap is aggravated by the absence of systematic screening among migrant populations and pregnant women from endemic regions, as illustrated by cases documented in Japan, where the lack of prenatal screening allowed congenital transmission to occur undetected for years (Imai et al., 2014).

The scarcity of validated laboratory tests and the genetic variability of *T. cruzi* across regions further hinder accurate diagnosis (Higuita et al., 2024). At the same time, available etiological treatments, benznidazole and nifurtimox, are old, with high toxicity and low adherence (Dias et al., 2016). Even when treatment is accessible, the lack of standardized clinical

protocols and long-term follow-up contributes to the invisibility of chronic patients and perpetuates the stigma associated with the disease.

Since the 1990s, regional coordination promoted by organizations such as the Southern Cone Initiative and MERCOSUR has marked a milestone in integrating vector surveillance and control actions in Latin America, highlighting the potential of technical cooperation among neighboring countries (Dias, 2007). However, the sustainability of these policies depends on continuous government investment and on the incorporation of surveillance as a permanent public policy, an ongoing challenge in contexts of austerity and fragmented health systems.

In non-endemic countries, the World Health Organization (WHO) recommends screening of blood, organs, and pregnant women from risk areas (Ferrão et al., 2013). Spain, France, the United Kingdom, and Switzerland have implemented regular transfusion screening measures, while Italy and the United Kingdom have adopted protocols for transplant donors. Nonetheless, much of Europe, the United States, and Asia still lack integrated strategies for early detection and epidemiological monitoring.

A global analysis by Gómez-Ochoa et al. (2022) indicates that, although the overall prevalence of CD decreased by 11.3% between 1990 and 2019, the burden of disease in high Sociodemographic Index countries increased until 2010, demonstrating the direct impact of migration and urbanization on the epidemiological pattern of the disease (Gómez-Ochoa et al., 2022). These findings reinforce the need for coordinated transnational policies that include screening of migrant populations and the integration of global databases for active surveillance.

CD is paradigmatic among neglected tropical diseases (NTDs) because it combines biomedical and sociopolitical dimensions. Patients, often migrants in irregular situations, face linguistic, cultural, and institutional barriers that hinder their access to healthcare. This exclusion is fueled by the stigma of the “disease of the poor”, associated with rural origins and the social invisibility of those affected (Dias, 2007).

Inequality in access to diagnosis and treatment translates into dual neglect, both medical and social. While scientific advances concentrate in endemic regions, infected populations in high-income countries remain invisible, perpetuating a cycle of vulnerability and neglect. This scenario highlights the urgency of incorporating CD into global health agendas with an emphasis on equity, health justice, and human rights (Cortez et al., 2012; Ferrão et al., 2013; Coura et al., 2014; Gómez-Ochoa et al., 2022).

The WHO has played a central role in coordinating multilateral efforts, particularly through the Global Strategy for Neglected Tropical Diseases and the goals to eliminate vectorial and transfusional transmission by 2030. Furthermore, initiatives such as the Drugs for Neglected Diseases Initiative (DNDi) and partnerships with Latin American and North American institutions have fostered research on new drugs, biomarkers, and vaccines (Higuita et al., 2024).

These actions, however, will only be effective if accompanied by local policies aimed at strengthening health systems and creating integrated research and care networks, as advocated by Higuita et al. (2024). The “One Health” approach, which recognizes the interconnection between human, animal, and environmental health, is essential for monitoring vector expansion in the context of climate change and for addressing the inequalities that sustain the persistence of the disease (Higuita et al., 2024).

Globalization has turned CD into a mirror of the weaknesses and paradoxes of contemporary public health. More than a biomedical problem, it stands as a marker of social inequity and structural flaws in global health governance. Therefore, prevention and control strategies must transcend the technical dimension, incorporating ethical, cultural, and political considerations that ensure the universal right to diagnosis, treatment, and dignified care for all affected individuals, regardless of their geographic origin or socioeconomic status.

## 4. Conclusion

Chagas disease has ceased to be a condition limited to Latin America and has consolidated itself as a globally relevant illness, whose dissemination reflects the paradoxes of globalization and the structural inequalities of health systems. This review highlights the increasing number of *T. cruzi* infections in Europe, North America, Japan, and Australia, driven mainly by Latin American migration and the absence of systematic screening in blood banks, organ transplants, and prenatal care. In the United States, the presence of naturally infected vector species and the occurrence of autochthonous cases demonstrate that the parasite's transmission cycle has found ecological conditions favorable for its local maintenance.

Despite progress in vector and transfusional control in Latin America, critical challenges persist: widespread underdiagnosis, gaps in epidemiological surveillance, and barriers to accessing etiological treatment. The limited availability of specific diagnostic tests and the use of old drugs with restricted efficacy perpetuate the clinical and social invisibility of the disease. These findings indicate that CD remains a marker of inequity and health neglect, both in endemic regions and in high-income countries.

Addressing this reality requires a paradigm shift in global health governance, from a regional and reactive approach to an integrated and international perspective. Expanding screening among migrants, training healthcare professionals, strengthening laboratory networks, and incorporating CD into international public health agendas are essential steps.

More than a biomedical challenge, CD symbolizes the ethical and structural failures in the global distribution of health protection. Overcoming this inequality means transforming the history of a neglected endemic disease into a collective commitment to solidarity, equity, and health justice.

## References

Antinori, S., Galimberti, L., Bianco, R., Grande, R., Galli, M., & Corbellino, M. (2017). Chagas disease in Europe: a review for the internist in the globalized world. *European Journal of Internal Medicine*, *43*, 6-15.

Beard, C. B., Pye, G., Steurer, F. J., Rodriguez, R., Campman, R., Peterson, A. T., ... & Robinson, L. E. (2003). Chagas disease in a domestic transmission cycle in southern Texas, USA. *Emerging infectious diseases*, *9*(1), 103.

Beatty, N. L., Hamer, G. L., Moreno-Peniche, B., Mayes, B., & Hamer, S. A. (2025). Chagas Disease, an Endemic Disease in the United States. *Emerging Infectious Diseases*, *31*(9), 1691.

Bocchi, E. A. (2023). Chagas' disease: the hidden enemy around the world. *The Lancet Regional Health–Western Pacific*, *31*.

Bocchi, E. A., Bestetti, R. B., Scanavacca, M. I., Cunha Neto, E., & Issa, V. S. (2017). Chronic Chagas heart disease management: from etiology to cardiomyopathy treatment. *Journal of the American College of Cardiology*, *70*(12), 1510-1524.

Cortez, J., Ramos, E., Valente, C., Seixas, J., & Vieira, A. (2012). A expressão global da doença de Chagas–Oportunidades emergentes e impacto em Portugal. *Acta Médica Portuguesa*, *25*(5), 332-339.

Coura, J. R., Viñas, P. A., & Junqueira, A. C. (2014). Ecoepidemiology, short history and control of Chagas disease in the endemic countries and the new challenge for non-endemic countries. *Memórias do Instituto Oswaldo Cruz*, *109*, 856-862.

Cucunubá, Z. M., Gutiérrez-Romero, S. A., Ramírez, J. D., Velásquez-Ortiz, N., Ceccarelli, S., Parra-Henao, G., ... & Abad-Franch, F. (2024). The epidemiology of Chagas disease in the Americas. *The Lancet Regional Health–Americas*, *37*.

Dias, J. C. P., Ramos Jr, A. N., Gontijo, E. D., Luquetti, A., Shikanai-Yasuda, M. A., Coura, J. R., ... & Alves, R. V. (2016). II Consenso Brasileiro em doença de Chagas, 2015. *Epidemiologia e Serviços de Saúde*, *25*, 7-86.

Dorn, P. L., Perniciaro, L., Yabsley, M. J., Roellig, D. M., Balsamo, G., Diaz, J., & Wesson, D. (2007). Autochthonous transmission of Trypanosoma cruzi, Louisiana. *Emerging infectious diseases*, *13*(4), 605.

Ferrão, A. R., Silva, M. S., Atouguia, J., & Seixas, J. (2013). Das Américas para o mundo: o desafio da globalização da doença de Chagas. *Anais do Instituto de Higiene e Medicina Tropical*, *12*, 66-70.

Gómez-Ochoa, S. A., Rojas, L. Z., Echeverría, L. E., Muka, T., & Franco, O. H. (2022). Global, regional, and national trends of Chagas disease from 1990 to 2019: comprehensive analysis of the global burden of disease study. *Global heart*, *17*(1), 59.

Higuita, N. I. A., Beatty, N. L., Forsyth, C., Henao-Martínez, A. F., Manne-Goehler, J., Bourque, D., ... & Wheelock, A. (2024). Chagas disease in the United States: a call for increased investment and collaborative research. *The Lancet Regional Health–Americas*, *34*.

Irish, A., Whitman, J. D., Clark, E. H., Marcus, R., & Bern, C. (2022). Updated estimates and mapping for prevalence of Chagas disease among adults, United States. *Emerging infectious diseases*, *28*(7), 1313.

Jackson, Y., Myers, C., Diana, A., Marti, H. P., Wolff, H., Chappuis, F., ... & Gervaix, A. (2009). Congenital transmission of Chagas disease in Latin American immigrants in Switzerland. *Emerging infectious diseases*, *15*(4), 601.

Mazzardo, V., Bailo, D. W., Neto, C. A. A., de Lima Junior, P. D., de Araújo Bochio, A. L., Gabriel, B. B., ... & Madalozzo, M. E. (2024). Doença de Chagas: Avanços no Controle e Mudanças na Epidemiologia Brasileira (2012-2022). *Brazilian Journal of Implantology and Health Sciences*, *6*(8), 2512-2525.

Organização Mundial da Saúde. (2025, October 10th). *Doença de Chagas (também conhecida como tripanossomíase americana)*. https://www.who.int/news-room/fact-sheets/detail/chagas-disease-(american-trypanosomiasis)

Organização Pan-Americana da Saúde. (2023, October 10th). *Menos de 10% das pessoas com Chagas recebem um diagnóstico*. https://www.paho.org/pt/noticias/13-4-2023-menos-10-das-pessoas-com-chagas-recebem-um-diagnostico

Pereira, A. S. et al. (2018). Metodologia da pesquisa científica. [free ebook]. Santa Maria: Editora da UFSM.

Ribeiro, A. L. P., Machado, Í., Cousin, E., Perel, P., Demacq, C., Geissbühler, Y., ... & RAISE Study Collaborators. (2024). The burden of Chagas disease in the contemporary world: the RAISE study. *Global Heart*, *19*(1), 2.

Rother, E. T. (2007). Revisão sistemática x revisão narrativa. Acta Paulista de Enfermagem. 20(2): 5-6.

Siddaway P. et al. (2019). How to do a systematic review: a best practice guide for conducting and reporting narrative reviews, meta-analyses, and meta-syntheses. *Annual Review of Psychology*, 70(1).

Silveira, A. C. (2000). Situação do controle da transmissão vetorial da doença de Chagas nas Américas. *Cadernos de saúde Pública*, *16*, S35-S42.

Turabelidze, G. (2020). Autochthonous Chagas disease—Missouri, 2018. *MMWR. Morbidity and mortality weekly report*, *69*.

Westphalen, E. V. N., da Conceição Bisugo, M., & de Araújo, M. D. F. L. (2012). Aspectos epidemiológicos e históricos do controle da doença de Chagas no Continente Americano. *BEPA. Boletim Epidemiológico Paulista*, *9*(105), 17-34.